

THE APP REVOLUTION



the future is near!

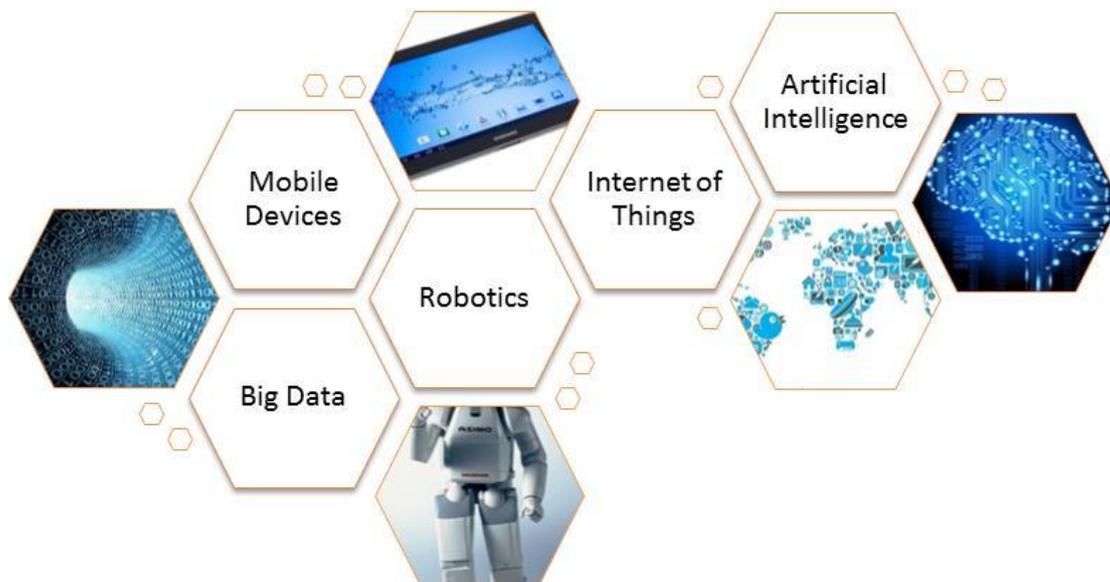
Change is upon us. Big data is already here, robots are on the rise, the internet of things is just around the corner and mobile apps will be in the middle of it all. It is happening now. How do we need to look at mobile apps? How do we need to look at the security of our data and devices? Let's prepare ourselves!

SO, WHAT IS HAPPENING?.....	3
BIG DATA.....	3
ROBOTICS	4
THE INTERNET OF EVERYTHING	4
ARTIFICIAL INTELLIGENCE.....	5
MOBILE APPS	6
SECURITY	7

SO, WHAT IS HAPPENING?

The world around us is always changing. No surprise there. But it is always hard to know in which direction. When looking at the world of mobile apps and communication technology in general several trends can be seen. Some of them are already happening all around us, others are gaining momentum and will be happening soon. There will be a surprise or two as well, but a lot of the developments can be seen now.

Mobile devices will be at the centre of a lot of these developments. More and more people have smart phones and tablets and they are becoming more versatile and powerful. Who would have guessed that we now carry around quad-core machines with more functionality than PC's could ever have offered.



BIG DATA

The cloud is beyond the hype and is becoming a common and accepted way of working. It is however a very broad term. Services, applications, storage or CPU capacity can be obtained from the cloud nowadays. But the cloud has also sprung another interesting branch: big data. It has been around for a while, but until now only for the big players. The Google search engine is probably the most well-known example. But companies like Facebook and Twitter are also

harvesting user data to sell for commercial purposes. But with storage and computing power still abiding to Moore's law, Big data is becoming available to all. The small players will catch up and join this game.

Mobile devices play an important role in both harvesting data and distributing data. This will only become more prominent in the coming years. Everybody is carrying their phones everywhere. Interaction with the owner and the environment is possible at almost any moment.

ROBOTICS

Robotics will gain momentum and become one of the next big things. A greying population and less people to take care of them demands a solution. We have seen small examples in the past: a robot that mows the lawn or does your vacuuming. Right now many start-ups are working on the next generation of robots. Robots will pick up the phone, bring medicine and make sure your grandmother is not lying motionless on the floor for long. That will just be the beginning. Within a few years robots will be of great value in the entire healthcare sector and probably beyond.

THE INTERNET OF EVERYTHING

Another phrase that has been around for a while but never really happened. Until now. Driven by the need to push around data everything will become connected. It is happening already. When you receive an email there probably are already three devices that alert you. The PC, your tablet and your phone will play a ringtone within seconds of each other. Smart TV's, security cameras or your media centre can already be controlled by an app on a smart-phone or tablet.

Connecting everything doesn't only happen between the devices it also happens in cyber space itself. Moving your data from one platform to the other. Being able to like or comment on the places you visit on the web. Aggregating all information from the many social networks you are using. The internet of everything will work this time because not only does the network grow exponentially but the network itself is utilized much better. We are starting to see the possibilities.

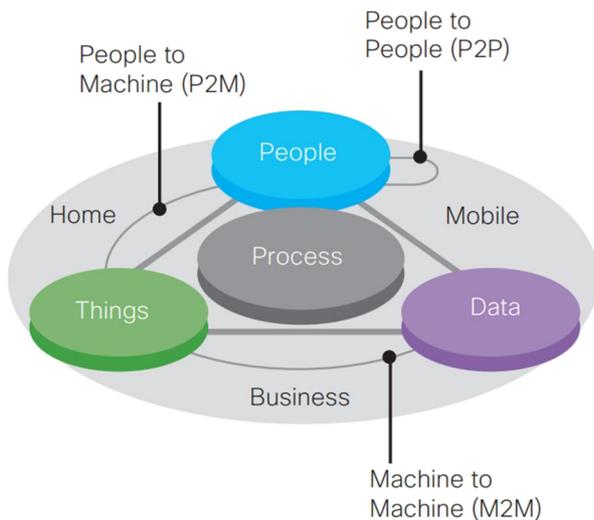


image from: <http://www.cisco.com/go/uk/networksecurity>

ARTIFICIAL INTELLIGENCE

The developments will very soon result in the first 'real' applications of artificial intelligence. Having so much data will really allow machine learning. Although it will take another decade or two to create machines that are comparable to people, the sheer amount of computing power and data that is becoming available now will allow for the next steps. A healthcare robot doesn't need to learn everything itself, it can pull resources with all its colleague robots. They will learn together. Behavioural information, demographic information and the processing power donated by every device in the world will make a change. Most social media apps are already harvest your data to allow others to make intelligent decisions and present you with the advertisements you could wish for. Predictions and decision making will be one of the growing areas the coming decade.

Right now big data and AI are already in use one way or the other. Your navigational app tells TomTom you have been driving slowly on the A1. TomTom sees the same with other cars on at the same spot and deduces there is a traffic jam. People heading that way, who are using the same navigational app, are now being diverted. Big data is finding its way within the academic and the medical world. Flu epidemics are now predicted by watching Twitter and Facebook.

MOBILE APPS

The need for apps will grow accordingly. Not only will they be needed for smart-phones and tablets but TVs, cars, household appliances, robots and many other devices will need flexible and competitive apps. These apps will be the glue making all other developments possible. They will be the user interface to all the other developments and bring it all to your fingertips and your eyes.



The development of mobile apps will become more complex. They need to combine data and create personalized and useful functionality. They will become more intelligent, use more sensors and communicate on a higher level. They will play an increasingly important role in a world where everything is connected. A new virtual world will be created. But it won't be "Second Life 2" it will be a merger between the old world and the new one.

The mobile app will be your window into the digital world, cyber space. Right now apps are developed for smart phones and tablet PCs. Soon apps will be deployed for new appliances like Google glass and its competitors. Tests are already being done with implanting devices into the human body.

SECURITY

So, let's get security in here as well. The beautiful future projected above will of course have a lot of culprits as well. How will you protect your personal data or your intellectual property when everything is getting connected? Will it be easy to get your identity stolen? Who actually owns my personal information? Can national governments govern a global world? Will they be able to come up with effective international cooperation.

The advice: be prepared!

Having good security principles and mechanisms now, will save a lot of time and money in the near future. Having to overhaul and rebuild complete systems will have a huge impact. On the other hand: tweaking mechanism that are working well is a lot easier. Security by design is important on all levels. When security concepts are already present in a system it will be far more easy to maintain and extend these mechanisms.

Even though mobile apps are still relatively simple, it is important to realize that today's innovations will be the basis for tomorrows main stream applications.