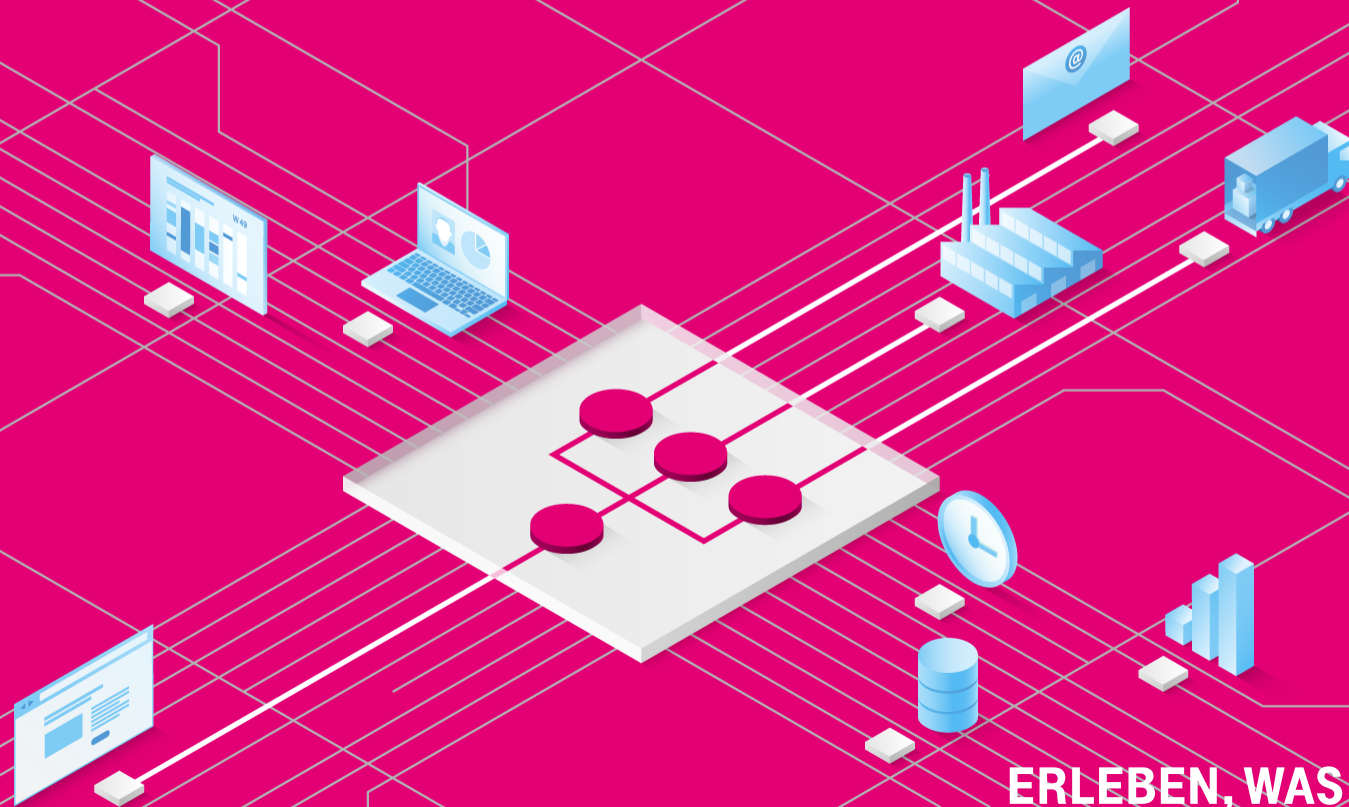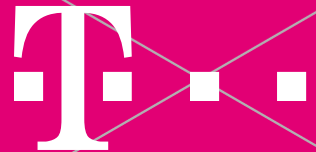# Mobile First
Challenges for the development of Mobile Apps

Digitalisierung. Einfach. Machen.

ERLEBEN, WAS VERBINDET.

SEBASTIAN LANG

- 2001-2006 Master of Computer Science @ TU Darmstadt

- 2007   Software Developer @ Certicell LLC, Louisville KY, USA

- 2008-2010 Software Developer @ DFS Deutsche Flugsicherung GmbH
- 2011-2014 Product Manager @ DFS Deutsche Flugsicherung GmbH

- 2015-2017 Head of Software Development @ WSP-Soft GmbH

- 2018-Today Senior Cloud Architect @ Deutsche Telekom AG
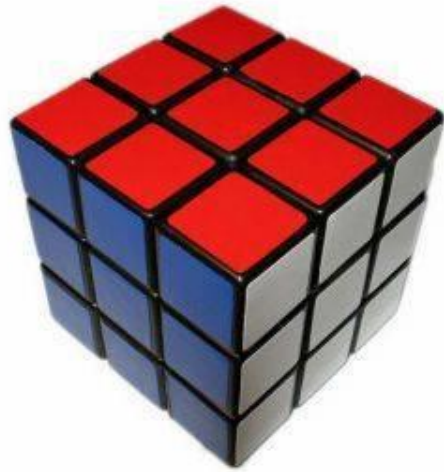- 2018-Today Freelancer @ slang development

DEUTSCHE TELEKOM AG

- Europes #1 telecommunication provider

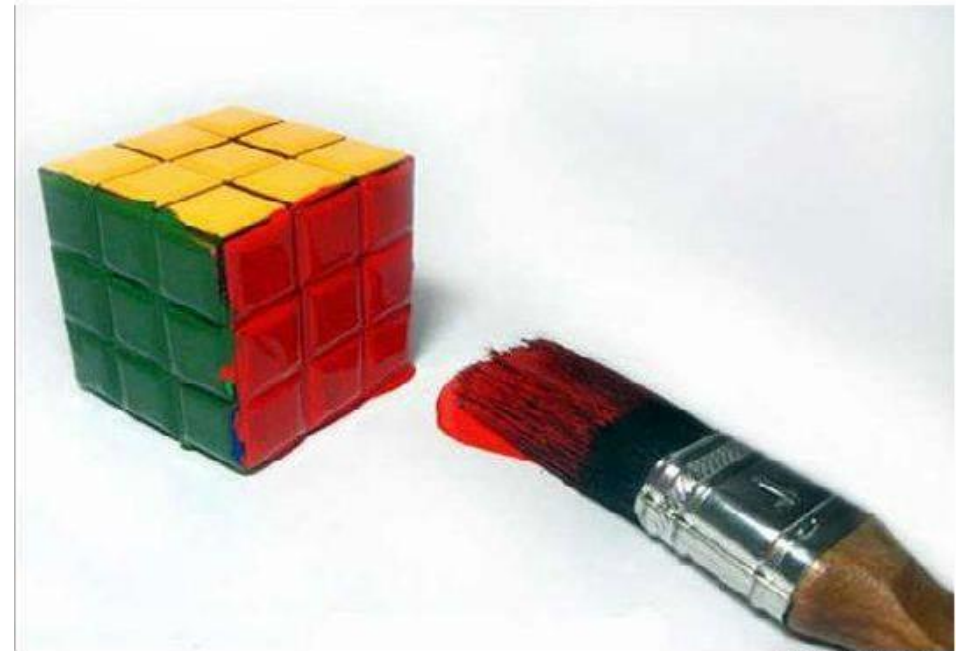- Operates technical networks (ISDN, xDSL, ATM, 2G, 3G, 4G, 5G, etc.)

- Globally active

Coding while learning it at College

Coding for a Project in a real Job

ERLEBEN, WAS VERBINDET.

AGENDA

- **Mobile First Design**
  - Multi-Device Challenge
  - Demo
  - Possible Solutions
    - Buying Devices
    - Mobile Testing Platforms
  - Continuous Integration (CI)
  - Continuous Deployment (CD)
- Security Frameworks
  - Why Security?
  - Why a Security Framework?
- Outlook

QUICK POLL

MOBILE FIRST DESIGN

Source: https://www.informance-media.at

MOBILE FIRST DESIGN

Content „dictates" the Design

Mock-Ups should be based on active mobile Users, considering various conditions like:

- Sunshine

- Stress-Level

- Level of Education

- ....

What should have focus?

- Which kind of information would I really(!) like to provide?

- What are my Challenges here?

MOBILE FIRST DESIGN

Navigation

- Must be simple!

- Don't use Sidebars

- Size of Buttons

- Contrast

- Font Size

- Time to Load

- Usability

MOBILE FIRST VS. RESPONSIVE DESIGN

MOBILE FIRST DESIGN

ERLEBEN, WAS VERBINDET.

AGENDA

MULTI DEVICE CHALLENGE

AGENDA

- Mobile First Design
  - Multi-Device Challenge
  - **Demo**
  - Possible Solutions
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AGENDA

BUY DEVICES

BUY DEVICES

AGENDA

- Mobile First Design
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  - Demo
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MOBILE TESTING PLATFORMS

- **Cloud-based web and mobile test platforms**

- **Test websites and applications across**
  - Browsers
  - Operating Systems
  - Real mobile devices

- **Support for manual and automated testing**

- **Support for...**
  - Device rotation
  - Location change
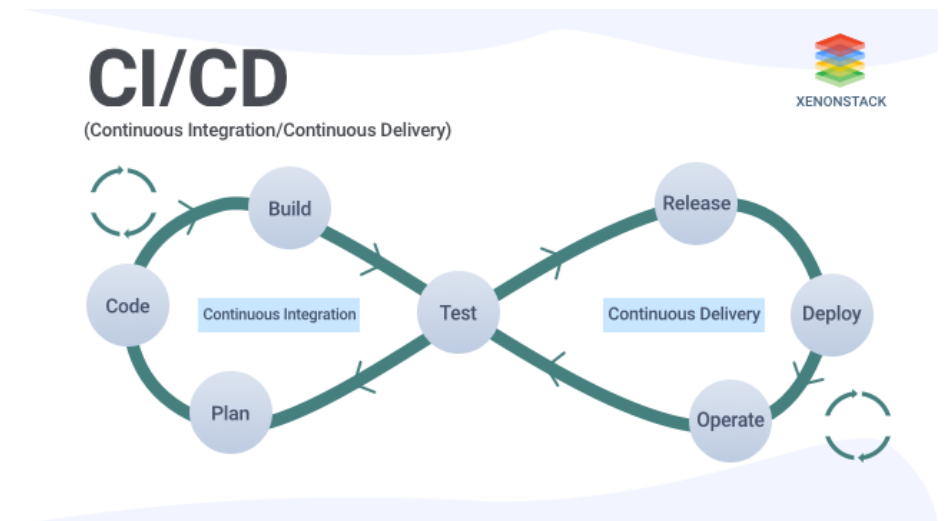 - Network throttleing
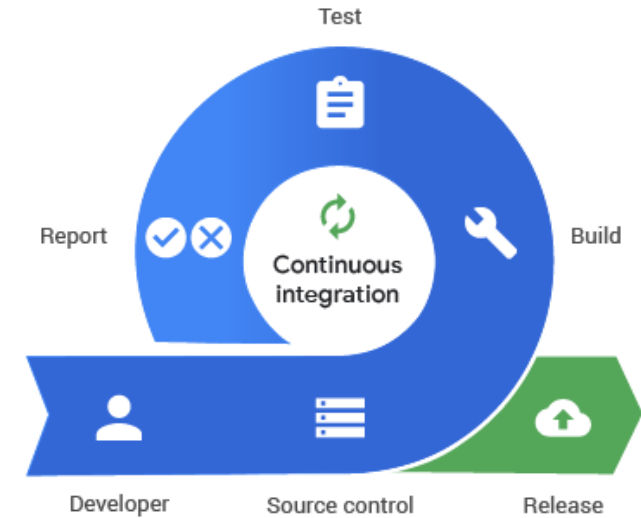 - Languages

AGENDA

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CONTINUOUS INTEGRATION / CONTINUOUS DEPLOYMENT

- **Benefits for the IT Team**
  - Reduced errors and manual tasks
  - Identify and Resolve Integration Challenges Early
  - Shorter Delivery Cycles

- **Benefits for the Business**
  - Reliable(!), High-Performing Releases
  - Reduced Costs from Fewer Outages
  - Software is Delivered to Market Faster

Source: https://cloud.google.com/solutions/continuous-integration
: https://www.xenonstack.com/blog/continuous-integration-and-continuous-delivery/

AGENDA

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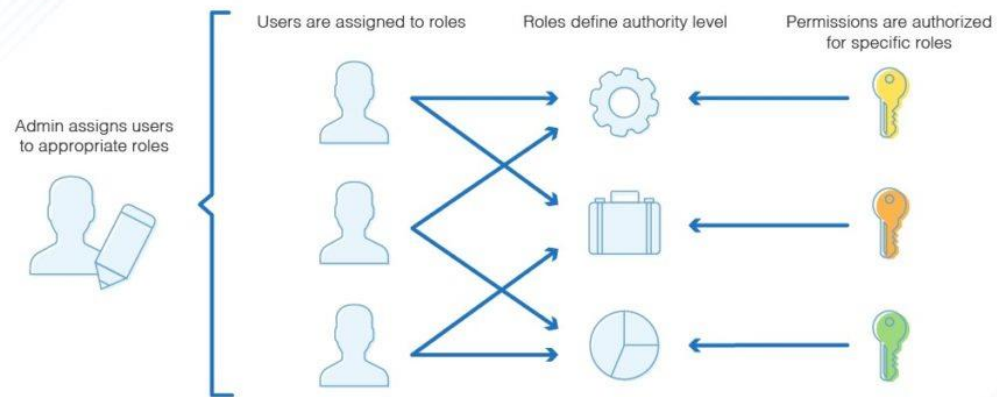- Outlook

AUTHENTICATION – WHO AM I?

- **Knowledge Factors**
  - Password
  - PIN
  - Security Question

- **Ownership Factors**
  - ID Card
  - Token (Hardware/Software)
  - Cell Phone

- **Inherence Factors**
  - Fingerprint
  - Retinal Pattern
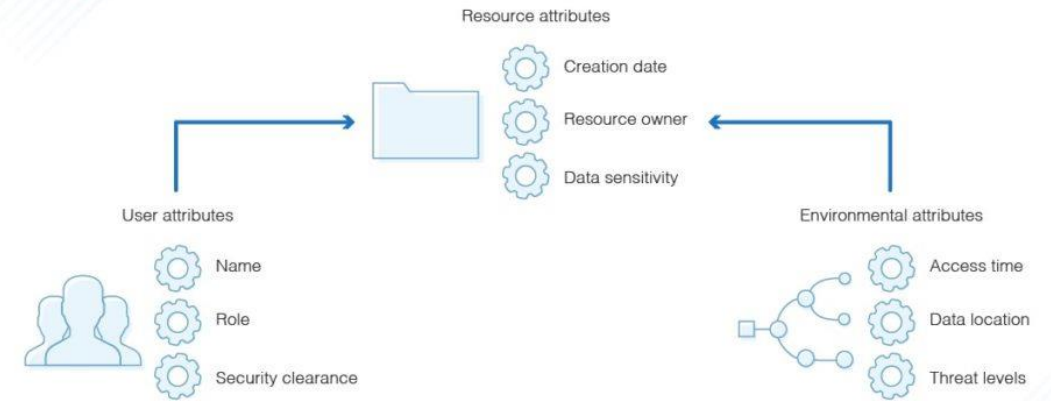 - DNA, Face, Voice

Multi-Factor Authentication (MFA)

POSSESION + KNOWLEDGE + BEING

Something you have. | Something you know. | Something you are.

SPANNING
A Kaseya COMPANY

AUTHORIZATION – WHAT AM I ALLOWED TO DO?

ERLEBEN, WAS VERBINDET.

ENCRYPTION – HOW CAN I PROTECT DATA?

Symmetric Encryption
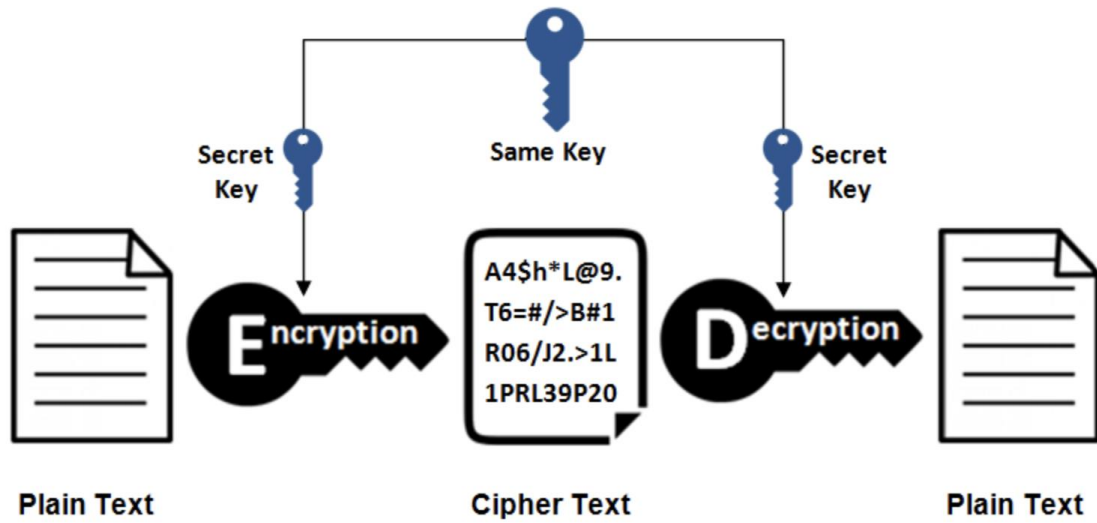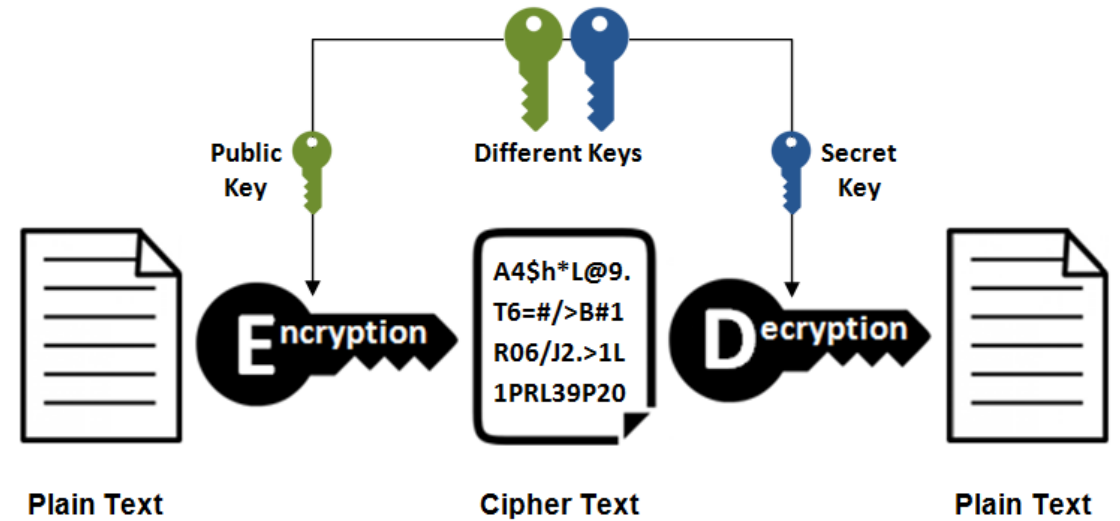
Secret Key

Same Key

Secret Key

Plain Text

Encryption

A4$h*L@9.
T6=#/>B#1
R06/J2.>1L
1PRL39P20

Cipher Text

Decryption

Plain Text

Asymmetric Encryption

Public Key

Different Keys

Secret Key

Plain Text

Encryption

A4$h*L@9.
T6=#/>B#1
R06/J2.>1L
1PRL39P20

Cipher Text

Decryption

Plain Text

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ERLEBEN, WAS VERBINDET.

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WHY A SECURITY FRAMEWORK? – KEYCLOAK

- „Standing on the shoulders of giants"

- „Code is manifested knowlegde"

- Offers
  - User Registration
  - Social login (Facebook, Google, etc.)
  - Single Sign-On
  - 2-Factor-Authentication
  - LDAP integration
  - Kerberos broker
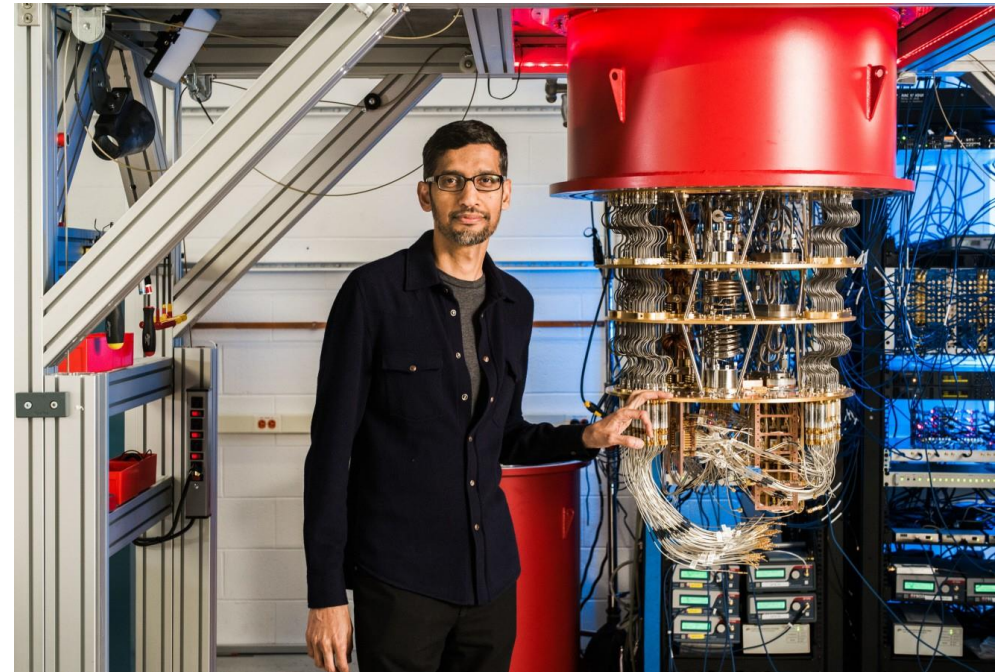
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OUTLOOK

Mobile Apps

Security

SECOND POLL

- **MOBILE FIRST**
- **MULTI-DEVICE CHALLENGE**
- **CI/CD**
- **SECURITY FRAMEWORKS**

QUESTIONS?