

ZINE MAG WE

ISSUE 3/2020 Magento community journal www.magezine.co

Women in tech: there are more and more of us

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The beautiful minds

MAGEZINE

We live in a patriarchal society. Only a few percent of the countries are run by women, no more than 21 percent belong to the management¹, and according to the Stack Overflow survey², nearly 91% of programmers worldwide are men. It is also not surprising that we hear more about inventions made by men than by women, no matter how much these discoveries have affected our lives.



Karolina Gajzler-Polak

Managing editor and producer

Thanks to women we have not only chocolate cookies, Monopoly game or chilled beer, but also some of the most innovative ideas. Like the secret communication system (using frequency hopping technology), invented by Hedy Lamarr during the Second World War, which is the basis for many technologies from Wi-Fi to GPS, or the first programming languages by Grace Hopper, the Harvard Mark I programmer.

Yves Saint Laurent said that "A woman's most beautiful makeup is her passion". I would say more "passion, knowledge and curiosity about the world". I had the pleasure of co-creating the third issue of Magezine with such extraordinary women. Among them are board members, directors, manag-

ers, developers. They are connected not only by broad knowledge about e-commerce and new technologies, but also their real impact on the Magento community. This is reflected in the diversity of topics in this issue. We'll learn how our co-authors find themselves in the IT environment. They reveal the secrets of managing the most complex projects, discuss the subject of communication, the accessibility of applications for a wide audience, including those with disabilities. There are also such hot topics as voice commerce – the next big thing in e-commerce, or PWA & GraphQL. Of course, that's not all.

It is my great pleasure to invite everyone to read the latest, very special issue of Magezine!

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1. <https://www.mckinsey.com/featured-insights/gender-equality/women-in-the-workplace-2019>

2. https://insights.stackoverflow.com/survey/2019#developer-profile_-_gender

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inspiring women in tech & e-commerce from around the world

We believe that the best source of knowledge and inspiration are practicing experts. However, we notice that there is little opportunity to celebrate the impact of women on technology and e-commerce. And there are so many great female specialists around us! That's why we created the list of rockstar woman from around the world. Check it out!

By Magezine Team



Momoko Asaka

Momoko Asaka is CEO of Veriteworks Inc. Her first contact with Magento was in 2012, and she has been working to spread it in Japan ever since. She has organized Magento events, including Meet Magento Japan and Magento Meetup Kansai, and has trained in-house Magento engineers. In addition, as a psychological counselor she provides mental healthcare for engineers and performs EC site analysis and construction using her knowledge of psychology. She is a big fan of Snoopy.

Momoko was selected as a Magento Master for 2020 based on her 2019 contributions organizing Meet Magento Japan and Magento Meetup Kansai.

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Developer, freelancer & speaker. She heard about Magento by chance in 2010. Since then, this is her professional focus and Magento also plays an important role in her private life. Through the organization of Meetups and the MageUnconference, and writing about all her experiences with Magento on NeoShops blog (in German). She was one of the first women to receive the Developer Certification. Magento awarded her the Master Award three years in a row.

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Christine Buscarino is a growth-focused professional with 20 years of proven leadership expertise in all aspects of digital, e-commerce, omnichannel strategy and program development, digital and direct marketing, direct channel P&L leadership, and retail business management. Currently works in Dale Carnegie Training. 2015 Winner – Brand Innovators Top 40 Under 40.

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Katie Finnegan

Experienced entrepreneur, operator, builder, and marketer. Passion for anything consumer. Fascinated with tech and the impact on the next generation of consumer experiences. In 2016, when Walmart acquired Jet, Finnegan joined the world's largest retailer as its VP of incubation for global e-commerce. She went on to cofound Walmart's incubator, Store No. 8, which, through a range of portfolio startups,

Finnegan leverages to explore how virtual reality and other new technologies and verticals can augment Walmart's consumer shopping experience. Currently works under her own brand, Katie Finnegan Consulting.

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This is not a ranking who is better, but a list of woman who, in our opinion, have an impact on the industry, and do not always appear in popular media rankings. Our list includes mostly women associated with the tech and e-commerce industries. Some of them are connected with Magento, but not all.

Marta Molińska

Marta Molińska is the Meet Magento Poland organizer. Since 2012 she has been associated with SNOW.DOG, where she organizes Magento Meetups, Contribution Days, and the annual Meet Magento Poland. In addition, Marta started a series of Meet Magento Academy trainings and brought them to the university program. She's also a mother of two girls and a skydiving instructor in Poland.

Marta was selected as a Magento Master for 2020 based on her 2019 contributions organizing Meet Magento Poland, Contribution Days, and the Magento #madeIn-Poznan Meetup.

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Michele Miller

Chief Storyteller for the Solutions Innovation Team in Magento (Adobe). She is responsible for developing and articulating a solution narrative encompassing relevant enterprise commerce components in the Adobe ecosystem across all digital and physical retail channels. 20+ years of experience in traditional and digital marketing with a focus on content & commerce. She enjoys exploring emerging technologies and innovative implementations to accrue knowledge and insights that will drive Magento customers towards measureable results.

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Kate Morris

E-commerce entrepreneur, retail leader and founder of Adorebeauty.com.au. She started Australia's first beauty e-commerce site in 1999 from a garage in Melbourne at the age of 21. Starting with just \$12,000 and two little known cosmetic companies on board, Adore Beauty has grown to more than 200 brands, 13,000 products, and hundreds of thousands of customers. In 2017 Kate was the first woman to be awarded the Industry Recognition Award for online retail in the 9-year history of the StarTrack ORIA. Adore Beauty has also been scooping up accolades, making the lists for Deloitte's Tech Fast 50 Australia and Tech Fast 500 Asia-Pacific for the last four years in a row.

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Sherrie Rohde

Community Manager at Magento where she is responsible for Magento Masters, the Magento Forums, and Magento Meetups. On a mission to help the Magento community be successful in their own roles, she is focused on improving mental health and creating an inclusive environment. She managing community.magento.com including moderation team and growing the member base to over 150,000 people in just over a year after launch.

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Jamie Maria Schouren

Tech geek addicted to e-commerce, in love with code and has her mind bound to business. Driven by the urge for innovation, she fights with the aim to improve the online world around her. Starting as a native app developer who jumped into e-commerce, she co-founded DEITY, with which she is on a mission to spark an online revolution to evolve web technologies to the use of PWA. One of her passions is to empower women and girls to never stop chasing their dreams. PWA evangelist and passionate speaker.

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Dione Song

Currently the Chief Commercial Officer at Love, Bonito – a Singapore-born brand that is redefining the fashion e-commerce landscape in Asia. Dione spearheads the growth and strategy of Love, Bonito's global expansion, fundraising and driving the brand's performance and innovation. She also drives the business's profitable omnichannel strategies and tech investments. Her LinkedIn profile has been on the list LinkedIn's Top 30 Power Profiles in Singapore three times – 2016, 2017 & 2018.

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Loni Stark is a senior director of strategy & product marketing at Adobe. In her role, Loni leads business growth and go-to-market strategy and execution for Adobe's digital experience management business. Adobe is a recognized leader in solutions for Digital Experience Platforms and Marketing Cloud Hubs by Forrester and Gartner respectively.

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Emily Weiss

Emily Weiss is the founder and CEO of Glossier Inc, the digital-first beauty company that's changing how the world sees beauty. Emily is deeply involved in developing the physical, digital and offline experiences that spark conversation and foster connection for millions of Glossier customers and community members. The company has more than 200 employees and \$186 million in venture funding. Emily has been included in TIME's 100 Next, Vanity Fair's New Establishment, Fortune's 40 Under 40 and Fast Company's Most Creative People in Business.

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Anna Völkl

Magento developer, 3x Magento Master & Speaker. She has been working with Magento for the last 9 years. She started her career as a developer in 2004, so she have been around the PHP and Magento world for a while. She works for a Magento agency, E-CONOMIX in Austria.

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Unfortunately, the Magezine format does not allow us to name all women. If you know a super woman that is worth recommending - feel free to let us know on Twitter (@Magezine_) ●

Women the perfect match?

!! Interview with Sherrie Rohde



& IT

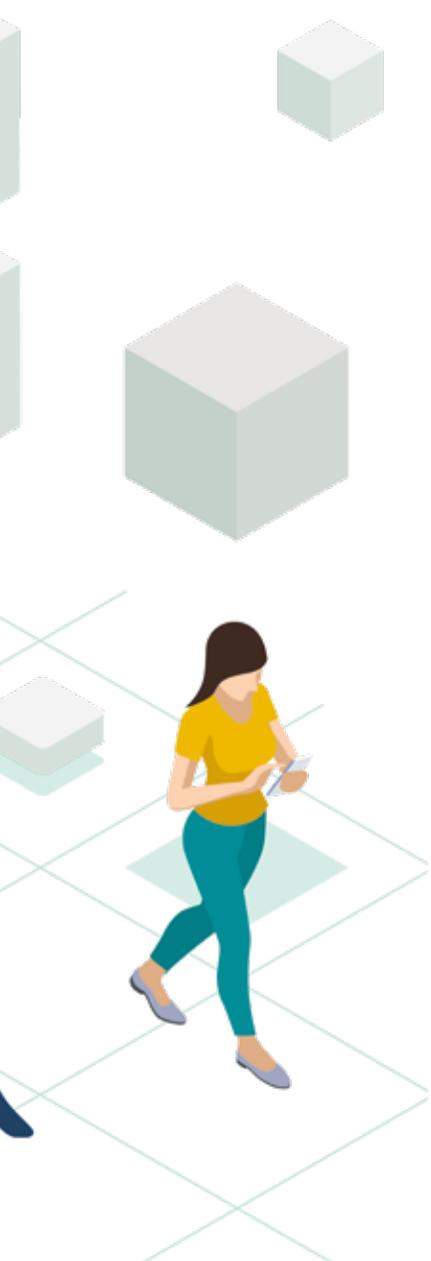
I think that often, when we first realize the importance of diversity, we do things like create panels of “Women in eCommerce”. Let’s please stop doing this. Women, and those from other underrepresented groups, should be invited to present or participate because of their expertise.

Magazine: What influenced you to start a career in IT?

Sherrie Rohde: My first computer was an Apple IIc, and I loved using it to design welcome home banners when my dad was away on business. In 1999, once I had access to the internet, I started teaching myself how to build websites. Before I even graduated high school, I was working at a small business where I maintained their computers and built their websites. This eventually led to degrees in Graphic Design and Interactive Authoring, which I used to obtain a job as a Multimedia Graphic Designer at a small merchant. It was in that role that I discovered Magento in 2007, and taught myself how to develop with it, design for it, and use it.

MGZ: How did it happen that you became a community manager at Magento?

SR: I was very active in the forums from the moment I discovered Magento in 2007. In the beginning, I was mostly asking questions. As I learned the answers to my questions, I began to help Magento newcomers while continuing to learn from more experienced developers.



Around 2010, I believe, Brent Peterson reached out and invited me to be a volunteer forum moderator. In that role, I met the Magento Community Manager at the time, Rhonda Rondeau, and found out that Community Management was a career option. After updating the Magento Designer's Guide, working in UX and partner management at a Magento Technology Partner, helping to create the first Magento Frontend Certification Exam, doing freelance frontend development for Magento Solution Partners, and running eCommerce strategy for a Magento Enterprise Merchant, I found myself with the opportunity to work for Magento. Here I am!

MGZ: Can you share a little bit about your daily work as a community manager?

SR: Very few days are the same when working in my role. I manage our online forums with a team of volunteer moderators, take care of the Magento Masters program which I created to recognize the top contributors across our global community, work with Magento Meetup organizers, and publish a weekly digest of Magento content from our company and the community. Along the way, I also provide community analytics to help tell the Magento story at events, travel and speak at Magento events, and help to connect those in the community with each other, with our team, and with the resources they need to be successful. Most of all, I always have diversity, inclusion, and the community's mental health top of mind.

MGZ: What is it like for you to be a woman working in technology?

SR: For the majority of my life, I've had more male friends than female friends which has, I think, been helpful for working in technology. I won't say that it has always been easy to be a woman working in technology, but my specific experience has been predominately positive overall. I say this with full understanding that I still possess many areas of privilege because I am white, able bodied, have an education, and other areas.

MGZ: It is no secret that many women in the IT industry believe that their gender has influenced the way they are perceived or treated. Have you ever been in such a situation? How did you deal with it?

SR: The most common case of my gender influencing the way I am perceived or treated comes from the fact

that it is often assumed that I am not a developer. While I am not actively coding these days, coding is how I got here, and I very much enjoy learning new coding methods when I do have the time. I often include my history as a developer in my bio for speaking engagements and interviews and highlight this fact when relevant. That being said, I also think it's important that we recognize that coders are not the only valuable members of the technology world. Marketers, salespeople, analysts, merchandisers, and others all play a vital role in keeping our industry alive and running and I don't believe any of these role types are more valuable than another.

MGZ: The Magento community is mostly male. Do you notice any change in increasing gender balance in your industry? If so, how is this change manifested?

SR: Francesca Molinari, our VP of Employee Experience, has often said to "think a little harder" when it comes to diversity. At the very first Imagine, I would absolutely agree that the Magento community was mostly male. However, if you were to attend Magento Imagine at Summit in 2020 you would find that this is no longer the case. While many known faces in the Magento community are male, and are coders, this doesn't mean that the community is mostly male. It simply means that we need to think a little harder and look around. When I attend conferences now, I intentionally attend talks by those from underrepresented groups, whether that means female or not, and highlight their speaking presence on Twitter. Whenever possible I go out of my way to elevate members of the community who would not typically be seen but who are doing great things and should be known by others.

MGZ: Are women in the Magento/Adobe environment treated in a special way? How is their strongest point? What do they contribute to the work of the whole ecosystem?

SR: I think that often, when we first realize the importance of diversity, we do things like create panels of "Women in eCommerce". Let's please stop doing this. Women, and those from other underrepresented groups, should be invited to present or participate because of their expertise. I've heard from a handful of women in this community who are approached to speak at a conference explicitly because they are

female. While this may be why you thought to reach out to them, a better invite would be “I’ve heard great things about your work making Magento more secure, would you be willing to come give a talk about that at my event so that we can learn from you?”. Women contribute to the Magento ecosystem in the same way as men. Their strengths, and weaknesses are present just as the strengths, and weaknesses of men are present. It’s important to remember that as individuals we all have something unique to bring to the table. We don’t need clones of the individuals we already know; we need you for your specific experience and expertise. Have you ever had a problem you couldn’t solve by yourself? That is precisely why we need a variety of backgrounds and perspectives to make this ecosystem successful.

MGZ: Only 25% of computing jobs in the U.S. are held by women. What do you think it results from? And what can be done to change this situation?

SR: I’m not sure exactly where this statistic came from so I can’t speak specifically to it. However, in general there are many different reasons why women come and go from careers in STEM. At Adobe we’ve addressed this by working on areas of diversity that impact the pipeline, candidates, employees, and the overall industry. (You can find more about this at adobe.com/diversity.) Diversity in technology is a complex issue, as it is so multifaceted, but, as my friend’s mom always says, “If you want to change the world, change your corner of it first.” Find areas that you can make a direct impact in and start taking action. This could be volunteering as a mentor, spotlighting those around you who are doing great things, or simply respecting those around you who are different from you.

MGZ: What advice would you give to a woman considering technology as her career?

SR: If you think that you would enjoy a career in technology, then do it! Life is short and it’s significantly more enjoyable when we’re doing something that we’re passionate about. I realize that’s a very Western way of thinking, but it rings very true for me. No matter what industry you’re considering, it’s always helpful to talk to those already in the field and find out what they like about what they do, what they find frustrating, what they wish they had done, etc. Ask a lot of questions, both of those similar to you and of those who are different from you. Find a mentor. Never stop learning. Find support.

MGZ: Are there other women in the industry that you admire and why?

SR: There are probably too many women in this industry that I admire. Brittany Mosquera has been fearlessly leading a team to create and hold Magento-hosted events around the world ever since the first Imagine in 2011. Ves Buie is the amazing think tank behind all Magento keynotes and other areas of thought leadership for commerce. In the broader industry, I have really learned a lot about diversity and inclusion from Aubrey Blanche and the importance of compassion from April Wensel. This past year I took two courses on diversity, equity, and inclusion from Ericka Hines and Desiree Adaway—they have challenged and educated me in ways I didn’t even know that I needed. My biggest advice would be to find women in the industry that you can relate to as well as those you can learn from. In my opinion, it’s imperative to always have voices of influence who are supportive as well as those who challenge you to think a little harder. ●



Sherrie Rohde

Magento Community Manager at Adobe

Sherrie is the Magento Community Manager at Adobe where she is responsible for Magento Masters, the Magento Forums, and Magento Meetups. On a mission to help the Magento community be successful in their own roles, she is focused on improving mental health and creating an inclusive environment. Prior to taking on her role at Magento, Sherrie gained experience in UX and product management. Previously she was a Magento Developer and Moderator on the Magento Forums. Sherrie also served as the Producer of MyCMGR’s #CMGR Hangout and CMAD broadcasts. She has spoken at a number of events throughout the world including Community Leadership Summit and several Magento conferences.

If only we had brain-to-brain connections

!! Sonja Franz



IN THIS ARTICLE YOU'LL FIND OUT:

- Why communication is not as easy as we think
- Is written communication better than spoken?
- How to avoid errors in communication



Humans have mastered many challenges since the species of Homo sapiens began to wander the Earth some 300,000 years ago. We are able to climb the highest mountains of our planet, dive almost 11 km (6.8 miles) deep into the Mariana Trench, and even send robots to Mars. Yet, the biggest challenge for us may actually be a lot more down-to-earth: human communication.



Misunderstandings often stand in our way to success and happiness, adding an unexpected level of complexity to our everyday life. We see them happening between project managers and developers, between clients and agencies, but also among close team members.

WHY DO WE STRUGGLE SO MUCH WITH COMMUNICATION?

It used to be a lot simpler. Back in the days, some 200,000 years ago, our ancestors were not able to speak. That doesn't mean that they were not able to communicate. They used gestures, primitive sounds, and screams to connect with their peers. That was enough to show how they felt, make other people aware of immediate dangers, point out the juiciest berries... or to advise someone to disappear from their sight. According to communication psychologists, about 80% of our communication is non-verbal and mostly unconscious.¹

DIGITAL COMMUNICATION

As you can imagine, nonverbal communication is not sufficient enough to discuss whether indentation with spaces or tabs is better. That's where verbal communication comes into play. For us, human beings, verbal communication is an efficient way to articulate our thoughts in a complex world. Our languages are also referred to as digital communication.²

It means that we use abstract words as references for physical objects – e.g. the word "cat" for a feline creature

– as well as for concepts that are apart from a specific object e.g. the injustice we feel when one cat eats the food of its siblings.

A cat can be represented by a drawing, a sculpture or by mimicking the cat's sounds – that's called analog communication. However, trying to express our sense of justice with analog communication is more difficult, if not impossible. So digital communication is a good choice to express abstract qualities and characteristics.

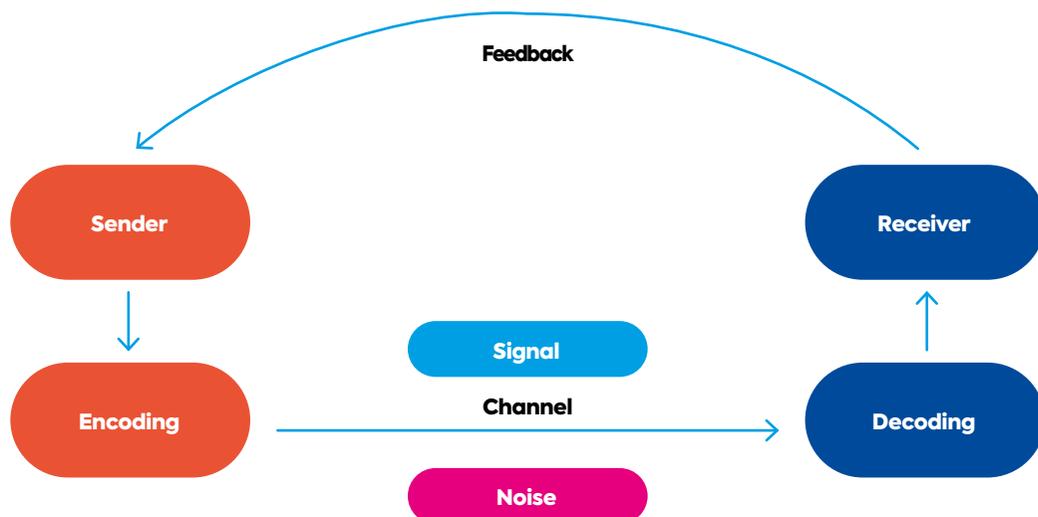
PROBLEMS OF COMMUNICATING VIA COMMUNICATION TECHNOLOGY

The problem with digital communication is that it's up to our brain's interpretation to make sense out of the audio signals our ears pick up. When the sender uses abbreviations without introducing those first, or technical terms without explaining them, it gets harder for us to decode the message.

The Shannon-Weaver³ model of communication illustrates the basic process of all human communication. The sender encodes a message as a signal, which gets to the receiver through a channel. The receiver decodes the signal to understand the message (Pic. 1).

Communication can fail in several parts of this model: the sender makes a mistake during encoding the message, e.g. using the wrong word; there could be too much noise

Pic. 1 The Shannon-Weaver model of communication



making it impossible for the receiver to hear the signal; or the receiver makes a mistake when decoding the signal. With so many sources of error, how can you know for sure what exactly the recipient receives?

INTEGRATE A FEEDBACK LOOP

Ask for feedback. When your communication partner paraphrases what they understood, it becomes clear what part of your message actually reached them as planned. It doesn't help if they just repeat word by word – that would still mask a divergent interpretation. In order to paraphrase a message, you need to understand it and make sense of it. So, paraphrasing is a lot better than repeating.

Of course, asking for a paraphrased version of your own message isn't always feasible. It can double the time of a meeting and people may feel like you think they're stupid, interpreting your feedback request as a test of their abilities to understand you. So, this method is recommended to use with new members to your team or you do the paraphrasing yourself when you talk with a client: "If I understand you correctly, you expect this and that by this date in the future."

MEDIATED COMMUNICATION

Usually, the sender's nonverbal communication provides us with plenty of clues to understand the message as intended.

Thanks to communication technology, you can talk to people without being in the same room. What an achievement that is! However, since such a kind of communication, e.g. a phone call, often means that you need to rely on your voice only (the words you use and your tone of voice), the receiver will only get approximately 20-30% of the signals you send out compared to a face-to-face meeting.⁴

Your gestures, your mimic, your body language, the distance you keep, and many more signals are not transmitted during a phone call.

Colloquialisms, abbreviations, dialects, accents, and a distracting atmosphere – they can all get in the way of clear communication. The fewer nonverbal signals you are able to transmit, the more error-prone your communication will be.

To prevent misunderstandings, communication psychologists such as Friedemann Schulz von Thun, Reinhard Tausch, and Inghard Langer recommend the following:

- pay attention to comprehensibility (e.g. use short sentences, no unknown words)
- choose the "right" communication channel depending on the content (e.g. communicate complex facts in writing, explain abstract ideas with examples)
- use multiple coding of important messages (e.g. text and image) and redundant communication⁵

IS WRITTEN COMMUNICATION BETTER THAN SPOKEN COMMUNICATION?

Writing allows us to transfer a message from A to B without losing or altering any part of it.

One big problem remains: You don't know what the recipient actually reads (into it). Did they manage to read all of it? Did they understand it and interpret it as you intended?

Have you ever said to a client or a colleague that "this shouldn't take too long"? Welcome to the world of vague statements. Estimating the time needed for a task you have never done before is like begging for this kind of answer.

Written language can be more ambiguous as it lacks all elements of nonverbal communication. Your tone of voice will at least exhibit your mood to some degree during a call. But this piece is missing when you only write down your message.

Also, written communication usually lives longer than spoken communication. It may be taken out of context or your (future) audience may not be exactly such as you expected when writing your message. It's normal behavior

for humans to adapt their communication upon seeing the reaction of their communication partners. When someone laughs at your joke, you may tell another one. We don't have this opportunity for instant feedback with written communication.

FINDING COMMON GROUND

There are a few more aspects which make our communication in IT a little bit harder.

Human communication is error-prone. With more and more mediated communication, we limit ourselves to certain aspects of our abilities to communicate. Knowing about these potential issues can help us navigate those better, avoiding more and more pitfalls.

CULTURAL DIFFERENCES

People from different countries or cultural backgrounds will apply different interpretations to messages. Mind you, this isn't limited to verbal communication. Cultural differences also exist in nonverbal communication. For example, in some countries, it's normal to shake your head up and down if you mean yes. In other countries, that would be the opposite. So, for multinational or cross-cultural teams and internationally operating companies, this means that you have to pay special attention to your own communication in order to get your message across. The feedback loop and a trusted friend from a different cultural background will be your best way to improve here. For teams with non-native speakers that operate in English, it can help to avoid unnecessarily complicated sentences and words.

ABSTRACT TERMS

The complex world of ecommerce is filled with abstract concepts. In an IT world, where only a small part of our day to day business is physical, these abstract terms are a

necessity. However, they can be real troublemakers since you might have a completely different understanding of it than your communication partner.

For example, if your client tells you about their requirement to create campaign pages, you may not be sure what they have in mind. You can then ask them to describe what you are actually expected to deliver: for your client, campaign pages may simply be pages in their online store, which show a selection of products. They are intended to be used for a limited period of time. Maybe you would have called it a landing page. In Magento terminology, such a campaign page could be created by a category page, which may or may not show up in the catalog menu.

There are often multiple ways and different terms we apply to similar concepts. It's helpful to check if your technical terms mean the same thing to your audience as they do to you.

VAGUE DESCRIPTIONS

Have you ever said to a client or a colleague that "this shouldn't take too long"? Welcome to the world of vague statements. Estimating the time needed for a task you have never done before is like begging for this kind of answer. What timeframe then would be too long? For you it may be a day, a project manager may recollect a similar task that took 3 hours to complete, the client hopes it's only an hour. Each of us has their own experiences and expectations, which shape how we interpret such ambiguous messages.

Way too often, we don't take the time to clear this up for multiple reasons. In some cases, we don't because we don't realize how problematic such an imprecise prediction can be. Maybe we don't want to commit to a clear, verifiable goal. Or we are on the receiver's side and don't want to get on people's nerves by interrogating them. Some people may have more malicious intents: they don't want to know exactly so that they can get upset about people not measuring up to their expectations.

As you can see, precise communication is a big help to prevent misunderstandings and to manage expectations. It may be a tough five minutes to clear up vague descriptions up front; however, in the long run it usually pays off in the form of a good cooperation with your team and clients.

And if you can't give a more precise answer, then in most cases it's good to add that information.

PUT POLITICAL CORRECTNESS ASIDE

Since your interpretation of words may be different to what other people read into it, some terms you use may stir an unexpected emotional response. They are distractions that pull the attention away from the intended message. According to Cohn, you should always clear up a distraction first before continuing with the message you had planned. Otherwise, you will not be successful in transmitting your message.⁶

Now, what if we could avoid these distractions from the beginning? There are a bunch of words which are often used in the tech world but have another layer to them that is not inclusive and thus, trigger emotions and cause distractions: blacklist and whitelist, black hat SEO and white hat SEO. You might as well use allow-list and deny-list, fair SEO and unfair SEO. As Andy McKay, Senior Engineering Manager at GitHub, puts it: "In pretty much every case there is a better word that is: 1) more descriptive and 2) shorter. That's a win."⁷

While you may think that the terms mentioned are normal, to someone who has experienced discrimination based on their skin color or whose ancestors have suffered under slavery, these terms mean more than the definition we would write down for them in a glossary.

The words we use have an impact on ourselves as well. Using "black" repeatedly in a negative context, will create a connection in your brain that wires people with skin color to negative prejudices. You can actually test yourself on this implicit bias with an online

test provided by Harvard University: <https://implicit.harvard.edu/implicit/selectatest.html>

Political correctness itself has become a term with a negative connotation because some people see it as a restriction to their free speech. If you don't think about changing your words to conform to political correctness but think of it as a way to show your empathy to other people, to avoid distractions, to concentrate on your original message, you will not feel restricted, but enabled to communicate well and change a small part of the world for the better.

SUMMARY

Human communication is error-prone. With more and more mediated communication, we limit ourselves to certain aspects of our abilities to communicate. Knowing about these potential issues can help us navigate those better, avoiding more and more pitfalls. We are all on a life-long journey of working on good communication.

This may be your competitive advantage because after all, business is about people.

Maybe you can take comfort in the fact that it's not just humans that struggle with communication. It also happens to bees, which speak different dialects, and this means that the navigation they provide is not always understood by other bees.⁸ ●

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Sonja Franz

Works in Marketing & Communications at integer_net, a German agency and Magento Solution Partner. Since joining the Magento world in 2013, she has been an active member of the community, co-organizing events like the Magento Meetup Aachen, sharing insights on Twitter, as a speaker or in the company blog. She was awarded as a Magento Master in 2017, 2018 and 2019. Outside of office hours, Sonja is a ballroom dancer.

!! Interview with Aleksandra Kirjusina

Behind the biggest PWA store in the world





Scandiweb has completed the largest PWA implementation for the online electronic store in Kazakhstan – Technodom. The whole team responsible for this implementation was managed by Aleksandra Kirjusina. Aleksandra told us about the role of women in technology, the biggest challenges related to the project and the lessons learned from it.

Magazine: Aleksandra, nice to have you here! Let's begin with a quick introduction. You started in Scandiweb as an intern, now you are one of the most experienced PMs in the company. What did your journey look like?

Aleksandra Kirjusina: I have joined Scandiweb 8 years ago as a developer. I was always interested in

the management, so it was quite natural when I learned and felt confident in the technologies we were using to give a try and become a team lead. I got a chance to organize the team's work, help to resolve issues, set the goals etc. With time my responsibilities were growing and eventually I got my first project to lead as a project manager.

Fun fact: when I have joined Scandiweb, CEO has asked me where I see myself in 5 years and my answer was – in a project manager role! Exactly 5 years later I got my first project thou I never put a hard deadline for it:)

MGZ: Being a woman in technology is still not a piece of cake, even if the environment is changing for better. What do you think it means to be a woman in technology today? What does it look like in Scandiweb?

AK: Being a woman in technology is great! I think one of the tricky parts is not being afraid to speak up and share ideas. But once you overcome yourself, nothing can stop you. For me, it is very inspiring to see how many women join different events and conferences as speakers each year.

All the teams involved in the project did a magnificent job and gained a great experience. I'm very happy with the job we did, with my own experiences and all the goals we have achieved, from launching the website to showcasing what PWA is capable of.

At Scandiweb you always have a chance to try something new, take the next step and prove yourself no matter what gender you are, but there is a special benefit if you are a girl – girls-only event each month. Women gather each month for some event together, e.g. a concert, SPA or clay painting.

MGZ: What experiences led you to technology as a career?

AK: In childhood, I was interested and wanted to try all new gadgets, new programs which are making our lives easier or more entertaining. In school, we had programming lessons where I have tried to develop games similar to Arkanoid and slot machine. I liked the process of building something using my mind and the latest technologies. Since that time I never thought of any other options except for going to the IT field.

MGZ: As a PM, you took care of many simultaneous processes. What is your project management strategy? Did this strategy work for the Technodom or did you have to modify it?

AK: There are standard well-known phases of the project, e.g. initiation, discovery, development etc. which are used in the project management.

In Technodom, we had to merge the discovery and development phases due to a strict deadline. As for the project manager, the challenging part was to discover the most important features and priorities to start development in a very short period of time. The features, which were crucial for a project launch and success as time was precious.

MGZ: We'd like you to tell us a little more about the whole process. Implementing PWA on such a scale is quite a challenge, how does working on such a project look like? Where does it start, how long does it last?

AK: The amount of the features Technodom.kz is offering to the customers is huge and as the deadline was strict, we had a very big development team working on all the features. To optimize the development and keep work on the track, the structure of the team needed a lot of attention at the beginning. The whole team was split into multiple streams and tech leads of the streams were there to keep track of the dependencies between them.

Each stream was managed separately with their own meetings and approaches depending on what worked best for each, e.g. morning or evening stand-ups, different reviews etc. Streams were gathered together for a big demos and retrospectives for better cooperation.

The project from the discovery to launch and post go-live support lasted for the 6 months and there are huge plans for the next milestones and features.

MGZ: What difficulties did you face in this project? How did you and your team cope with them?

AK: We were replacing the existing platform which was limiting the growth due to low performance and lack of expandability and PWA was the technology that was chosen to change that. We have used ScandiPWA theme, an open-source PWA theme for Magento, customized its look and added a range of extra features. ScandiPWA core team took an important part in the project and made sure that the project's team was following the best practices.

Another challenge was to build the infrastructure from scratch as the decision was made to use an on-premise hardware server setup (due to AWS not available in the region). The infrastructure had to replicate the most-crucial features of the Cloud solution. Such as Varnish cache, upscale/downscale, keeping database uptime to 99.99% and handle the load during big sales.

Last but not least was the time. We had half a year to re-design and build a Magento + ScandiPWA store and launch it a month before a Black Friday. That's why we have used a multi-streamed development approach where streams were split into Magento, ScandiPWA and Akeneo (PIM).

MGZ: What was your biggest learning opportunity while working on this project?

AK: I have got an amazing experience in helping customers to prioritize all the big range of the features they have to achieve the goals. In Technodom's case due to a strict deadline, it was very important to develop the most crucial parts first. Also to analyze these features and make the best of them or change how they will be working for the better UX.

As well as leading multiple streams of developers and coordinate the work among them. Both these factors helped a lot to launch the project in time.

MGZ: Are you satisfied with the results of the implementation? In retrospect, do you think that something could have been done better?

AK: All the teams involved in the project did a magnificent job and gained a great experience. I'm very happy with the job we did, with my own experiences and all the goals we have achieved, from launching the website to showcasing what PWA is capable of.

Every project and people you are working with are unique and there are always some things here and there where you think you could do better work, you learn and take the next step.

MGZ: Central Asia is still an unexplored field for agencies implementing e-commerce solutions. How well you had to get to know the Kazakh market? Can you say something more about the specificity of it?

AK: Technodom is a great case which shows that e-commerce in Kazakhstan is growing amazingly fast. Technodom, as well as its competitors, looks for new faster technologies, does lot of integrations for better UX (e.g. order management, stock management etc.).

The marketing in Kazakhstan is quite aggressive and companies are very advanced in different promotions and SEO. Almost every weekend there are different sales or advantageous loan offers.

One more special thing about integrations we did, is integration with the bank which allows the customer to register via the Technodom website and take a loan just in a few minutes!

MGZ: Do you think that this year PWA will become a standard not only for the biggest players, but also for smaller brands? Or maybe you have some other predictions, in which direction this trend will develop?

AK: I think PWA will be the technology any size of the brand will and is desiring because of a smooth shopping experience it gives to the customers. And here ScandiPWA is ready to help as we are now offering a cloud-based solution. In just a few clicks, companies will be able to get their own PWA running store with multiple environments and will be able to customize the content, add the products and sell them.

MGZ: Thank you for the interview and we wish you further success in the future.



Aleksandra Kirjusina
Project Manager

Aleksandra is a Project Manager, having become one after being a developer with Scandiweb for 8 years. With her days consisting of work with clients and her team, Aleksandra's calling card is quick and impactful solutions, achieved through prioritization and efficient task management.

Aleksandra's wealth of technical knowledge, as well as her global perspective and natural helpfulness, make her perfect for her position as a knowledgeable team lead and an incredible problem solver.

"Learn more! Don't miss out on valuable knowledge!"
– That's Aleksandra's advice to you.

GraphQL, PWA

and the world of Software Architectures – from a front-end point of view

!! [Jamie Maria Schouren](#)



IN THIS ARTICLE YOU'LL FIND OUT:

- What benefits GraphQL brings to the table
- Differences between REST and GraphQL
- What Service Oriented Architecture is



*I have seen the future,
and it looks a lot like
GraphQL. Mark my
words: in 5 years,
newly minted
full-stack app
developers won't be
debating RESTfulness
anymore, because
REST API design
will be obsolete.*

Alan Johnson
Is GraphQL The Future?, May 2018

If you ask a random developer what she or he knows about web development, you will probably hear the word REST in the answer. In a time where API driven architectures are quickly becoming the standard for fast growing e-commerce companies, RESTful web services are taking a dominant position in this climate.

While REST is still the standard for most companies; in early 2018, something new appeared on the horizon. Something that would forever change the way we develop APIs. A framework developed by Facebook, a query language for APIs and a runtime for fulfilling those queries with your existing data: GraphQL.

GraphQL was developed for internal use by Facebook in 2012 and was publicly released in 2015. In early 2018, however, many big companies started to introduce GraphQL in their stack – and boy, did it deliver.

REST VS GRAPHQL

Any developer looking to connect a system or service with APIs, in most cases blindly chooses RESTful to connect web services. This is a very logical choice, as the basic principles of REST allow both front-end and back-end developers to build web applications in a fast and intuitive way.

RESTful webservices, however, have one major disadvantage: the API is deciding exactly which data, in which combination and in which format, the front-end application can retrieve. The front-end developer in this case is heavily depending on the structure of the API, a responsibility of the back-end developer.

Running just one front-end application won't get you into much trouble, as long as the front-end developer and the back-end developer work closely together and document how the API needs to be used. But as soon as your API needs to serve data to more front-end applications or even other back-end services, you will run into problems very quickly.

Every front-end application or service has its own need for certain data – which might even change frequently – something the API developer needs to take into consideration when developing and maintaining the API. In practice, this means that each application calling the API will need to make multiple calls to get the data it needs. Within the process, a lot of data will be retrieved that a specific application does not even need, causing performance issues very easily.

To prevent performance issues by retrieving data we don't need, a back-end developer can build API endpoints which exactly match the data requirements of each (front-end) application. However, this will cause very tight coupling between the API and the front-end applications: making it more difficult to build, manage or maintain, and at the same time turning it into an unnecessarily complex system.

As you can imagine, Facebook ran into these issues in 2011 when they decided to refactor their whole application landscape into an API driven architecture. With their websites, a bunch of apps serving nearly all mobile platforms, and God knows what other services they are sending their (your?) data to, they reached the limitations of RESTful web services within no time.

Facebook then decided to build a new framework. A framework that would make the exchange of data between APIs and front-end applications easier, more efficient and more flexible. One with all the advantages of RESTful web services, but without its weaknesses: and that is how GraphQL was born.

BUT WAIT, WHAT IS GRAPHQL?

In short: GraphQL is a query language and a runtime environment (an external service such as Apollo) which allows you, similar to REST, to connect an application with any another application out there.

GraphQL gets you exactly the data you need, from just one single API, in real time. No more overload of data you don't need, no more back-end developers getting frustrated to build complex services for each application, no more front-end developers waiting for the back-end developer to deliver before they can continue, no more depreciation of performance, and if that wasn't enough: GraphQL will automatically write documentation for you.

With GraphQL, a user, for example a front-end application, can send request to a back-end application. The request is a query specifically explaining what it needs from the API. The runtime of GraphQL, which is running in the back-end application, then translates these queries into functions that can retrieve and even modify data.

GraphQL is really a game changer. Front-end developers can now build their front-ends, add their queries and will know exactly how the data will return – even if the API is not ready yet. They can truly work simultaneously with, and independent from, the back-end developer as they don't need to care about where the data is coming from, and they can develop with just mock-up data. As long as the right data will come in the end.

One major difference between RESTful webservice and GraphQL is that RESTful webservice provide more than one endpoint to retrieve or modify data, while GraphQL only needs one. This allows you to, with just one call, get the exact data you need: nothing more and nothing less. Not only will it get you the data you need, but it will exactly give you the data in the same structure as you put in the request. This way you, as a front-end developer, will know exactly what you get and how you get it – making the use of GraphQL a whole lot easier, more efficient and way more flexible than when using RESTful webservice.



PROGRESSIVE WEB APPS AND SOFTWARE ARCHITECTURES

While most of you probably know by now what Progressive Web Apps are (see previous Magezine!), there might be still a bit of confusion around the topic of Monolithic, Headless, and even further: Service Oriented Architectures.

Progressive Web Apps are front-ends defined by a set of both technical and UX "requirements". The best way to build and deliver them is to use the right underlying architecture, but a Progressive Web App by itself is not a definition for a software architecture.

MONOLITHIC ARCHITECTURE

With traditional Monolithic architectures in e-commerce, everything is tightly coupled: the UI layer, the data layer, the processes. Everything is deeply interwoven, heavily depending and even influencing all other processes. For example: a front-end can be delayed or even go down when a user in the back-end decides to export all the email addresses of past customers. The front-end (experience) can be optimized by using things like caching and/or service workers, by making it into a Progressive Web App. This Progressive Web App then still lives within the monolithic architecture.

HEADLESS ARCHITECTURE

In a much more modern architecture, a Headless Architecture, the front-end is decoupled from the back-end, and connects via API. The 'head' can be a Progressive Web App, but it could also be just a 'normal' front-end. The key here is the decoupling of the front-end, the front-end itself is no longer depending or heavily interwoven with the back-end; however, the data is filled by the back-end via API.

If this API is slow, if the back-end is responding not fast enough, technically the front-end could appear on the user client, but the data is missing. If the front-end is built and designed in the right way, users might still then perceive such front-end as fast, even though the data is still missing. One of the techniques that can be used when data is retrieved slowly is, for example, 'lazy loading'. (On a side note: if the back-end is fully down, then of course there will be a bunch of 'loading spinners' showing or eventually errors on the places where data is expected.)

In a Headless Architecture, the front-end (or front-ends, as there can be more front-ends using one back-end) is fully decoupled from the back-end. Technically this means that front-end developers can build their front-end while at the same time the back-end developer is still building the back-end. Opposed to monolithic architectures, the front-end developer does not have to wait until the back-end developer is 'ready' before they can start working their magic.

Thus, sharply decreasing time to markets, complexity of teams and iterations.

However, when using RESTful webservices, the front-end developer still has to work closely with the back-end developer to understand what data they get, what they need and what it will look like. When they are building multiple front-ends, for example, store-views with different languages and different currencies (aka Europe), the back-end developer (when they are badly designed) has to prepare multiple API endpoints for each front-end not to send currencies, translations or what else to front-ends that don't need it and overload them with data – making the whole system suffer tremendously. Building such API endpoints takes time, adds complexity and requires a lot of (very well written) documentation. Not even mentioning the maintenance costs and time.

GraphQL is really a game changer here. Front-end developers can now build their front-ends, add their queries and will know exactly how the data will return – even if the API is not ready yet. They can truly work simultaneously with, and independent from, the back-end developer as they don't need to care about where the data is coming from, and they can develop with just mock-up data. As long as the right data will come in the end.

This means that the power is now truly in the hands of the front-end developer. They can build astonishing experiences without being obstructed by the back-end developers' work. They can build multiple experiences, both websites, Progressive Web Apps and even native apps if they still want to do that, in a very fast and efficient way – by the use of GraphQL with a Headless Architecture.

But where exactly is the data coming from? Well that can be any system: this could be Magento, Wordpress, BigCommerce, Shopify or whatever the merchant chooses to work with. And even when a back-end platform is picked, with the right use of Headless Architectures and GraphQL, a merchant can decide to migrate the back-end system at any time without it having any impact on the front-end. GraphQL is key in making sure that the front-end receives the data it needs, as long as the new back-end system exposes the data via API.

The main advantages of a true Headless Architecture using GraphQL are therefore that front-ends become very flexible; they can integrate with any data source, they are much easier to maintain, they are not influenced by back-end processes and can be individually scaled when needed – and of course, they can be a Progressive Web App, living up to its full potential.

SERVICE ORIENTED ARCHITECTURES

Now we know how GraphQL and Headless Architectures make sure your front-ends are secure, flexible, easy to maintain and scalable as a stand-alone application – what if we apply this same principle to back-end systems?

What if we define back-end processes as separate services; for example: order management, stock management, assortment management, logistic services, payment services, and more – and build them all decoupled from each other? We are building a Decentralized System. A

Service Oriented Architecture which will bring flexibility, extensibility, scalability and reliability to both front-end and back-end processes – the ingredients needed to build a robust, yet lightweight enterprise system that is ready to accelerate any business.

So how does that work: with all these systems separate and decentralized, where do we exchange data? And how do we ensure that the data is clean and knows only 'one true source'?

We could build all separate APIs per service and maintain in each service where the data should go to (and what the true point of data is) – but with many data streams, complex individual services and fast growing companies who want to extend functionalities quickly – even with the use of GraphQL this could get messy and super complex very soon.

Therefore, in a true Service Oriented Architecture, we use a Middleware. This (smart) Middleware connects all the dots between the systems and services, it regulates where the data comes from, where it should go to, and where the true source of data is. Some of the processes we can find in Middleware are for example authentication handlers, messaging systems etc. As you may understand, using GraphQL instead of REST drastically decreases the complexity and increases the ease of maintenance in Service Oriented Architectures. GraphQL in this sense takes the role that used to be done by the service orchestrator and ETL tool in a traditional SOA.

Building such architecture gives you the (front-end) advantages of a Headless Architecture, at the same time bringing the same scalability, flexibility, extensibility, performance etc., to back-end processes. You could state that a 'Headless Architecture' is a 'light or first' version of a Service

Oriented Architecture. This might sound very complex to build, but the good news is that there are companies out there that provide the basics for these architectures for you, which can even connect your (current) Magento stores – DEITY for example is providing such service – so you don't have to build everything from scratch.

CONCLUSION

Since the world of e-commerce is getting more demanding, more complex and more fast growing, it is very wise to rethink the basics: what is the store, what do I need, what system do I want to use, or which one I've already used, what are the goals and where are we going to be in 5 years?

Using GraphQL by itself or using PWA technology will not magically solve all your problems, give you unicorn performance or unlimited scalability. These techniques have to be used carefully and in combination with the right architecture they will become the basis of your future success. Although maybe the initial set-up might be a bit more complex, might even be a little bit of an overkill or have a learning curve; in the end, you will end up with a less complex system, a much more flexible one, a more logical one, and you won't run into problems as soon as the business starts to grow. Giving you the time to focus on building great experiences and functionalities, rather than maintaining complex codes.

Facebook developed GraphQL to support a modern, highly scalable API based Service Oriented Architecture, which could provide the platform they needed to support them for years to come – we, the world of e-commerce, should learn from that, take advantage and make sure our customers, the merchants, can grow with no limits. ●



Jamie Maria Schouren
Chief Strategy Officer, Deity

Jamie Maria is addicted to e-commerce, in love with code and her mind bound to business. Driven by the urge for innovation she fights with the aim to improve the online world around her. Starting as a native app developer who jumped into e-commerce, she co-founded DEITY, with which she is on a mission to spark an online revolution to evolve web technologies.

!! Kaja Grzybowska & Gosia Rusin

Voice

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IN THIS ARTICLE YOU'LL FIND OUT:

- Is voice commerce another breakthrough
- What the research tells us
- How PWA can support voice search

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Despite the constant growth of the market of smart speakers, voice commerce hasn't sparked a revolution in retail. However, jumping to conclusions that the whole trend is overrated seems a bit hasty. Many brands simply don't know how to properly incorporate voice into their customers' journeys.

When Echo Dot became one of Amazon's Christmas bestsellers, we were all eager to proclaim that voice recognition technology would reshape the way we use the internet (or at least the way mobile did). The data seemed to support this thinking.

eMarket analytics estimate that, by 2021, the number of US voice assistant users will reach 122.7 million, representing 42.2% of US internet users and 36.6% of the population. The global smart speaker market is also expanding by leaps and bounds (Tab 1).

Amazon has significantly pulled ahead of the pack, and so it is clear that smart speakers will find the way into the retail sooner or later. This aim is barely a secret since Prime members can get Echo Dot (bundled with one month of its Amazon Music Unlimited service) at the price of a cup of coffee. Besides, Amazon has never hidden the fact that making money on electronic devices is not its primary focus. Echo, aligned with Alexa, was always more of a way to smooth access to all kinds of Amazon and Amazon-related services. Amazon's deal with UK food delivery company Deliveroo — a deal was later subject to a CMA investigation — only proves that point.

Amazon is not the only one trying to build a new bridge to users' hearts (and wallets). Both Amazon and Google are selling their devices for 50 USD, which is basically

giving them away for free. Mind you, the previous 20 years have already taught us that Silicon Valley companies give nothing away for free, even though we didn't always know that we were paying.

Voice assistants, as well as smart speakers, are taking the market by storm, and — according to Voicebot study conducted in August 2018 — they are really used by customers for a variety of purposes. People ask them to answer questions, play music, check the weather, set a timer, turn on/off the radio, and many other things. However, making purchases is very low down on the list, with only 1.5% of users declaring that they use this feature at least once a month. Voicebot experts claim that this number actually proves that voice commerce is making progress, but even they must see why there is more general skepticism when it comes to using smart speakers for purchasing.

And skepticism certainly abounds...

IS VOICE COMMERCE OVERHYPED?

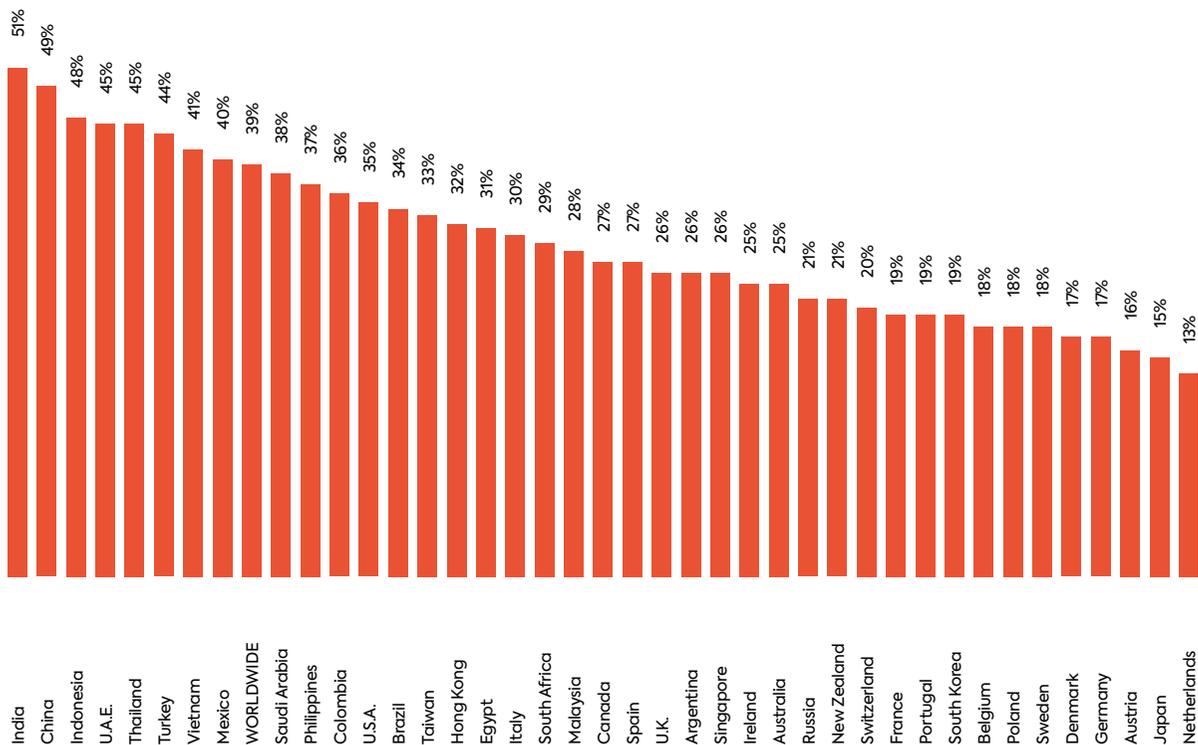
Wired asking, "Hey Alexa, Why Is Voice Shopping So Lousy?" suggests that forecasting a revolution in retail based on just the raw numbers is a little bit rash, especially when the customer experience delivered by the biggest player on the market remains so weak.

Tab. 1 Worldwide smart speaker shipments and annual growth Canaylst smart speaker market pulse: Q3 2019

Vendor	Q3 2019 shipments (million)	Q3 2019 market share	Q3 2018 shipments (million)	Q3 2018 market share	Annual growth
Amazon	10.4	36.6%	6.3	31.9%	65.9%
Alibaba	3.9	13.6%	2.2	11.1%	77.6%
Baidu	3.7	13.1	1.0	4.9%	290.1%
Google	3.5	12.3%	5.9	29.8%	-40.1%
Xiaomi	3.4	12.0%	1.9	9.7%	77.7%
Others	3.6	12.5%	2.5	12.5%	44.0%
Total	28.6	100.0%	19.7	100.0%	44.9%

Note: percentages may not add up to 100% due to rounding, source: Canaylst Smart Speaker (sell-in shipments), November 2019

Fig. 1 Use of voice & search command Percentage of internet users in top economies who report using voice-controlled functionality (any device):



Wired journalist, Arielle Pardes, recalls a survey conducted by eMarketer and Bizrate Insights, which proves that "58% of US internet users have neither used nor are interested in using smart speakers to make purchases. While 4% of respondents said they had made a purchase using a smart speaker at least once, just 2% did so regularly."

On the surface, it may look like a rather embarrassing turnaround from Wired, since only three years earlier, in 2016, it compared Alexa to the iPhone and prophesied that "Voice Is the Next Big Platform, and Alexa Will Own It". However, there are some details of that original claim that are still legitimate and still hold up to some analysis. Let's take an in-depth look at the data.

The eMarketer study, while revealing that purchases are not the most common way of using voice assistants, also points out that voice assistants are used in activities that lead to purchases. They are utilized for searching for products, recommendations, and adding products to a shopping cart, but users prefer to finalize transactions on other devices. It's another striking example of the "mobile-conversion gap" (Tab. 2).

Market research firm Forrester has recently tested the commercial capabilities of voice assistants from Amazon, Apple, Google, and Microsoft. The researchers asked each voice assistant 180 questions about products and services, like "what brands sell liquid laundry detergent?" They then ranked each response as either passing or failing. Overall, the voice assistants failed 65% of the questions.

Arielle Pardes
senior writer at WIRED



The dissonance between the time consumers spend on mobile and the conversion rate through this channel has been a thorn in the side of retailers over the years. The average American spends more than 5 hours on their mobile phone daily, at least some of which is spent looking at products but, according to the Monetate eCommerce Quarterly Report, conversion on smartphones is only at 1.6%, compared to 3.9% on desktops. The main reason is that mobile shopping experiences are also lousy in many cases. And yet, nowadays, nobody would dare to call mobile commerce "overhyped". Conversion rates may be low, but sales are still significant.

VOICE AND MOBILE ARE INSEPARABLE

In spite of the current state of play, voice commerce shouldn't be underestimated. It is expected to jump to \$40 billion in 2022, up from \$2 billion today, according to data from OC&C Strategy Consultants.

This overwhelming tendency for users to simplify their online interactions seems a far more critical growth factor for voice commerce, and shoppers already admit that text-only search is insufficient for finding the products they want. This creates a gateway for voice commands. According to early 2019 survey data

Tab. 2 Conversion Rate

Conversion Rates by Devices (US)	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018
Traditional	3.98%	4.06%	4.52%	3.88%	3.91%
Smartphone	1.31%	1.29%	1.63%	1.52%	1.61%
Other	0.20%	0.21%	0.23%	0.16%	0.07%
Tablet	3.06%	3.13%	3.69%	3.07%	3.28%

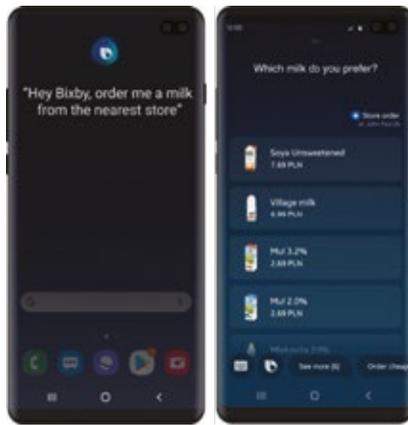
Source: Monetate eCommerce Quarterly Report (Q2, 2018)

from Perficient Digital cited by Search Engine Journal, voice is now the number two choice for mobile search, after the mobile browser.

The entire concept of an alternative to text-based searches, voice search included, is tightly related to mobile optimization, in which performance plays a crucial role. That, in turn, makes Progressive Web Apps (PWAs) the most suitable solutions to support voice search optimization – especially since the voice assistants, regardless of popularity of smart speakers, are still most commonly used on smartphones. PWAs are able to speed up the web performance and are the standard support by Google itself, which automatically makes them the perfect match for voice solutions. By making the PWA voice-enabled, businesses allow their users to keep their eyes off of the mobile devices while they are continuing their online activity. PWAs, with their offline availability, directly support exactly this kind of experience.

Standalone voice solutions in e-commerce may prevail yet, but voice interactions combined with the modern mobile web fit very well into the lifestyle of customers in an "on-demand" culture, as well as with the desire to operate within an integrated system. The fusion between mobile and voice allows e-commerce businesses to engage more meaningfully with users while covering each stage of their purchase journey.

With that in mind, we teamed up with Upside and worked on a voice solution compatible with Samsung's AI-powered voice assistant – Bixby. By combining Bixby's capabilities with our own Vue Storefront eCommerce PWA, and with an Adobe Magento platform, we allow users to begin the purchase path with a simple voice command.



With the screen, the capability of voice commerce doesn't have to be limited to purchasing lower-value items or reordering stuff. Before showing the complete product list, Bixby asks the user from which store he would like to order, based on location. It is easy to imagine that, even in the case of more complicated orders, the combination of visual and voice will replace the text-based way of interaction.

Worldwide trends show a massive interest in conversational commerce. Yet, the skepticism among e-commerce businesses is understandable. It is easy to perceive it as nothing more than a shiny new object that will bring some decent PR for the brand but have little real impact on sales. And sales is king.

Voice should come to the fore at some time, as it is actually far more in line with the primary customer needs of making online behaviors more natural and straightforward. In combination with mobile, visual search, or/and VR and AR, it has a chance to disrupt the online shopping experience. Those who buy in on voice first will gain the customers' trust, but the race has already started. ●



Kaja Grzybowska
Content Specialist at Divante

An experienced journalist who has also specialized in advertising and business. She cooperated with such portals as Wyborcza.biz, biznes.onet.pl, NewConnect.info and Inwestycje.pl. Previously was a managing editor of Interaktywnie.com, a website dedicated to technology, advertising, digital media and economy, based in Wrocław, Poland.



Gosia Rusin
Board Member at Divante

Chief Sales Officer and Head of Product Design in one of the biggest e-Commerce Technology companies, combining open source software development with human touch. With more than 15 years of professional experience, she makes use of it by helping the clients and prospects in diagnosing their business needs and translating them into appropriate solutions in the area of e-commerce and digital transformation.

By Magezine Team

Here
comes

Adobe Sensei

ADOBE SENSEI: HOW CAN I HELP YOU?

It would be a good idea to start by answering the question of what Adobe Sensei actually is, right? As we can read on the Adobe website: "Adobe Sensei is the magic behind the world's best digital experiences. It drives innovation across our cloud platform within a unified AI and machine learning framework." Okay, since we know what we're dealing with, it is worth to mention that probably no one today is surprised or shocked by the use of AI in business. Of course, it's no different for Adobe, the giant from Silicon Valley. But what is so special about the solution created by the California-based company?

FIRST OF ALL - COMPREHENSIVENESS!

We will continue to talk about it later in the article, but it should be noted straight away that Adobe Sensei is used in almost every product from the Adobe portfolio. Originally it was created to mind the gap between marketing ideas and execution, nowadays it does much more. By its seamless connection to all of Adobe's cloud services, it can help to create even better marketing experiences for your customers. Adobe Sensei technology allows you to discover useful information in an easier way, helps you express ideas, speeds up tasks and workflows, and enables real-time decision making. Adobe Sensei is constantly being improved, and new functionalities are being added to the solution.

Whatever industry you work in, knowing your audience is the key to your business success. With Adobe's powerful capabilities, you'll not only be able to collect accurate data about your users, but also use that information to create an even better customer experience. You'll be able to provide them with exactly the content they're looking for, in the form they like best. And all of this thanks to a true wizard – Adobe Sensei.

In 2019, during Magento Live Europe, Magento announced further integrations with Adobe. Until now, the store platform has used the capabilities of Adobe Sensei – including Adobe Analytics and Adobe Target – to collect user data even more efficiently and better match products to their expectations.

What benefits do these technologies bring to the table?

Adobe Creative Cloud	Adobe Experience Cloud
<p>More and more customers and formats mean a growing demand for faster material delivery. With Adobe Sensei Artificial Intelligence, Adobe Creative Cloud allows you to quickly move from an idea to finished content. For example, it makes it easier to select the right image, create the perfect composition from different elements, and assemble video transitions.</p>	<p>Customer expectations and needs change every day. The Adobe Experience Cloud service features Adobe Sensei, a self-learning protocol that analyzes data, helps you study customer behavior, and suggests how to offer context-sensitive, personalized content before customers even want it. This solution will help you discover new audiences with characteristics similar to those of your current group, and the predictive model will help you make decisions.</p>
Main benefits:	Main benefits:
<p>Faster search Intuitive search functions in Adobe Stock and Adobe Photoshop Lightroom services are based on Adobe Sensei neural networks that allow you to quickly find the right resource for your project.</p> <p>Shortcuts to speed up creation Adobe Sensei technology takes on time-consuming tasks; for example, it classifies audio types in Adobe Premiere Rush, allows you to select the main image object in Photoshop with a single click, and improves editing in the Lightroom.</p> <p>Stunning effects Dimension allows you to instantly align and illuminate the 3D scene to match the background image. Illustrator provides realistic object modifications.</p>	<p>Predictive analysis Features such as anomaly detection, impact analysis, and segment comparison mean that the Adobe Sensei mechanism is a constantly active analyst that identifies important design elements at every stage of the work.</p> <p>Management and personalization Adobe Sensei technology complements resources with metadata, recommends offers and generates shorter texts depending on the target format. It allows you to deliver exactly what your customers expect.</p> <p>Optimize your advertising spend The Adobe Sensei engine supports Adobe Advertising Cloud forecasting tools, offering intelligent information to maximize your advertising spend.</p>
Solutions:	Solutions:
<p>Adobe Photoshop - Adobe Sensei powers some of the most essential and powerful features of Photoshop to give you unparalleled creative control.</p> <p>Adobe Photoshop Lightroom - Adobe Sensei is an integral part of Lightroom, powering some of the most useful features that help save time and streamline the photo editing process.</p> <p>Adobe Illustrator - Your favorite vector graphics editor is even better, faster, and stronger with AI. Adobe Sensei takes time-consuming tasks and makes them engaging, simple, and efficient.</p> <p>Adobe Premiere Pro and Premiere Rush - Modern video editing relies on AI and machine learning to create the very best product. And with Adobe Sensei in Adobe Premiere Pro and Adobe Premiere Rush, you're ready to do the same — every time.</p> <p>Adobe Character Animator - We've used Adobe Sensei technology in Adobe Character Animator to make it faster and easier to bring your characters to life.</p> <p>Adobe Audition - Adobe Sensei helps streamline digital audio workflows in Adobe Audition by cutting down on the time it takes to do certain tasks, so you can create the best end product.</p> <p>Adobe InDesign - Laying out copy and graphics can be a time-consuming process involving multiple steps — but with Adobe Sensei, Adobe InDesign helps make that entire process much easier and faster.</p> <p>Adobe Dimension - AI and machine learning help you create high-quality 3D models, avoiding costly photoshoots. Adobe Sensei powers features in Adobe Dimension, letting you create realistic lighting, apply decals, and more.</p> <p>Adobe Stock - Adobe Stock uses Adobe Sensei to speed up the entire process of finding the perfect photos.</p> <p>Adobe Fonts - Adobe Sensei in Adobe Fonts makes it easy to search, manage, and find the exact right font for your projects.</p> <p>Adobe Capture Mobile - Imagine looking through your phone camera and seeing patterns, vectors, and fonts. Adobe Sensei in the Adobe Capture mobile app lets you do just that.</p> <p>Adobe Color Service - Make it easier to find the perfect color combinations for your design materials.</p> <p>Adobe Spark - With Adobe Sensei, Adobe Spark helps you along the design process, recommending copy placement, generating the best image crops, and suggesting content layouts. So, you can design beautiful content in no time.</p>	<p>Adobe Advertising Cloud - It is hard to plan media buys just right for the right audience. Adobe Sensei helps you to get the whole picture and plan accordingly, making real-time decisions along the way.</p> <p>Adobe Audience Manager - Adobe Sensei in Adobe Audience Manager helps you build unique audience profiles, so you can identify your most valuable segments. And then use them across any channel.</p> <p>Adobe Analytics - you can truly analyze your data and uncover the rich customer insights beneath. And then you can act on them.</p> <p>Adobe Experience Manager - Adobe Sensei powers several features within Adobe Experience Manager — so you can deliver intelligent, personalized experiences across all your channels. And you'll get better ROI for your spend on assets.</p> <p>Adobe Campaign - Adobe Sensei in Adobe Campaign helps you understand what customers will respond to, so you can improve the effectiveness of your campaigns.</p> <p>Marketo Engage - B2B marketing is getting smarter and faster. Adobe Sensei helps you keep up, powering predictive capabilities within Marketo Engage to help marketers deliver intelligent, innovative experiences.</p> <p>Adobe Target - Adobe Sensei in Adobe Target eliminates the guesswork, so that you can move ahead with your personalization goals — knowing confidently that you're delivering the best possible experience every time.</p> <p>Adobe Experience Platform - Access and tune machine-learning models powered by Adobe Sensei in Experience Platform Data Science Workspace that help you surface insights and predictions. So, you can make decisions faster and experiences better.</p>

Source: <https://www.adobe.com/pl/sensei/experience-cloud-artificial-intelligence.html> and <https://www.adobe.com/pl/sensei/creative-cloud-artificial-intelligence.html>

YOU CAN ALSO GAIN A LOT FROM SENSEI IN ADOBE DOCUMENT CLOUD

For example, in a few simple steps you can digitize paper documents in a form ready for editing, the right fonts will be used automatically, forms will always receive the right fields, and signatures will become legible. When taking a picture of a document, Adobe Scan allows you to detect its borders, automatically clear it and remove shadows to improve the overall appearance and readability of the text. Sounds awesome, isn't it?

OK, BUT WHAT ABOUT E-COMMERCE?

If you have read the contents of the table, you could see that most of the solutions are dedicated to the creative industry – designers, movie makers etc. You may well be wondering where e-commerce is in all this. Which tools will exactly allow you to increase conversion in an online store, minimize the number of abandoned carts or cause more traffic? The answer is: all of them!

In Adobe Sensei you will find a number of solutions created especially for commerce. Most of all, you can take advantage of both Creative Cloud and Experience Cloud capabilities in your business. That's for start. And don't forget that e-commerce is a system of connected vessels – the role of creative tools is undeniable. Creating highly engaging visual content is a very important task in merchants' everyday job. Easier traffic analysis, collecting more valuable customer data, or providing them with better-fitting content are just some of the possibilities of Sensei. In addition, using Artificial Intelligence or Machine Learning will allow you to boost your business and keep up with the competition. The game will be big!

In the omnichannel world, where there are many channels and ways to reach users, it's the speed of delivering the right content to customers that counts. And users change their minds quickly. With AI, Adobe Sensei helps you go from concept to execution faster, whether it's finding the right image, creating the perfect composite, or editing a video.

The amount of data that is collected every day is enormous and can seem overwhelming. Within Adobe Experience

Cloud, Adobe Sensei's machine learning helps you see how your customers behave, uses those insights to serve relevant and personalized experiences, and anticipates what they'll want next. You'll discover new look-alike audiences to approach and use predictive modeling to help you make better decisions and create even more personalized experiences.

HOW CAN ADOBE SENSEI POWER MAGENTO-BASED STORES?

In 2019, during Magento Live Europe, Magento announced further integrations with Adobe. Until now, the store platform has used the capabilities of Adobe Sensei – including Adobe Analytics and Adobe Target – to collect user data even more efficiently and better match products to their expectations. Although Magento has been using its own recommendation engine for years (before the transfer to Adobe Company), this functionality is now rewritten – on the basis of Adobe Sensei. It's an AI-driven SaaS service that generates product recommendations based on how users browse your site, what they shop for and other metrics.

And although this option can be used today only by the largest players (Commerce 2.3.x merchants), by the end of this year more retailers will have access to it (excluding Open Source). Adobe Sensei will help Magento's small-to-medium business customers offer much more personalized experiences than would typically be in their reach. ●

Sources:

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Innovation through Empathy

I've watched the company go through multiple iterations and exchanges of ownership. And while the waves of change were ebbing and flowing, there was one enormous, calming presence. The dedication, loyalty and unwavering support of the global Magento community.

My time here has allowed me the opportunity to see first-hand the commitment and mutual purpose we all share towards exceptional commerce experiences. There is a strong, magnetic energy that pulls us forward, makes us look through a wider lens, and enables us to leverage our own empathy to deliver experiences that surprise and delight. It's nowhere near enough to design experiences that are built for transactions. And to be clear, by that I mean, I was able to put something in the cart and get through the checkout process without an extreme amount of frustration and pain. What could have been a memorable experience more likely becomes one I'd rather forget. We've all had both positive and negative experiences shopping online. But we always remember the experiences that surprised us in a good way. And those are the ones we are most likely to advocate for and share.

There is an entire discipline around Customer Driven Innovation (CDI). Customer-centric modeling exists because, at the end of the day, the work does not matter if the customer

is not fulfilled. This is where empathy is absolutely required. We simply cannot look at a shopping experience in terms of code, design, and implementation without knowing what it is we want to help the end customer accomplish. An exceptional customer experience isn't a series of desired actions. It's actions driven by desire.

CDI is based on a rigorous understanding of customers and their needs. Developed from the principles of Design Thinking by the Stanford d.School, variations are in use at companies across the world, such as PayPal, eBay, Google, IDEO, Lego, and many more. This methodology removes one of the most dangerous traps in the design process – hidden assumptions. Customer input is quickly transformed into compelling solutions. (If you really want to go down the rabbit hole on how we make assumptions, spend some time reading up on cognitive bias.)

Through the power of divergent and convergent thinking, Design Thinking helps us to arrive at solutions to problems

that are often missed in traditional analysis. Divergent thinking compels designers to expand their set of ideas and concepts about the problem, while convergent thinking drives us to focus our ideas towards an answer. By diverging and converging at different stages in a project, we enable maximum creativity while simultaneously driving for results. Yes, we really can have both.

The five phases of CDI:

1. Empathize (Divergence)
2. Define (Convergence)
3. Ideate (Divergence)
4. Prototype (Convergence)
5. Test (Convergence)

Perhaps you've seen an article, video, or TED Talk about the "Marshmallow Challenge" as part of a team-building or design process. This exercise provides the opportunity to see how a diverse group of individuals might work together towards building and testing a prototype. The struggles of this challenge and iterative process should feel very familiar to us all. "Every project has its own marshmallow."

Here in 2020, we're seeing more and more things we've never seen before – an innovative technology integration, a new wearable, the convenience of voice commerce; things we didn't know we needed until they were presented to us. And then very quickly, we can't imagine our lives before these conveniences. (Did people really turn lights off and on by themselves before Alexa?)

But let me be clear. Technology and emerging trends can be incredibly exciting but tricky territory. Not every technology fits every scenario. Some experiences just don't make sense. I find myself always asking the question, "Yes, it's cool, but is it helpful?" Think about that as you look at your roadmaps, emerging technologies, and how these two things may intertwine. And most importantly, don't forget to ask your customers what they want.

Innovation is a term that is tossed around so casually. I sometimes feel as though it has lost some of its impact. Of course, we could just as easily use terms like "new" and "different", but innovation has a connotation that evokes feelings of experimentation, exploration, and pioneering that feels so much more special, elite in a way.

On its own, innovation is a pretty phenomenal thing. It drives progress. Makes us uncomfortable. Makes us better. Makes the world around us better. I don't believe it's just about introducing something new and different. New and different doesn't necessarily mean better. Innovation is absolutely about changing the paradigm in how we think about and do things... for the better.

Now, what happens when we combine innovation and empathy? Frankly, I believe the former does not happen without the latter. Empathy isn't always easy. As humans we tend to be very focused on managing our own feelings and expectations, and even that can require more energy than we sometimes have available. But it is so fulfilling to put yourself into someone else's shoes. There is perspective there. And there is growth there. And in the process, you actually learn quite a bit about yourself.

I encourage everyone to study and practice empathy every day. It will make you so much more in tune with what people are feeling, what they say they want vs. what they actually want, and you'll develop some pretty awesome listening skills along the way. You may even become more clear on your own wants and desires.

As commerce experts, we don't just drive exceptional experiences. We deliver empathy. If we use empathy to inform everything we do, both personally and professionally, imagine the progress we could make, together. ●



Michele Miller

*Leader, Solutions Innovation,
Magento, An Adobe Company*

Michele is a hybrid creative director with a unique blend of expertise in content, digital, and commerce strategies. She has spent the duration of her career acting as both a creative and strategic partner for international clients across multiple industry verticals and distribution channels. She enjoys exploring emerging technologies and innovative implementations to accrue knowledge and insights that will drive Magento customers towards measureable results. This includes leading Magento's Innovations Lab.

What Magento means to you - story of Magento community

!! Carmen Bremen

Sometimes, life goes strange ways. I didn't have anything to do with computer science. One of my major subjects at university was psychology. But then: the Internet happened. And at some point I had my first computer, my first domain and my first HTML-taps. [Smiling Face]



WHAT DOES [SOMETHING IN SQUARE BRACKETS] MEAN?

Unfortunately it's a bit complicated to include emoji in a printed article. But I was recently told to use emoji's on written statements to make their emotional context easier to understand. [Thinking Face] I had them read to me on my mobile phone (Settings->Accessibility->Spoken Content->Typing Feedback->Charakters & Hints = on). Instead of small, colorful pretty emojis you'll find in this article written emojis: [Backhand Index Finger With Light Skin Tone Pointing Left]

WHO'S THAT GIRL?

I'm Carmen [Woman With Light Skin Tone Raising One Hand] – a developer, a Magento Master, a speaker, a conference and meetup organizer, a sticker addictive, hopefully a mentor and – a woman.

FIRST CONTACT WITH MAGENTO

My first contact with Magento was in 2010. [Woman With A Light Skin Tone With A Laptop] I had to build an interface to an ERP-software. I took a look at several shop systems – and Magento was one of them. My first look was at the Database. At the very first I thought: I NEED HELP. [Face Screaming In Fear]

The solution: I booked a Magento Training with Vinai Kopp. When I walked through the door, he [Man Teacher] apologized and said: "Sorry, but there is a Magento training here". [Man With Medium Skin Tone Shrugging] But when I explained to him that that's why I'm here, he was delighted beyond all measure. [Man With Medium Skin Tone Dancing]

FIRST CONTACT WITH THE COMMUNITY

After that training I decided to learn and to work with Magento afterwards [Woman Student With Light Skin Tone]. I then looked for someone to accompany or control my work. [Serious Face With Monicle] And that was Andreas von Studnitz – one of the most capable and active members of the German community – and basically my most important and first mentor. And so I somehow ended up in the community – as a female developer. [Recently Hatched Chick Still In Chow]



At my first meetup in Aachen I met another rock of the Magento world. Roman Zenner. [Mens Head With Very Light Skin Tone And Red Hair]. One of his first questions was, "Do you do marketing?" [Cross-Eyed Grinning Face With Stuck-Out Tongue].

I remember Andreas grinning broadly in the background [Grinning Face With Clenched Teeth] because he knew it wouldn't be the last time and the surprise at the sentence "no, I'm a developer" is always so honest and immediate. [Surprised Face With Open Mouth]

I always get the impression that people don't want to show that they are surprised when they meet a woman who is programming. But in my opinion that is total nonsense. Of course, everyone is astounded when a woman appears to be a developer. The same would happen to me with male midwives [Midman With Light Skin Tone] and even when a man tells me he likes to knit [Yarn]. But that's not why I'm a bad person – and nobody is a bad person just because he doesn't think I'm a developer. [Smiling Face With Horns] Things that are rare, you just wonder. This is human and absolutely normal.

THE TASTE OF COMMUNITY

Just in the early days of Magento, "community" was incredibly important. You only had the opportunity to expand your knowledge if you got in touch with people.

There were no documentation or books or videos – just people you could pester with questions [Face With Open Eyes And Mouth With Head Exploding]

And what I found so enthusiastic about the community right from the start [Smiling Face With Hearts] was the desire and willingness to share knowledge. It's not about gaining an advantage by knowing something, but about being able to help someone. [Party Face With A Party Horn, Hat And Confetti]

THE NEXT STEP, THE NEXT MENTOR

Advantage and at the same time disadvantage, as a woman in a man's world: everyone knows you. So I began to doubt my memory, because so many "Carmen" – saying came to me and I always thought: "Who was that again ...?" [Face With Wide Open Eyes And Flushed Cheeks]. Except Fabian also known as "Schrank". [Bearded Person With Light Skin Tone]. You never forget him.

And I basically met my second mentor here. After I started the Meetup in Cologne at Andreas' suggestion, Fabian invited me to help organize the Mage Unconference. Around this time, I dared to go on stage and began to give talks at conferences – and became more and more visible. [Woman With Light Skin Tone With Hands Clapsed Above Her Head Making The Ok Gesture]

DIVERSITY

One of my key issues in recent years has been diversity [Silhouette Of Two People] [Silhouette Of Person]. Unlike some other women, I have not had any negative experiences as a female developer. Everyone has always treated me very respectfully and appreciatively. Nevertheless, I always wondered why so few women are "visible". That's one reason why I started with talks at conferences and it actually made women more courageous to become more "visible". [Woman Superhero With Light Skin Tone]

SEPARATION WITH A HEAVY HEART [DISTRAUGHT FACE WITH TIGHTLY CLOSED EYES]

I loved working with Magento – and I guess, Magento loved me too. [Two Hearts] [Orange Heart] Since then we are definitely a couple [Bride With Light Skin Tone Wearing Veil] and I thought we would never leave each other.

Since Magento 2, it looks like we're no longer made for each other [Loudly Crying Face]. Magento 2 is not made for freelancers like me – and therefore I will probably have to move on. [Woman With Light Skin Tone Walking]

THERE'S ALWAYS SOME WAY TO GO

I will basically continue with Magento 1 with the "Mage One" project [Smiling Face Licking Lips], which will extend support for Magento 1 from the middle of next year [Tear-Off Calendar]. So first and foremost I will take care of Magento 1 shops [Woman Doctor With Medium Light Skin Tone].

This support is designed to help merchants buy a little more time before they can make the move to Magento 2 or another system. Often it's not the money, but the time that's missing. [Woman With Medium Skin Tone Running].

WHAT I HAVE COLLECTED DURING THE MAGENTO YEARS [HANDS RAISED IN CELEBRATION]

I have been able to gather and collect so much in the last few years. First of all: stickers. And beyond that: certifications, Master Awards, shirts (you have no idea how many), travel miles, badges, slides, tweets and blog posts, a lot of money – but most of all: Friends. [Dancing Men Wearing Bunny Ears] [Dancing Women Wearing Bunny Ears].

I LOST MY VOICE [FACE WITH ROLLING EYES]

One of these friends is Rico [Man With Medium Light Skin Tone With A Laptop]. Because of him I became aware of the spoken emojis. And so it happened: I lost my voice at the Mage Unconference end of November 2019. And by "lost," I mean "lost." I've never been so mute in my life [Monkey Covering Mouth]. And I have never felt so disconnected at an event before.

And while Rico and I were driving through the area to pick up the cake, pick up all the packages and buy sweets and fruit, I didn't make a sound. [Woman With A Light Skin Tone Bowing Deeply]

But then Rico had an idea. I sent him messages and "the car" read them out loud. And I noticed that the Emojis are described and I had a lot of fun. [Grinning Face With Grinting Eyes And Sweat Draws]

And now there's only one thing left for me [Magenta Colored Woman With Wistful Eyes And A Bun] to say to Magento:

[I Love You Hand Gesture With Medium Light Skin Tone] [Hand With Light Skin Tone With Fingers Split Between Middle And Ring Fingers] ●



Carmen Bremen

Magento Certified Developer

Carmen met Magento by chance in 2010. Since then she does nothing else professionally and Magento also plays an important role in her private life. Through the organization of Meetups and the MageUnconference, the travels and conferences, the activities in the community association "Firegento" she has to deal with other Magento people every day. She was one of the first women to receive the Developer Certification and was also happy to give lectures on the topic of "Diversity". Magento seemed to like it very much and awarded her the Master Award three years in a row.

Contributing is central to our community

The personal perspective of
a Magento Evangelist

!! Marsha Naidoo



I did not realise that accepting a position at a Magento hosting company a few years ago meant joining a community. I am so glad I did! I have been a part of the Magento community for over five years and have spent three of those with MageMojo. Deciding to host Meet Magento New York with MageMojo immersed me further in the community, and it has been an amazing experience.



It truly is a unique opportunity to connect with so many and develop an understanding of community needs and contributions. Just when I thought I had found one of the best ways to connect with and give back to this ecosystem, speaking at community events extended that opportunity and opened new doors. I can only hope I help others to enjoy similar experiences.

Contributing is central to our community. Supporting the growth of a robust ecosystem benefits us all. We are the community and we depend on each other to maintain its viability. Identifying ways to contribute may not always be clear. Conferences such as Meet Magento, unconferences, and other Magento centric events are community-driven and operated, and present just that opportunity. Hosting a genuinely beneficial community event requires true community engagement. Successful community events depend on the collective input of a diverse ecosystem.

MEET MAGENTO

I have been fortunate to attend Meet Magento events in about 14 countries. It is compelling how similar many are, while others are unique experiences tailored to the local environment. I am grateful for the opportunity these events offer to appreciate the intricacies of our community.

To understand Meet Magento events completely, it is worth reflecting on how the Meet Magento Association started as well as the transition from Meet Magento to the Magento Association (MA). Observing the transition and rate of progress allows questions to surface and encourages engagement. There are opportunities to assist the MA, outside of supporting individual events.

Thomas Fleck and Thomas Goletz hoped to enable community-managed networking events which were both sociable and informative. They believed that the community needed opportunities to connect and share knowledge in an informal and welcoming environment. They hoped their idea would help connect and grow the community. As a result, each year, thousands of Magento merchants, developers, employees, agencies, and other e-commerce specialists attend Meet Magento events in their country or in a market where they intend to expand their business. I hope you will join, if you have not already, in continuing the tradition they started. You can help build on that momentum, uniting our Magento community

across borders, time zones, continents, and industries. It is impressive that the core philosophy of Meet Magento events still exists and I hope this continues.

For about a decade, the Meet Magento Association assisted with events in about 30 countries. 2018 marked the last year that they guided the process and we welcome the newly formed Magento Association.

THE MAGENTO ASSOCIATION

The Magento Association will provide opportunities for collaboration and contribution. The strength of the association is dependent on its membership. To this end, enrollment is currently offered at no cost. Becoming a member is an excellent opportunity to help decide the direction the MA takes. Signing up allows for joining a committee of interest, and grants voting capabilities. Other benefits include discounts on events, training, and certification.

The MA currently has nine board members, one of whom is employed by Magento. One of its roles will be guiding the Meet Magento community as an independent entity as well as empowering endeavours like community events.

CONTRIBUTING TO EVENTS

There are opportunities for contribution and engagement with specific events. Meet Magento events, for example, are managed and organized by the community and not by Magento. Magento supports and attends, but a company within the Magento community agrees to organise the event, usually in addition to their regular business.

If you have never managed an event before, you may underestimate the complexity of event planning and the sheer number of tasks event organizers deal with. Whether you are a guest, a speaker, or a sponsor, your contribution is always welcome and greatly appreciated.

Community events are often primarily funded by sponsors. Ticket sales contribute, but the price of an attendee ticket is usually well below the per head cost. Making tickets affordable is the organisers' way of giving back to the community and encouraging participation since it takes a community to accomplish a successful event.

Sponsoring community events is about more than increasing leads and sales. It shows support for the community

and increases visibility in the region. Events are typically highly dependent on sponsorship support, and a trip to the sponsor marketplace is often a highlight for attendees.

Doing your part to promote the event helps with community participation and is an excellent gesture of appreciation. It increases event visibility, which reminds others to attend, submit talks, sponsor, or promote the event themselves. Never underestimate how helpful this is. It is also something you can achieve independently through social media and other channels to which you may have access.

It is rewarding when hosts are thanked on social media. Sharing your pictures and your experience lets others know why they should consider attending the next event.

The coordination team may welcome offers of help. It never hurts to ask. Asking to help potentially allows you to be directly involved in event coordination. There are various ways to contribute. I realise we seldom have much time to spare, but all contributions matter. If it seems daunting, my advice is: begin anywhere! There is no contribution that is too small.

Buying tickets early is more important than you may realise. Apart from the practical aspects of saving money and promoting your participation as soon as possible, it helps tremendously with event planning. Anticipating the size of the event is a challenge event organizers face constantly. A majority of tickets are purchased closer to the event date, which is not ideal for event planners.

Sponsors, especially first-time supporters, need information on guest count and composition to make informed decisions. Early ticket sales are invaluable and allow the organizer to provide this information to sponsors and guests.

Submitting talks early is also helpful. In addition, submitting more than one talk improves your chance of being selected. There are a limited number of speaking slots, and acceptance is competitive and merit-based. Keep in mind that the organiser will want to publish at least a partial agenda as soon as possible to attract a varied audience. Early submissions on popular topics also improve the chance of early acceptance. Event organisers may have a list of suggested topics you can draw on. Social media may offer a wealth of information on issues that need to be addressed. Selection is based on strong, relevant content and new speakers are encouraged and supported.

Submission processes can be lengthy, and don't we all hate filling out forms? Keep in mind that the various fields help the event prepare for speakers. It allows organisers to prepare and adjust the stage as they need it, depending on the type of talk, numbers of speakers, and so forth. It also allows the event to accurately and adequately promote speakers in advance of, during, and after the event. Ticket sales are fueled by a strong agenda. It is certainly worth spending time to provide details.

Even if you are not selected as a speaker, if you plan to attend, let the organizer know if you are prepared as a backup. It is not unlikely that selected speakers cannot attend, and the event needs a substitute. Substitutes are required more often than you may realise.

A great deal of effort is dedicated to an informative website. Lots of the answers you are looking for are already on the event site. Before you send that email (or direct message), spend some time reading through the carefully prepared pages. As I said earlier, never underestimate the volume of communication associated

with event management in addition to the number of interlinked tasks involved. Event organisers may not be able to respond immediately to your questions, so it is very helpful to spend time researching available details before reaching out. Constructively pointing out information that is not readily available is helpful.

The end of an event is not the end for the hosts. Follow up including speaker videos, pictures, appropriately thanking attendees, and getting feedback to improve future events are next on the agenda.

There are opportunities to help even at this stage. Responding to the post-event survey or request for feedback is extremely valuable. While some avenues for improvement may be very clear, others may not. Positive feedback is also essential to alert organisers of aspects that are appreciated and valuable for future events.

While the event is still fresh in your mind, write a blog post to share your experience and promote it on social media. It helps develop event participation. It is excellent for visibility and may be a helpful overview for those considering participating in the future. Check with the event host and others you met at the event if they would like to feature your post on their channels.

It is rewarding when hosts are thanked on social media. Sharing your pictures and your experience lets others know why they should consider attending the next event.

Remember to reach out to contacts you made to maintain relationships, develop new ones, and foster community growth. We all started somewhere in this community, and we can never tell what future adventures hold! I hope to see you soon, at a community event! ●



Marsha Naidoo
COO MageMojo, LLC

Marsha has been a driving force in the Magento community for about 5 years and works with MageMojo. She is the host and organiser of Meet Magento New York and is an international speaker. Her motivation includes helping others to get the most from community interaction and events. She has worked in many sectors globally and has a passion for helping to grow the communities she works with.

Keeping your Magento store

! Anna Völkl



IN THIS ARTICLE YOU'LL FIND OUT:

- What are the most critical web app security risks
- How Magento deals with security issues
- What are the best practices to keep store safe

E-Commerce websites are a valuable target for hackers and fraud. Customer data – especially payment details like credit card data – make them prone to cyber-attacks. Running and maintaining a Magento e-commerce store requires taking care of the security of a given system, not just at the end of a project but throughout the whole software lifecycle. E-commerce managers, as well as developers, need to be aware of the risks and need to prepare and react to potential threats





FOLLOW THE MAGENTO SECURITY BEST PRACTICES

Running a secure Magento store requires taking care of the server infrastructure and server environment as well as the Magento installation. Security starts with selecting a reliable Magento agency or Magento developer, a reliable hosting provider and secure software development. Throughout the project, an automated deployment process, limited access to resources, and admin security are essential too.

MORE INFORMATION ABOUT THE MAGENTO SECURITY BEST PRACTICES:



https://docs.magento.com/m2/ce/user_guide/magento/magento-security-best-practices.html

SECURE SOFTWARE DEVELOPMENT

Make sure your developers know and use secure software development techniques to overcome the most common risks to web application security.

TEN MOST CRITICAL WEB APPLICATION SECURITY RISKS ACCORDING TO THE OWASP TOP 10 (2017) ARE:

1. Injection
2. Broken Authentication
3. Sensitive Data Exposure
4. XML External Entities (XXE)
5. Broken Access Control
6. Security Misconfiguration
7. Cross-Site Scripting (XSS)
8. Insecure Deserialization
9. Using Components with known vulnerabilities
10. Insufficient Logging & Monitoring



Injection, such as SQL or command injection, can happen if the input (via URL or a form) was not validated and escaped properly. This could allow an attacker to execute unintended commands or access data without proper authorization.

Broken Authentication occurs when features related to authentication and session management are implemented or extended incorrectly. This can lead to compromising passwords or other data, which can be used to work with another user or admin identity.

Sensitive Data such as personally identifiable information incl. credit card details need to be protected with the proper encryption mechanisms to prevent credit card fraud or identity theft.

Some old or poorly configured XML processors can evaluate external entity references within XML documents (XML External Entities, XXE). This could potentially lead to disclosing internal files, remote code execution or denial of service attacks.

Broken Access Control refers to improperly enforced restrictions for authenticated users, which can lead to unauthorized data changes or access.

Security misconfiguration is a widely observed issue. Insecure or incomplete default security configuration for any software (operating system, PHP modules, Magento 3rd party modules etc.) can cause several problems. It is recommended to check all security relevant settings and adjust them if needed.

Cross-Site Scripting (XSS) occurs when the entered data is not validated and escaped properly and executed in the browser. Attackers can use XSS to retrieve session information or execute other malicious actions in the users' browser.

In turn, insecure deserialization can cause remote code execution or other attacks. Magento offers a guide on how to upgrade data from PHP serialized values to JSON if you used serialized values before: <https://devdocs.magento.com/guides/v2.3/ext-best-practices/tutorials/serialized-to-json-data-upgrade.html>

Using Components with known vulnerabilities is a security risk as well. Even if your Magento installation is up to date, vulnerabilities in other libraries can put your system at risk. This is why, it is recommended to use (automated) tools to detect risks in the used PHP and Magento 3rd party modules.

Insufficient Logging & Monitoring can cause a lot of risky side effects. First, unprotected log data can be used for information retrieval to get more information about a system. And if it's seldom monitored, malicious activities may not be detected or be detected very late. According to an IBM study from 2019, the average lifecycle of a security breach is 279 days (see <https://newsroom.ibm.com/2019-07-23-IBM-Study-Shows-Data-Breach-Costs-on-the-Rise-Financial-Impact-Felt-for-Years>). Often security breach is not detected by internal monitoring systems but by external parties.

Having an automated build and deployment workflow helps you to integrate several security tools, such as

- static code analysis for security relevant functions
- Magento Coding Standard to check for security issues
- Magento Vulnerability Database to check if any of your used modules contains a known security risk. This is a community powered list of modules with known security issues, which can help to identify components with known vulnerabilities.

Whenever you need to integrate a 3rd party module that you have never used before, perform a code review and check the code quality of the given module.

STAY UP TO DATE

One of the most important things is to have an up to date Magento installation. Shortly after a new Magento (security) version is released, hackers can use the information from the new release to create exploits to attack sites which are not updated/patched. This can happen within a few days or even hours after a new version was released. Therefore, it's really important to apply security patches and updates as soon as they have been released. You can sign up for Magento security alerts on <https://magento.com/security>.

In 2019, Magento started to provide security-only patch releases for Magento 2 stores. Stores running on Magento 2.3.2 can either update to 2.3.3 for security and quality updates or use the 2.3.2-p2 security-only patch and perform the quality updates later on (Pic 1).

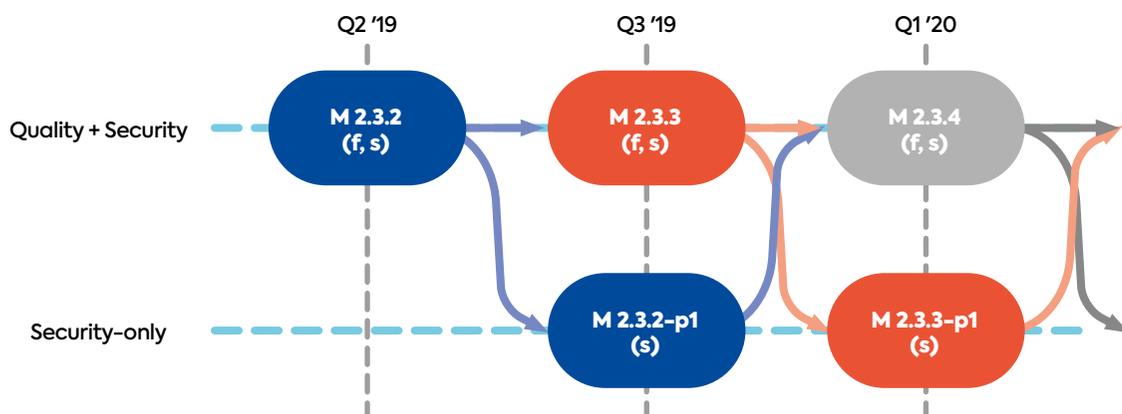
SET UP THE MAGENTO SECURITY SCAN

Magento now provides a tool called "Security Scan" that monitors your Magento installations for known security risks. You will also receive patch updates and security notifications. I recommend setting up the scan with a recurring plan to scan once a week, once a day etc.

CLEAN UP THE MAGENTO ADMINS REGULARLY

Sometimes it's necessary to create new Magento admin accounts. Make sure to give them only the permissions they really need and check your Magento admin section

Pic. 1



Source: <https://community.magento.com/t5/Magento-DevBlog/Introducing-the-New-Security-only-Patch-Release/ba-p/141287>



Anna Völkl

Lead Magento Developer
at E-CONOMIX

Anna is a 3x Magento Master and Lead Magento Developer at E-CONOMIX. She is also the co-organizer of the Magento Meetup Austria. Anna has been a professional software engineer and software architect for more than 10 years and started working with Magento in 2011. Anna is passionate about improving security and developer workflows and likes giving talks at Magento events.

regularly to remove the admin accounts which are no longer needed. There might also be left-over admin accounts from the development stage, which should be removed before going live with a new Magento website.

Also watch out for Magento admin accounts that you did not create yourself or with unknown names and e-mail addresses – this could be a sign of a compromised store.

API SECURITY

What I can see in my daily work is that sometimes API security is not taken care of. That means, if a new API endpoint is created, there is a lack of permissions and it's not set whether the endpoint is publicly available or restricted.

Moreover, if you use the 3rd party modules, double check and make sure they only allow public APIs where necessary. You can also restrict access to API URLs to certain IP addresses or IP-ranges.

BE PREPARED

Make sure you backup your files and databases regularly. If you have a working backup, test if you can recover and continue your e-commerce service with the available one. Having a disaster recovery plan in place is a good piece of advice and a useful preparation.

REACT TO SECURITY ISSUES

If you find suspicious activity or you think your Magento website could be compromised, follow an action plan to resolve the problem.

1. DETECTION AND ANALYSIS

First, try to find the issue that causes the security problem. Run a security scan, preferably server-side, to detect problematic areas.

2. CLEAN UP & RECOVER

If you have identified the cause, clean up your Magento website. This is not an easy task as there can be multiple places where malicious code can be hidden, for example, the media folder or somewhere in the database. Consider hiring an expert to help you clean up your site. In addition, check your admin users and reset admin passwords during the clean-up.

You might also consider temporarily disabling the problematic functionality from your shop: If the Credit Card Payment Method was compromised for example, disable it temporarily.

3. COMMUNICATE & REPORT

If you found a Magento specific vulnerability, report it to security@magento.com and do not publish the information as this would put other Magento shops at risk.

And, of course, do not forget to contact your customers if their data was affected or stolen.

4. LEARN AND IMPROVE

Keep your Magento website as well as all extensions up to date. Apply security patches/patch releases as soon as they are released.

MAGENTO SECURITY RESOURCES

There are many great Magento Security Resources out there, such as a community-powered Magento Security Checklist, tools and many more. Check out the following link to these resources: <https://github.com/avoelkl/magento-security-resources> ●



Modern open-source PIM

- Excel-like products catalog management
- easy to use Product Designer
- flexible workflow management
- core technologies: Vue.js, Nuxt.js, PostgreSQL, Symfony

www.ergonode.com

check it out !
github.com/ergonode



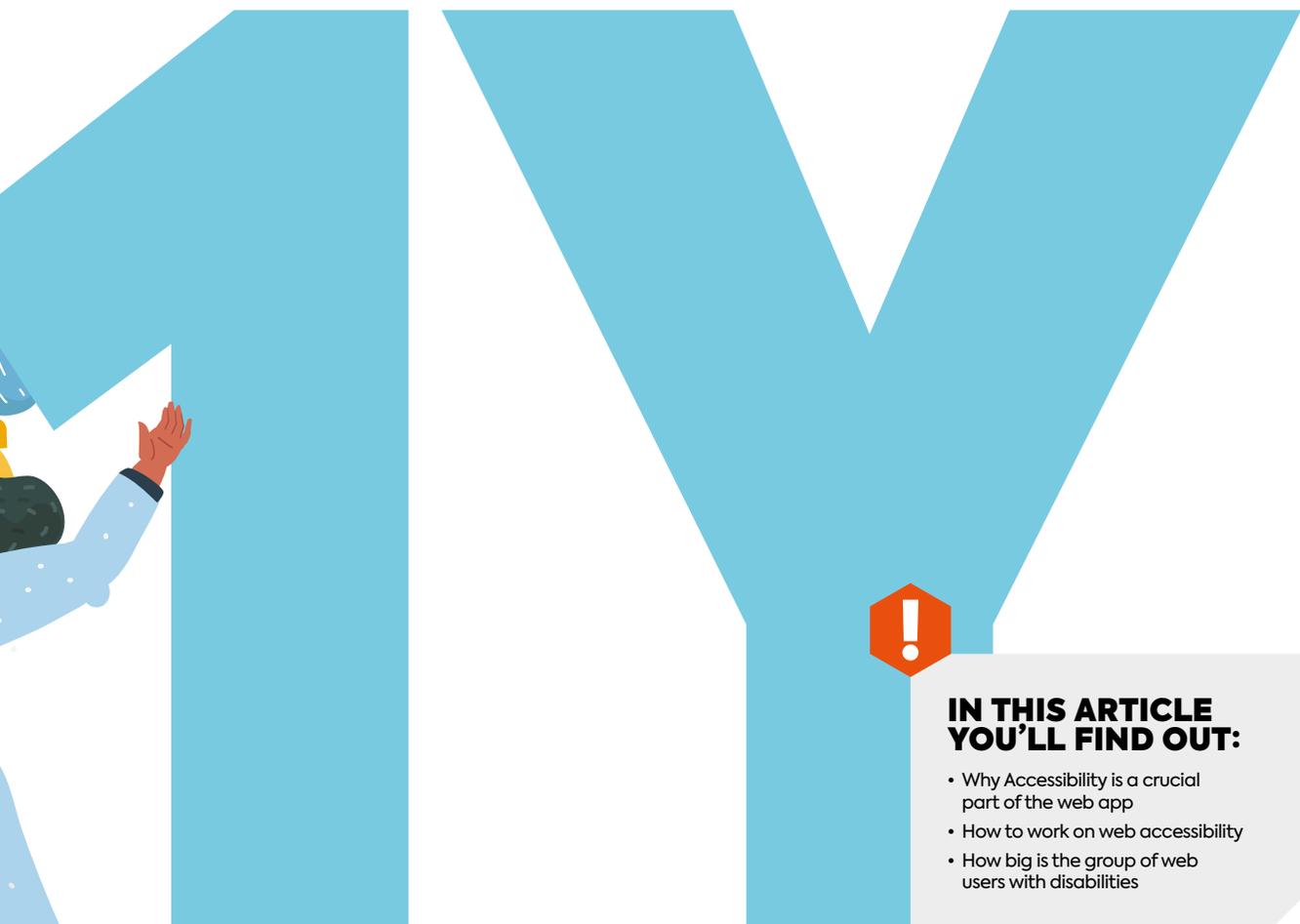
THE A11Y

!! Anna Karoń



Accessibility*, sympathy for the user

*The A11y – shorthand for accessibility, a numeronym representing accessibility as an a followed by 11 more letters, followed by y.

**IN THIS ARTICLE
YOU'LL FIND OUT:**

- Why Accessibility is a crucial part of the web app
- How to work on web accessibility
- How big is the group of web users with disabilities

We try to get to know and understand our users, their intentions and feelings, but we often forget about users with disabilities who reach web content in a different way than we do. You can expand your customer group by fully understanding who is on the other side of your app and make it available for all, with additional business, legal and ethical benefits for your organization. Accessibility is a crucial part of the web app, like performance or security, and cannot be ignored anymore.

Providing a good web store is not an easy task. A good offer and great marketing are not sufficient anymore; we have to provide outstanding user experience as well. The website has to be usable, secure, fast and, ideally, nice and funny to play with. It also has to be accessible – available for all users, because we want to attract more people, not exclude them from our potential customer group. Some users will click away, because the website

loads too long and they get bored while waiting; the others, because they cannot find sufficient information to make an order or an "add to cart" button. We try to get to know and understand our users, their intentions and feelings, but we often forget about a part of them that reach web content in a different way than we do, often using an external software or hardware (screen reader, captioning, joystick, mouth switcher etc).

Moreover, web accessibility is now more often mentioned in social media, new legal regulations have come into force, the number of accessibility lawsuits in the US increased by 181% between 2017 and 2019 (<https://info.usablenet.com/2019-ada-web-accessibility-lawsuit-recap-report>). The A11y cannot be ignored anymore.

I want to show how accessibility matters on different levels: for users, businesses, legal and company culture. What the benefits and costs are, and how to work with it on a long-term basis.

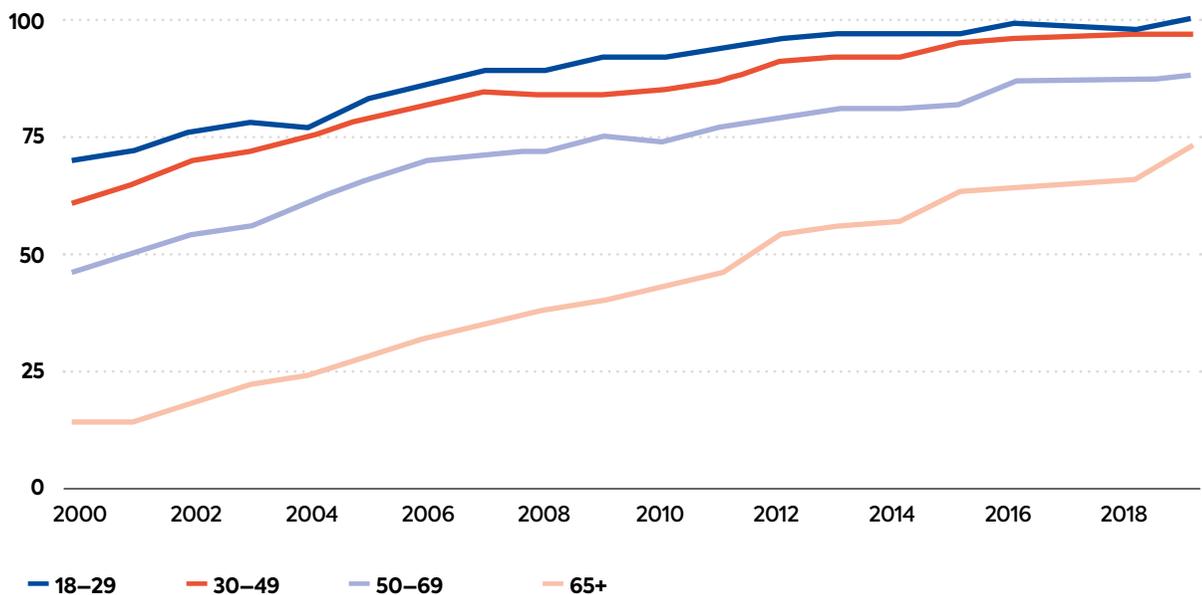
USERS

I often hear excuses that the store does not have to be accessible because people with disabilities are not a target, because an offer is specific and cannot be used by disabled people, or because the store is B2B (the curtain comes down). So...? How can you be sure that there is nobody with disability among your clients or customers? Perhaps someone is colorblind, has a broken arm or serious sight defect?

Over a billion people, 15% of world population has some type of disability, and between 110 and 190 million adults have significant difficulties in functioning (<https://www.who.int/news-room/fact-sheets/detail/>

*There are different accessibility regulations, just to mention a part of them:
ADA – The Americans with Disability Act in the US, European Standard EN 301 549 on digital accessibility in the EU, AODA – Accessibility for Ontarians with Disabilities Act in Canada or World Wide Web Access: Disability Discrimination Act Advisory Notes in Australia.*

Fig. 1. % of U.S. adults who use the internet, by age



*Source: Surveys conducted 2000-2019. Data for each year based on a pooled analysis of all surveys conducted during that year. PEW RESEARCH CENTER (<https://www.pewresearch.org/internet/fact-sheet/internet-broadband/>)

disability-and-health). Over 50% of those users go online (<https://www.interactiveaccessibility.com/accessibility-statistics>) and 88% choose mobile devices to browse the web.

It is not a homogeneous group, there are different types of disabilities: vision and hearing impairment, physical and cognitive disabilities (intellectual impairments, mental health conditions, learning problems). Also, users with temporary and situational disabilities (temporary health states, injuries or difficult conditions, like using a public transport) and elderly people.

In early 2000, less than 25% of internet users aged more than 65 worked with the internet, now, with strong technological evolution, it is about 60-70% of them. These figures are going up really fast because the important parts of our life are moving to the digital area (Fig. 1, 2).

Approximately 40 percent of adults age 65 and up have one or more disabilities. By 2035, there will be 78 million adults in this age range, or approximately 20 percent of the U.S. population. *UsableNet (<https://blog.usablenet.com/business-case-for-web-accessibility-in-2019>)

Accessibility works like a curb cut – designed to ease an access from a street to the sidewalk for wheelchair users but other people benefit from it too – older people with walking difficulty, mothers with baby strollers, or even cyclists and skaters.

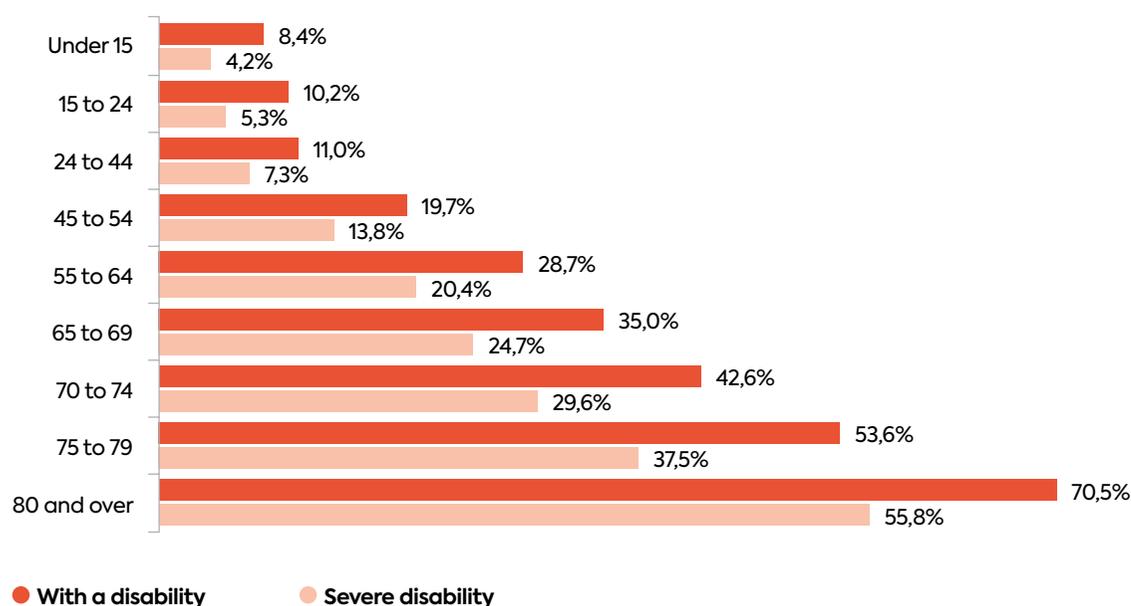
The same situation is on the web – if a web store is available for users with disabilities, others profit from its good usability: video captioning can be really handy for foreigners – to learn and better understand a foreign language; keyboard support will be useful when a user loses a mouse or tries to fill a form with one hand available; clean and logical content will be easier for tired or younger users. Accessibility = better user experience and usability that all users can benefit from.

We cannot detect if users have a disability or not using just tracking tools, we have to use imagination and empathy to understand various users' needs and make our web store a pleasant and nice place for all.

BUSINESS

Accessibility for online solutions is not only about empathy/sympathy for the user, people with disabilities represent a strong customer group: they spend about half-trillion \$ annually (<https://www.air.org/system/files/downloads/report/Hidden-Market-Spending-Power-of-People-with-Disabilities-April-2018.pdf>).

Fig. 2. Aging is strongly connected with disabilities:



Source: U.S. Census Bureau, Survey of Income and Program Participation, 2008 Panel, Adult and Child Functional Limitations Topical Module (https://www.census.gov/newsroom/cspan/disability/20120726_cspan_disability_slides.pdf)

According to Click Away Survey from 2019 (<http://www.clickawaypound.com/downloads/cap19final0502.pdf>), over 48 million of UK population has internet access, over 10 million constitute users with disability and around 6.1 million internet users have impairments that affect the way they use the Internet. Those 7.15 million people were expected to spend £24.8 billion online in 2019.

69% of disabled customers with access needs will click away from a website that they find difficult to use. They have an estimated spending power of £17.1 billion in the UK alone (Fig. 3, 4).

Regarding those numbers, we can expand our customer group by simply giving an access to our web app, not only play with marketing offer and sales.

Moreover, Tenon research shows that only 0.02% of pages are free from WCAG conformance errors when parsed through an automated accessibility testing tool (<https://tenon.io/research/>), so by making our website accessible, we can win with our competitors on the market and use this fact in brand communication.

LEGAL ISSUES

There are different accessibility regulations, just to mention a part of them: ADA – The Americans with Disability Act in the US, European Standard EN 301 549 on digital accessibility in the EU, AODA – Accessibility for Ontarians with Disabilities Act in Canada or World Wide Web Access: Disability Discrimination Act Advisory Notes in Australia.

According to these regulations, the public sector’s websites have to conform to the WCAG AA standard, but in practice also private sector has to conform, because it is a discrimination issue. Especially in the US, the number of accessibility lawsuits is on the rise, from 2017 to 2018 it increased by 181%!

According to UsableNet 2019 ADA web accessibility lawsuit recap report (<https://info.usablenet.com/2019-ada-web-accessibility-lawsuit-recap-report>), there are 6 industries with the majority of lawsuits – retail, food service, travel/hospitality, banking/financial, entertainment and leisure, and self-service (Fig. 5).

So, no matter what we sell on the web, we have to count in the risk.

Fig. 3. UK Internet users with access needs

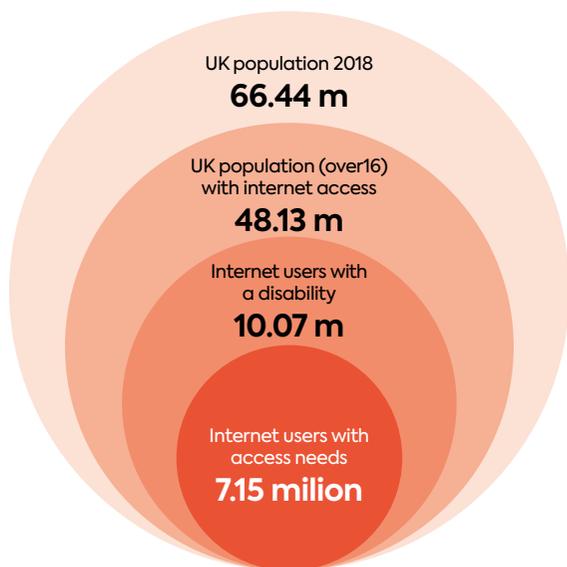
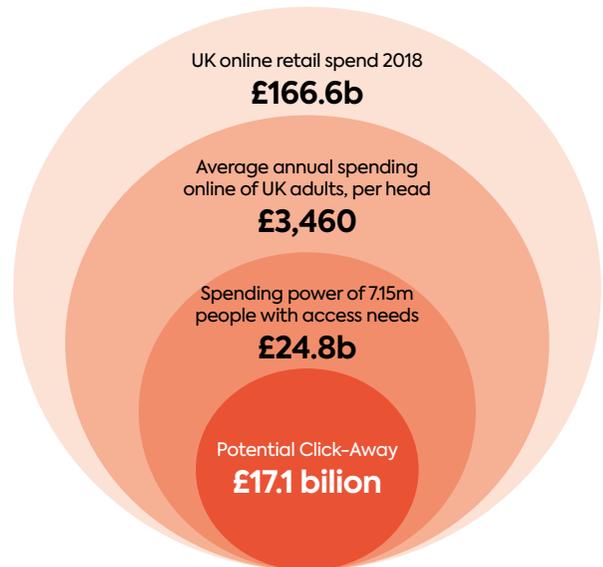
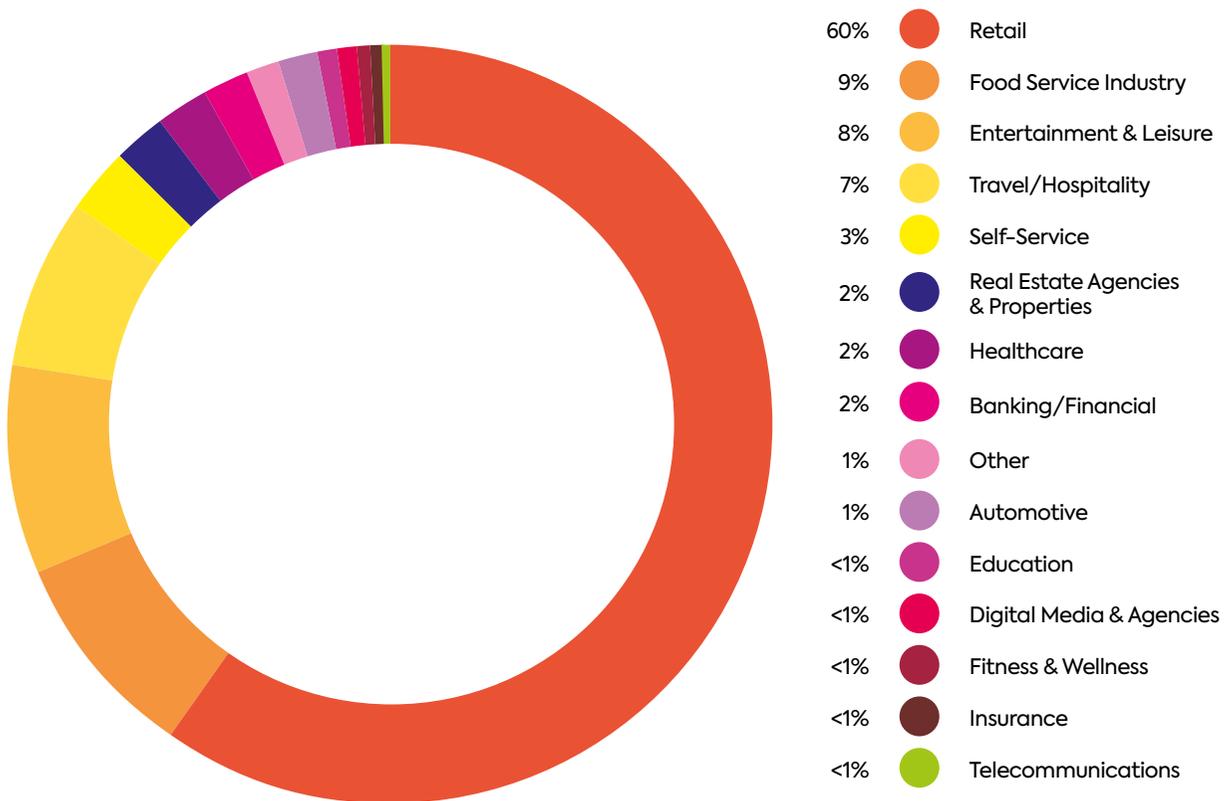


Fig. 4. Potential re-directed spending because of inaccessible websites



*Source: Click Away Survey from 2016 (<http://www.clickawaypound.com/downloads/cap16final2711.pdf>)

Fig. 5. There are 4 industries with majority of lawsuits - retail, food service, entertainment & leisure and travel/hospitality



*Source: UsableNet 2019 ADA web accessibility lawsuit recap report (<https://info.usablenet.com/2019-ada-web-accessibility-lawsuit-recap-report>)

Accessibility should be a default feature of the web app, especially in e-commerce because it allows to access our products and services for diverse users. There will be more web users with disabilities and more assistive technologies to reach web content.

HOW TO AVOID ACCESSIBILITY LAWSUIT?

Making the whole website conform to WCAG AA can take some time, but as you start working on the A11y, provide the Accessibility Compliance (Accessibility Statement) – the static page, where you explain the level of accessibility implementation on your website and what you are working on. Add some contact

opportunity (email or contact form) for customers who find the A11y issues that limit an access to your content, and react to customers complaints.

It will be the first step, in the next ones, you need to implement basic A11y features in your web store and test them regularly.

HOW TO WORK ON WEB ACCESSIBILITY?

You have two options – either you benefit from the external company, specialized in a11y implementation and work with its team with every website that you develop, or you implement accessibility culture in your team by increasing accessibility awareness and making a11y implementation a part of your development workflow.

The first option will take less time and probably more money (at least spent directly), the second one will take more time but it can be cheaper on a long-term basis – as it is a process, we spend more time at the beginning on learning and implementation, but with time, it becomes a matter of routine and a default feature that we are working on like on performance and security.

When I am talking with people who are aware of this problem, the main question is: "how to start" and the answer is: "it is not easy".

First of all, we have to remember that a11y implementation is a process and it requires the engagement on every level of development workflow: management, design, code and testing. I am a front-end developer and initially, I thought that we can start just by improving front-end code, but without accessible design we cannot create fully accessible code. I recommend starting from UX and design, then work on front-end code implementation, and simultaneously introduce accessibility testing and changes in general communication with clients.

Diving into this topic and getting to know what has to be done to make web solution accessible can be overwhelming – so many rules and regulations!

Don't worry about all of this at the beginning, start with small steps – usable and clear design, good alternative text on images, well-structured HTML markup with semantic elements usage, operable forms and check-out, basic keyboard support and focus management. Even small changes can improve user experience and web access.

Additionally, accessible website plays well with SEO – descriptive alternative text for image, intelligible links

text, heading and semantic structure make web app easier to read not only for assistive technologies but also for search robots. Semantic code is also simpler to read and to maintain.

What is beneficial while working on the A11y, it is increasing the awareness of the web access problem by showing how users work with web solutions on different devices.

What is beneficial while working on the A11y, it is increasing the awareness of the web access problem by showing how users work with web solutions on different devices. We develop web apps for users, we talk about user experience but we do not know our users and their needs, so we implement user experience designed for ourselves: we do care about performance because none of us likes waiting 10 seconds for page loading, but we do not think about people using for example screen readers, because we personally have never used them. It is worth to show how different people use the web to make this issue closer and more understandable.

GAAD (GLOBAL ACCESSIBILITY AWARENESS DAY)

On GAAD (Global Accessibility Awareness Day) in 2019 at Snowdog, we conducted user accessibility testing. We had two main goals while preparing it:

1. Test our web stores to find out if our accessibility work brings results. My biggest concern about our projects was that I could not truly test them from the perspective of someone with a disability. Even though I learned how to use VoiceOver and read websites using it, I knew it would not provide meaningful insights: I can still see the screen and I am not a regular screen reader user.

2. Show the team and stakeholders how stores developed by them can be used by users with some special access needs.

We found a tester, Przemek, a great person who bravely decided to go on this journey with us. He was talkative and interactive, so he led the exploration as we watched. It was a great way to gain insights and he communicated his thoughts and actions with us very efficiently.

The user testing session was a fascinating and eye-opening experience, completely new for some of us. It gave us more empathy and insight and shed new light on the A11y problem.

WHAT DID WE DISCOVER DURING THE TESTING SESSION?

- **The absolute speed of screen readers!** We could barely understand and keep up with how quick the screen reader was speaking, even after Przemek slowed down the speed for us.
- **Screen reader users navigate through pages using different techniques:** some scan the page from top to bottom, some use semantic elements like headings, links, buttons, lists, tables, etc.
- **With an accessible mini cart, a user employing a screen-reader doesn't see the difference between a mini cart vs a shopping cart page.** This could be an issue because there are additional options on the full cart page (gift cards, discount code fields, extensions). Maybe some additional description is needed in the mini cart to link to the full page.
- **Like any user with vision, Prze-**

mek scanned pages quite quickly by skipping over large amounts of web content depending on semantic tag used (headings, div/spans, buttons, links etc.). He could miss out on essential information if it's not organized meaningfully.

- **Finally, our team's efforts in accessibility have been really effective.** All tested projects were accessible to the point where our tester was able to buy a product on each store.

At Snowdog, we have been working on accessibility for over two years now. Our team's A11y work has brought lots of benefits. Designers are now keeping an eye on the A11y while preparing layouts, front-end developers started to use it more in their everyday practice and are more aware of it during code reviews and daily work. Our mobile department also started investigating the A11y in our iOS and Android apps. Even if we didn't have the time to make a site fully accessible, we implemented small features, like appropriate labels, semantic HTML elements, headings order etc.

SUMMARY

Accessibility should be a default feature of the web app, especially in e-commerce because it allows to access our products and services for diverse users. Regarding civilization changes, technology development and actual trends, there will be more web users with disabilities and more assistive technologies to reach web content. Keeping the website accessible is the easiest way to expand the group of customers and it is lucrative on different levels: business, ethical, legal and development. Working on the A11y can be fascinating and inspiring, so there is no reason to avoid this topic anymore. ●



Anna Karoń

Senior Front-end Developer at SNOW.DOG

Front-end developer with marketing background, who has been working using Magento for over 5 years now. Currently a member of SNOW.DOG's team. Focused on coding, innovative technologies, finding non-standard solutions and facing new challenges. The A11y enthusiast, constantly exploring the Web Accessibility area as a key to remove barriers and get the human aspect of the binary front-end world.

After hours, interested in modern theater, good and compelling literature, traveling, hiking and exploring the world in an active way - mainly by meeting people.

A bug in project managers life

! Antonija Tadic

Every year working with Magento gives me a new perspective and new findings! It is like every year is a new chapter and I'm discovering a new "me" within the community...



These days, I'm four years into Project Management, Magento clients & platform... And I can tell you that only in my fourth year, I feel confident saying I understand Magento... I still don't know everything but now it doesn't bother me as much as it did before because I know how to find things I don't know! It took me a lot of hard work to be where I'm now... and I'm really proud of it.

Usually, about 40% of the bugs clients report are false alerts, but it depends on the client's experience with Magento.

The best thing I like about my job is the freedom to be creative, to build, to make my own rules... In many ways, it helped me to grow and learn faster...

EVOLUTION OF POSITION(S)

I remember, when I was starting in Magento, the situation was a bit different. Magento Project managers were not what they are today, and developers were doing all the work. I was working with developers who could do all, lead a project, resolve issues within a minute, communicate with the clients and develop without looking at the console. Pretty impressive!

From then on, things have evolved a lot... It was the time to settle things in the right way, and give developers time to breathe, and time to code within the projects... and this gap was fulfilled with the positions called Magento Project Manager...

WHAT DOES PM ACUTALLY DO?

Nowadays, it is so much more than only looking at the timeline and being within the budget. Well, I can't speak for everybody, but I can tell you that some of the most known Magento agencies work in the way I'm about to describe you...

Imagine the client reports a bug, we don't pass it to our development team immediately. Is this what you do in your agency? Actually, it is a MUST to first check and identify a couple of things before even notifying the development team that there is a potential issue. The approaches might be different, but the questions for which we seek an answer are more or less the same:

- Is it really a bug or is it Magento feature?
- Is it a Magento bug?
- When does a bug occur?
- What are the parts that are affected by this specific bug?
- Can PM resolve it or developer intervention is needed?

What we all see very clearly is that soon enough, it will be essential to work with external QA companies or have one team within in-house that will work on different testing strategies as the scope of the work for a single person in the PM world will be too much.

Usually, about 40% of the bugs clients report are false alerts, but it depends on the client's experience with Magento. That said, issues are platform features that need a bit of tweaking in order to work according to client needs or there are misconfigurations made by clients as they need more practice with the platform.

What is important to highlight here is that these situations should be identified by the project manager and not a developer.

IT'S A BUG, WHAT SHOULD I DO?

If there is a bug, it is not enough just to transfer information to developers.

Once we finished with the analysis, we document everything so that our technical team has an in-depth understanding of a problem, and can solve it in a shorter timeframe. I usually ask developers to double-check my findings because the code always gives more accurate results than analysis within the configuration and storefront.

Once we did pre-bug work, and the team is assigned to Jira ticket, there are a couple of additional things to cover:

- Explain the client cause of the issue (be careful in the communication)
- Answer how fast this can be fixed.
- Let him know if there is a workaround available.

Only now, we have made a good and detailed bug report and we are available to deal with something new. Do you see how much work is needed just for one issue? This is like everything in life, If you want to do things in the right way, they take time, focus and patience.

WHAT HAPPENS WHEN THE BUG IS FIXED?

This is a whole new process where project managers, again, lead the conversation. Once Jira ticket is ready to test and fix is available in the development environment, we test it before giving the approval to push changes in the staging environment.

Our testing has two possible outcomes:

- We found out that the fix is not ready or a new issue is found, in that case, we let the technical team look into it again.
- Fix works correct and we give approval for the changes to be released in staging.

Again, our work isn't done as we need to repeat the same process on staging and prepare a test scenario for clients to validate before pushing the fix in production.

WHY ARE WE REPEATING THE SAME THING ALL OVER AGAIN?

In most cases, development and staging aren't the same environments so this step is essential. While your databases should be the same, you will have

differences in server setup and type. For example, a development server is usually hosted on shared servers, and staging is hosted on the cloud.

When approved, the fix is ready for the next release!!! Once in production, a more thoughtful test is needed to make sure there are no parts broken, and orders are seamlessly going through.

Only with this strict, and rather time-consuming procedure you lower the risk of failure. If you follow this procedure, and even if it feels a bit boring and time-consuming, the percentage of successful deployments without any errors comes between 90-95%.

PM AS QA TEAM

The majority of this work could be done by the QA team, but agencies between 50-70 employees still don't have these things in place, and smaller to medium companies usually don't see a huge benefit in investing in testing as a whole new project. For now, this part of the job is usually PMs responsibility and, a long time ago was the responsibility of a development team. At least, we evolve a bit.

What we all see very clearly is that soon enough, it will be essential to work with external QA companies or have one team within in-house that will work on different testing strategies as the scope of the work for a single person in the PM world will be too much.

(REST OF) OUR MAIN RESPONSIBILITIES

Apart of bugs reports, and testing the solutions, we have daily meetings with our teams, we have weekly status updates with the client. Depending on project intensity, it can be more often (being close to launch date). We help

The best thing I like about my job is the freedom to be creative, to build, to make my own rules... In many ways, it helped me to grow and learn faster.

write documentation about the features and write testing scenarios. We are responsible to keep the project in the agreed time and within the agreed budget. These are our actual main responsibilities, and the ones you first think when you say: PM.

In addition, we need to make sure our tools for collaboration with the clients, and tools with communication with developers are up to date.

Sometimes a day isn't enough to handle everything that happens, and what we saw working interesting is having 2 project managers per project. This way, they can share responsibilities, and encourage each other in good and bad times, also, the client isn't talking all the time with the same person, and they can successfully play bad cop, good cop roles.

Our PMs with this scope of work, can't lead more than 3-4 projects at the same time... but what they deliver is good quality and their deliverables make happy clients. ●



Antonija Tadic
Senior Project Manager
and eCommerce
Consultant, interactiv4

After finishing Computer Science faculty in her hometown, Antonija started in Inchoo, as a Sales Assistant. Soon enough, she found passion in managing projects, clients and dev teams so she made a switch in career path. Today, Antonija is part of an agency that is an absolute Magento pioneer in Spain and well-known in the whole Magento ecosystem – interactiv4. In interactiv4, she works as Senior Project Manager and eCommerce consultant.

She is a certified Magento Solution Specialist for both Magento 1 and Magento 2 and instead of blindly following different management methodologies, she likes to follow her heart and trust her gut in decisions she needs to make.

Aside from managing projects and people, her other big passion is pursuing her speaking career in Magento events and above. So far, she sharpened up her speaking skills in Meet Magento Croatia, Spain, Poland, New York & UK.

! Ewelina Kądziaława

The influence of product content on customer shopping exper



The digital transformation in sales is becoming a fact. Whether we are talking about shopping malls, retail and distribution chains or B2B sales. One of the key processes that underlie successful online sales and affect every company is product digitisation. With a small volume of the assortment is not a problem, with a large, going into hundreds of thousands of products, it is a real challenge that significantly affects the whole transformation process.



PRODUCT IN THE DIGITAL WORLD

It is much easier in the traditional world. Each object can be relatively easily assessed through our senses: sight, touch, hearing, smell, sometimes taste. In the digital world, physical contact is mainly with the glass screen of the device on which we are watching it. We, therefore, assess the product on the basis of the ideas

generated by the set of digital information. It is this set of digitised content (photos, videos, descriptions, attributes, downloads, etc.) that creates the so-called Product Information. In its simplest form, it can take the form of a simple continuous description, in a more elaborate and well-structured structure of various elements (product attributes), and in the most advanced – dynamically changing data sets. This can be, for example, image gallery

enrichment by automatically searching for appropriate images of products in use on Instagram, translations using AI algorithms, or dynamic allocation of information about inventory or delivery times.

Managing digital products usually means managing huge datasets that are divided by three main processes: aggregation, treatment and distribution (Pic 1.).

The aggregation process involves importing data from different sources, structuring, sorting and prioritizing them by mapping algorithms. The treatment process is usually a manual or semi-automatic working system that increases the quality of the product information created. The distribution process is the management of the communication or sales channels to which the relevant product content will be sent (these can be online sales platforms, marketplace, printed catalogues, mobile applications, etc.).

Therefore, in order to effectively manage product information, it is worthwhile to use dedicated PIM (Product Information Management) systems, which allows these processes to be adapted in the company.

So much for the introduction, now I'll get to the point. In the treatment process, we mainly deal with improving quality and creating content to have a real impact on the future purchasing experience of customers. Therefore, it is important to have a proper approach to building the structure of product information, which should primarily take into account the needs of customers (i.e. we design with the spirit of user-centered design), as well as the capabilities of the company.

A CUSTOMER COMES TO THE STORE...

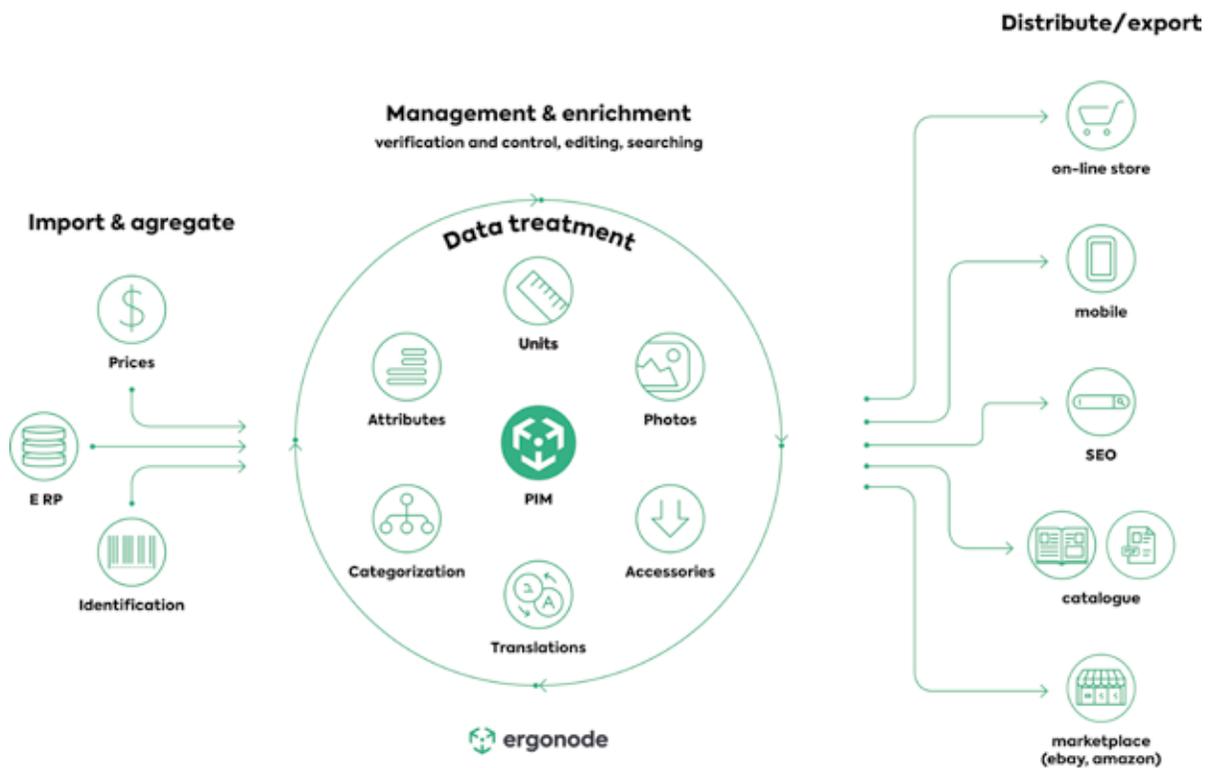
Let's conduct a simple thought experiment, which is probably well known to every salesman. Suppose I just met a potential male customer who has a need and says:

I need new shoes, now.

It seems easy to solve, right? A man needs shoes, so at first it comes to my mind...



Pic. 1.



Are you sure this is the right solution to his needs? I don't know, so I have to find out more, so I ask:

*Do you want to buy shoes for yourself? Or is it a gift?
I plan to buy shoes for my daughter.*

So we're getting a little wider...



Okay, I'm moving on.

*Tell me more about your daughter. How old is he?
In what situations will she use these shoes? Your daughter needs shoes every day, celebration, party?
She's 5 years old and she's starting volleyball classes in kindergarten. So I'm looking for shoes that are comfortable, easy to keep clean, light-weight and protect my foot well.*

I think we're already home. I can't get a picture in my head...



Is that all? What preferences does your daughter have? What color does he like?

Pink would be the best.

Pink. Here you go.



Does your daughter have any more preferences? What size shoes do they wear? Can he tie his shoes well?

He's still got a problem with the laces. Velcro's are better. Size between 29 and 31.

So at the end of the day, we have this problem space:



This relatively simple experiment allowed us to determine the following structure of product information:

- **Type:** sports shoes
- **Category:** Children's shoes
- **Gender:** Girl
- **Type of sport:** volleyball, training
- **Colour:** pink
- **Type of fastening:** Velcro
- **Size:** 29, 30, 31
- **Sole:** flexible
- **Material:** leather (easy to clean)
- **Weight:** light (you can give specific numbers, but still few will be able to judge whether something is heavy or light).

Thousands of customers are involved in this kind of thought process every day when dealing online. Their purchasing impressions are built on the basis of the product information presented to them, and these have a significant impact on the speed and quality of product selection and, consequently, conversion. This is confirmed by research¹, which shows that the shopping experience on the Internet is mainly influenced by the clarity of product images (according to 87.6% of respondents), opinions and reviews about products (78%), product descriptions (77.3%).

So how to systematize the approach to the process of building and processing product information?

DESIGNING PRODUCT EXPERIENCE IN PRACTICE

At Strix we have developed our own framework for working with product information. It is a set of tools for workshop work among people responsible for the process of managing digital products. The result is a well analyzed structure of individual attributes ready for implementation with a PIM class system.



Ewelina Kądziaława

Head of Project
Management at Strix

Ewelina is a computer science graduate from the Cracow University of Technology. She started her career as a PHP programmer, then System Analyst and Project Manager. Currently, at Strix as Head of Project Management, she manages the Project Managers, participates in Business Development activities, and represents the company at meetings with investors and clients. Specifies schedules and sets project goals, monitors progress and verifies completed projects. After hours she enjoys long bicycle rides, and also likes to sew clothes in the cosy surroundings of her garden.

It is important that the workshops are actively attended by people with different specializations: those responsible for assortment management, creation and execution of SEO strategies, or marketing and sales management. This will make it easy to take a broader view of the entire product information being created.

Research

In the first step, we collect as much information as possible about potential clients to whom we address our offer, developing their model psychological profiles (personnel). A lot has been written about people, so I'm not going to dwell on it here. I will just add that it is worth to characterize the staff based on real data from quantitative and qualitative research, and then compliment them with knowledge about customers and their needs from their own organization. It may turn out that knowledge about clients developed in this way will surprise the management and managers. In many cases, it is also worth to pay attention to purchase objectives and motivations, and additionally to clearly prioritise them in order not to lose sight of them during subsequent steps.

Discovery

Having prepared a list of goals, motivations, but also the shopping tender spots of model persons, we conduct a "brainstorming", which results in a "cloud" of potential attributes that can actually respond to the shopping needs of selected customer groups. An optimal structure of the whole architecture of the assortment categories is also being developed.

Affinity mapping

In the next step, we look for kinship. There is a process of grouping attributes into larger families to assist in administration (e.g. group "dimensions") and the

elements included in the product card for a selected assortment group are classified. In the next step, we look for kinship. There is a process of grouping attributes into larger families to assist in administration (e.g. group "dimensions") and the elements included in the product card for a selected assortment group are classified. If a company manages more than one sales channel, it is worth classifying which elements are the most important and in which channel should be included.

Value Matrix

The last stage consists of diagnosing which of the elements constitute the greatest value for both clients and organisations. We use here a value-time-consuming matrix, where one of the axes shows how a given element is valuable to customers and the other how time-consuming it is to work with the actual development of a given attribute within an organisation (e.g. a video can be expensive and time-consuming, as can any infographics, outlines of dimensions, etc.).

With large and heterogeneous product volumes, it is worthwhile to break down the whole process into smaller stages linked to narrower product groups, starting with the most important ones in business. We know from experience that in many companies these are long-term activities that gradually improve the digital content produced.

WHY?

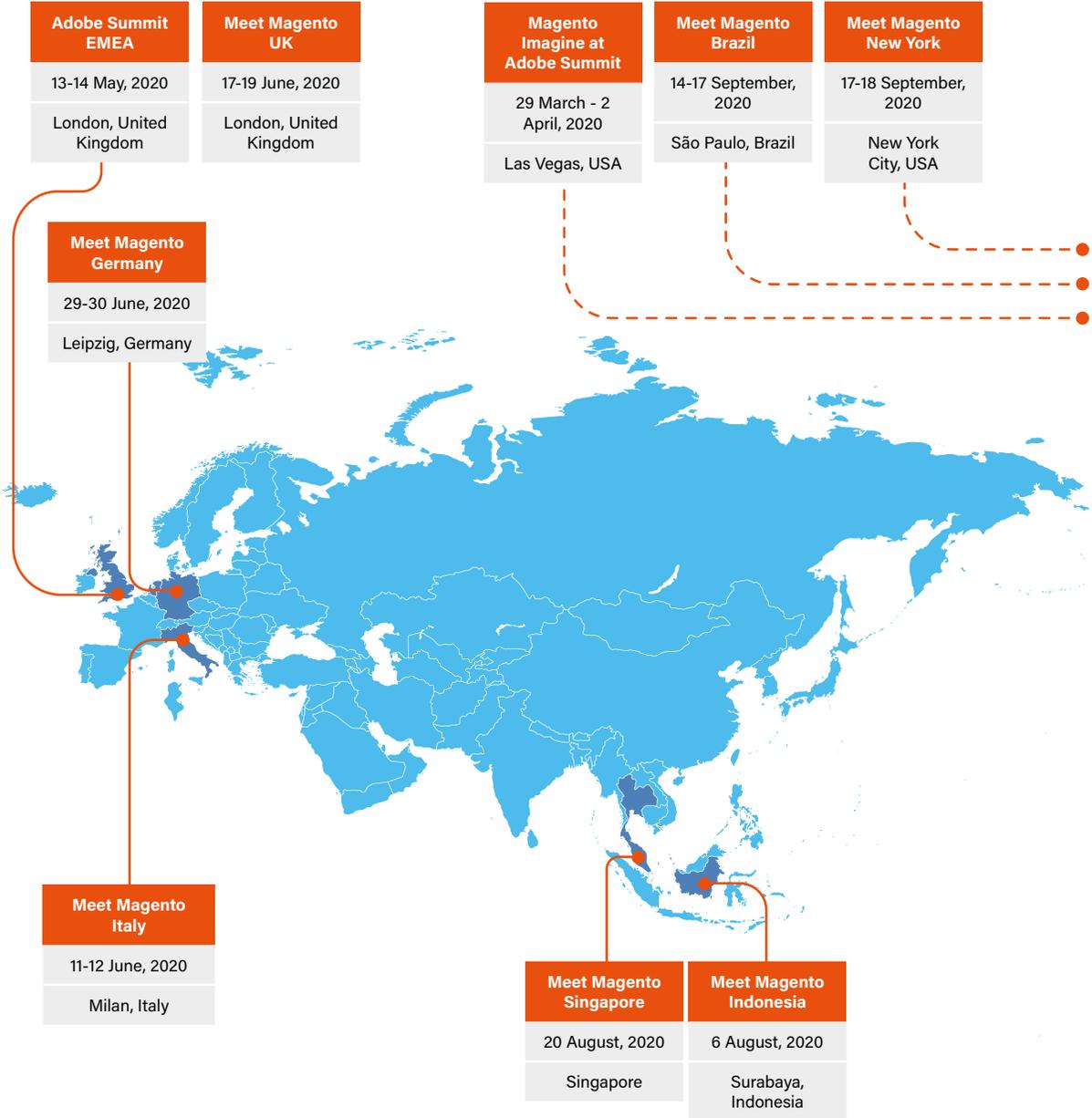
After the whole process is completed, we will have a structure of product information that is linked to the real needs of customers and has a positive impact on their purchasing experience. ●

Sources:

1. <https://www.marketingcharts.com/industries/retail-and-e-commerce-83523/attachment/namagoo-elements-great-online-shopping-experience-may2018>

Magento's upcoming events

It looks like the forthcoming months will be very intensive. For those of you who like to combine travels with a solid dose of knowledge, we have prepared a list of the biggest meetups and conferences for the Magento community. Is there anyone who plans to attend all the events? That would be something!





Strix is a team of 100+ experienced consultants and engineers, specializing in consulting and implementation of leading open-source technologies, such as Magento Commerce. Our activities are focused on developing business solutions for B2C and B2B companies and helping them to migrate from traditional sales models to the omnichannel model.



OMNICHANNEL MAGENTO CONSULTING

What matters is good handling of marketing communications and sale strategy, but only when aided by efficient product range and resource management. Many are the factors that can tip the scales to your advantage. And we happen to know the ones that can truly add value to your business. Selling over the Internet is a tough business, one that imposes refining your sale model. We help our clients to take the decisions, through which they will best fit sale strategies to their brand, organization and clients themselves. Used by thousands of businesses around the world, analytical and concept tools (Business Model Canvas) help us gear up to sell in the fast-moving Internet environment.

UX & DESIGN

We believe a sound design of an e-commerce platform is just like a well designed car. It blends this fine shape, an unparalleled sense of satisfaction that driving it gives you, and the efficient cutting-edge technology. And to achieve it, we need to be highly specialized. A product and business strategy, client's needs analysis, drafting, designing, prototyping, you name it – this variety calls for comprehensive knowledge and skills. And a variety of professions, for that matter. Engineers, architects, designers, sociologists and

humanists – all of them are on our team. A multidisciplinary team, we aim at solving specific business challenges. We leave no room to chance and have each decision discussed through and through. Our experience tells us best solutions are born through hard work and selected from a good few dozen of concepts. We do not hide behind catchy presentations but focus on iterating projects so that interactive prototypes can prove their worth for real users.

MAGENTO DEVELOPMENT

What makes clients pick us is the expertise of our implementation team, not its size. Our consultants and developers boast both certificates and hands-on experience; entrusted with tasks, they will deliver solutions, regardless of how difficult they are. There is more to the implementation process than just programming – it is also making decisions that translate into development, sales and scalability of the e-commerce business. Therefore, people who make up our implementation team are developers, but also business consultants and managers. Our cooperation with the Client thrives on our partnership. We realize mutual respect, understanding and trust condition the success of the implemented project. How swiftly we work is all down to simplicity. We do not overdo bureaucracy but concentrate on efficient prototyping of implemented solutions so that their business value can be quickly noticed and evaluated. ●

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