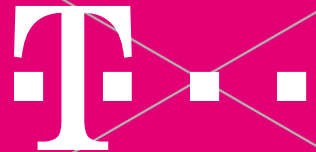
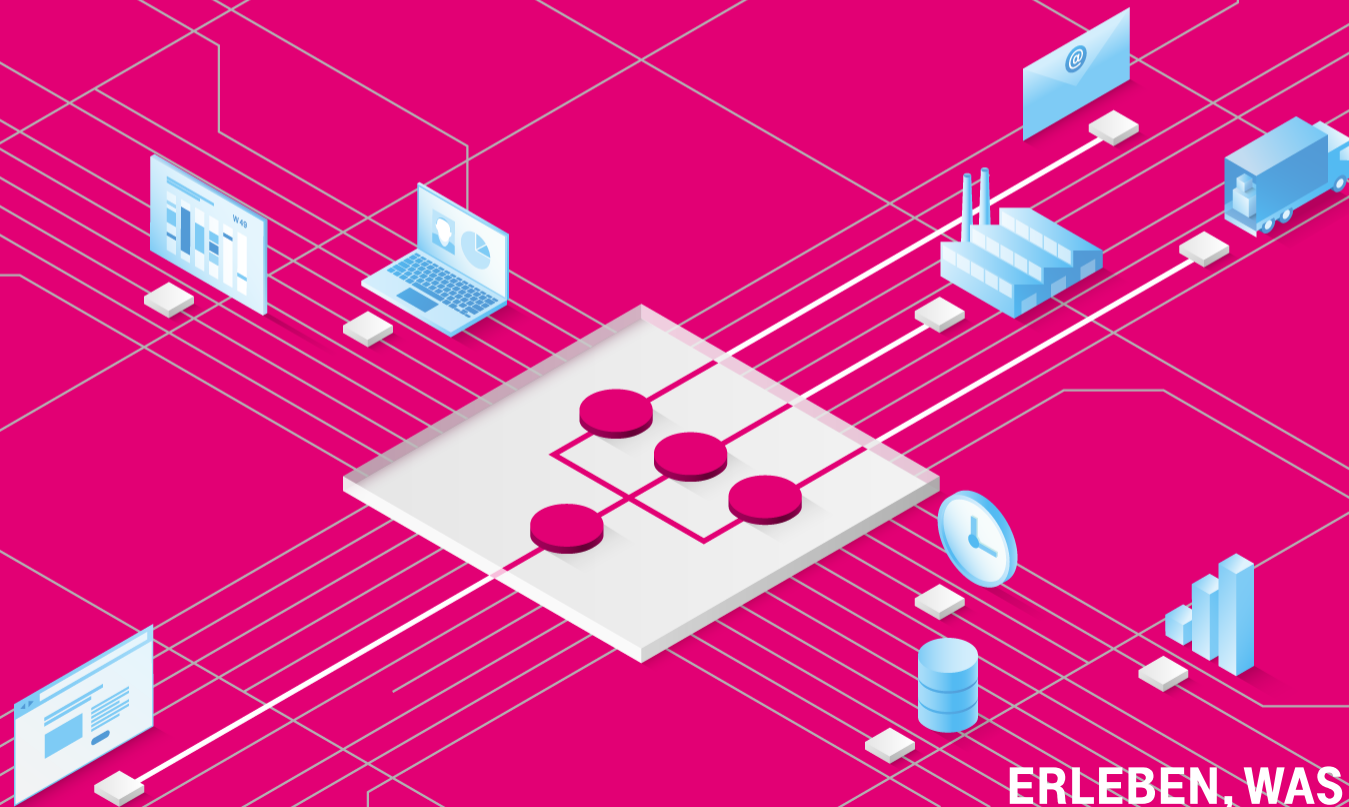


Mobile First

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

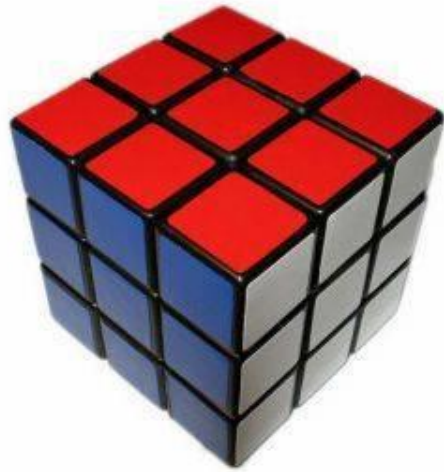


- Europes #1 telecommunication provider
- Operates technical networks (ISDN, xDSL, ATM, 2G, 3G, 4G, 5G, etc.)
- Globally active

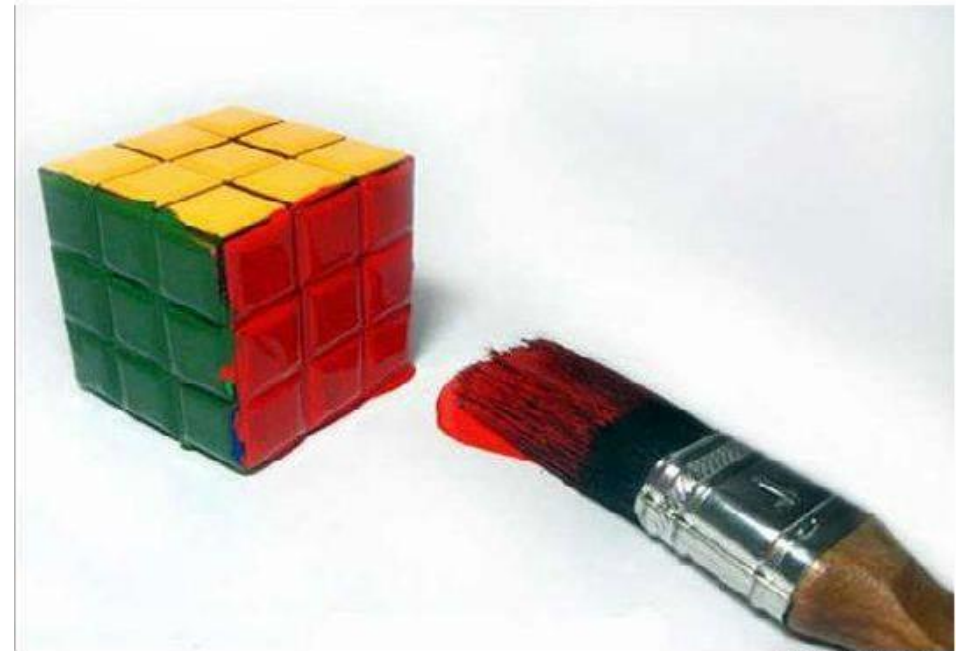


ERLEBEN, WAS VERBINDET.

Coding while learning it at College



Coding for a Project in a real Job



WeKnowMemes



ERLEBEN, WAS VERBINDET.



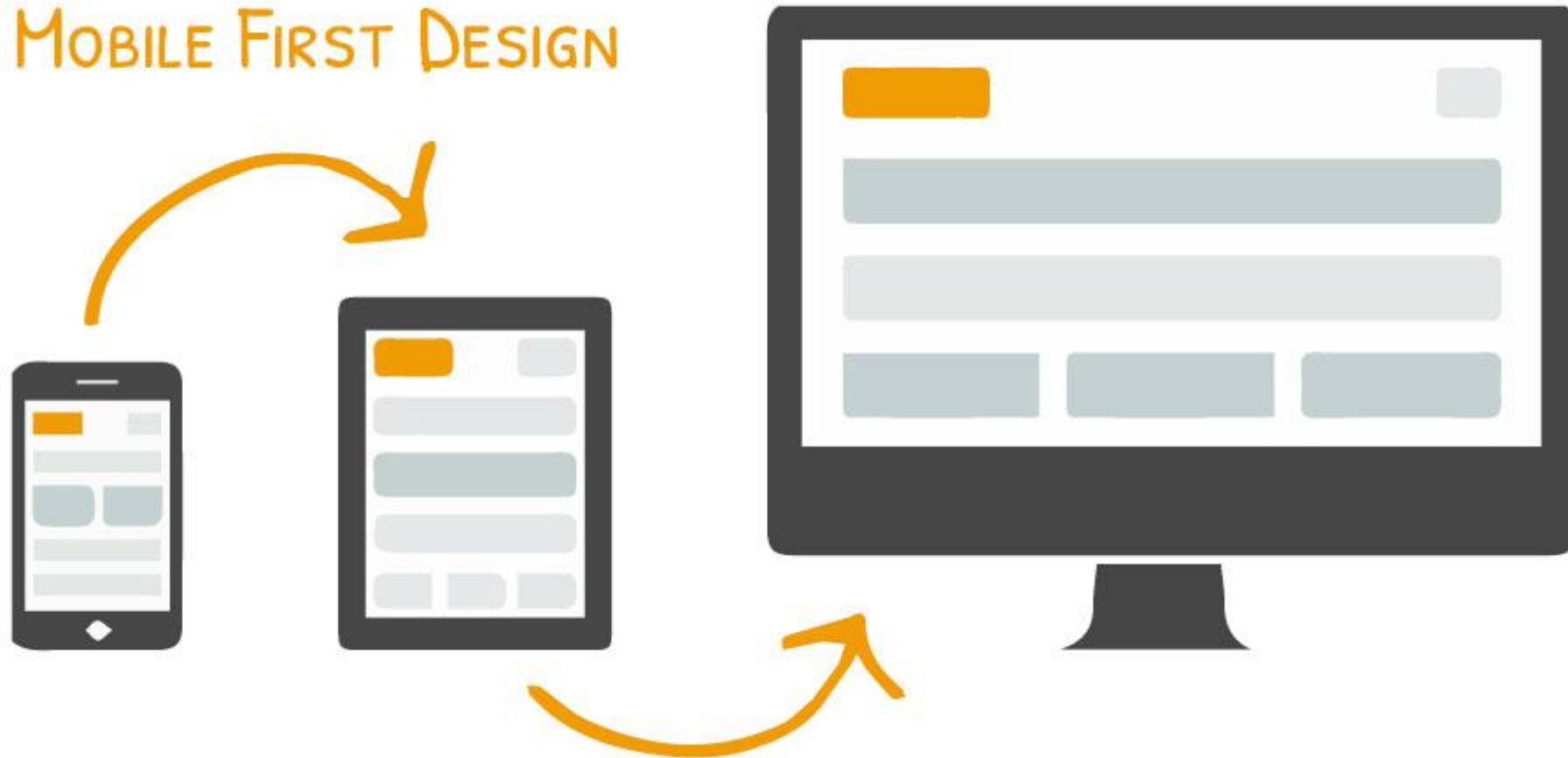
AGENDA

- **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

MOBILE FIRST DESIGN



ERLEBEN, WAS VERBINDET.

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?

Navigation

- Must be simple!
- Don't use Sidebars
- Size of Buttons
- Contrast
- Font Size
- Time to Load
- Usability



MOBILE FIRST VS. RESPONSIVE DESIGN





AGENDA

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MULTI DEVICE CHALLENGE



ERLEBEN, WAS VERBINDET.

Source: <https://www.businessstraveller.de/mobil/fliegen/usa-grenzschutz-knoepft-tausenden-von-reisenden-die-handys-ab>



AGENDA

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BUY DEVICES



ERLEBEN, WAS VERBINDET.

BUY DEVICES



ERLEBEN, WAS VERBINDET.



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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 throttling
 - Languages



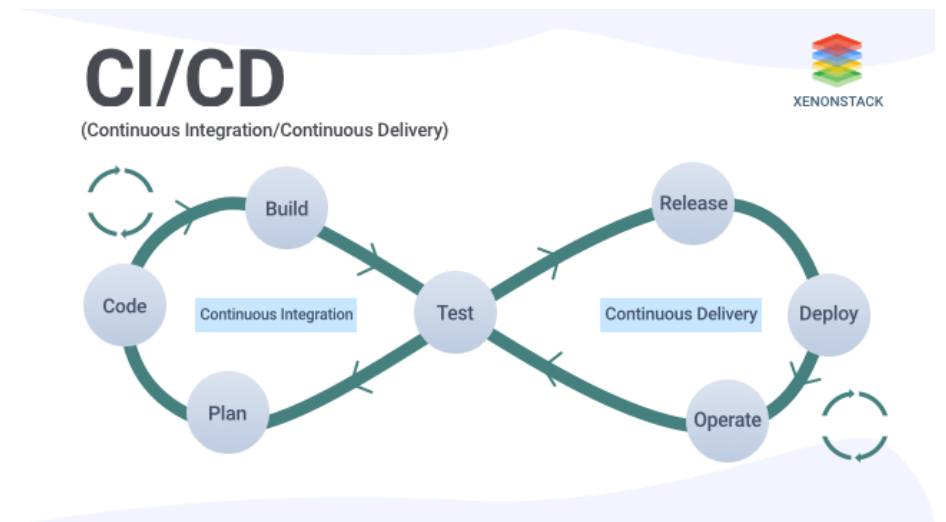
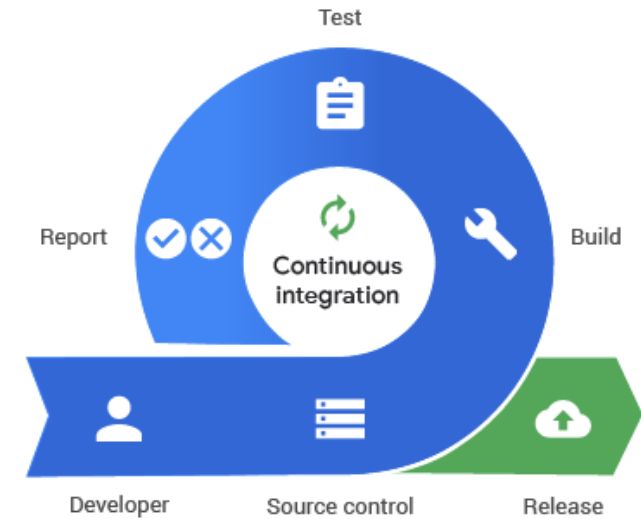


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CONTINUOUS INTEGRATION / CONTINUOUS DEPLOYMENT

- **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





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AUTHENTICATION – WHO AM I?

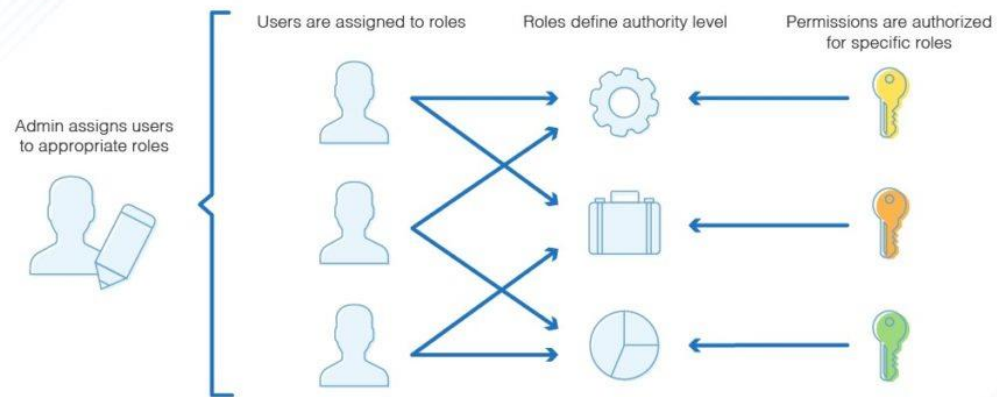
- **Knowledge Factors**
 - Password
 - PIN
 - Security Question
- **Ownership Factors**
 - ID Card
 - Token (Hardware/Software)
 - Cell Phone
- **Inherence Factors**
 - Fingerprint
 - Retinal Pattern
 - DNA, Face, Voice

Multi-Factor Authentication (MFA)

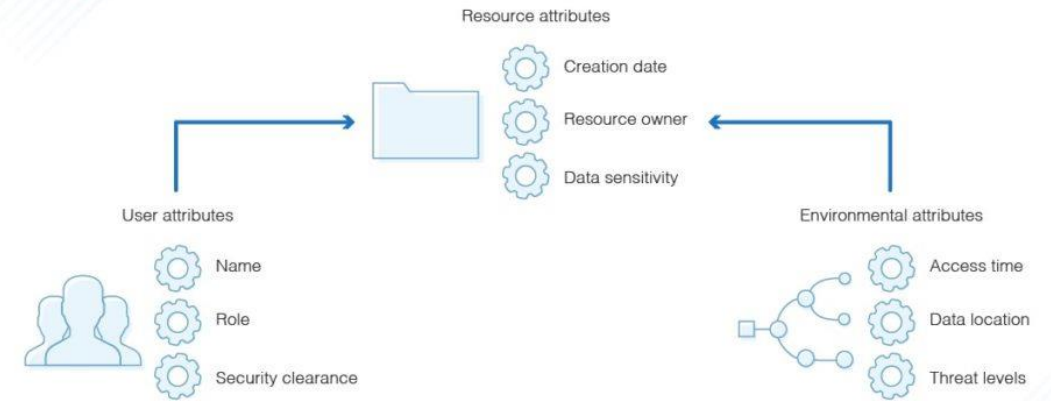


AUTHORIZATION – WHAT AM I ALLOWED TO DO?

Role-Based Access Control

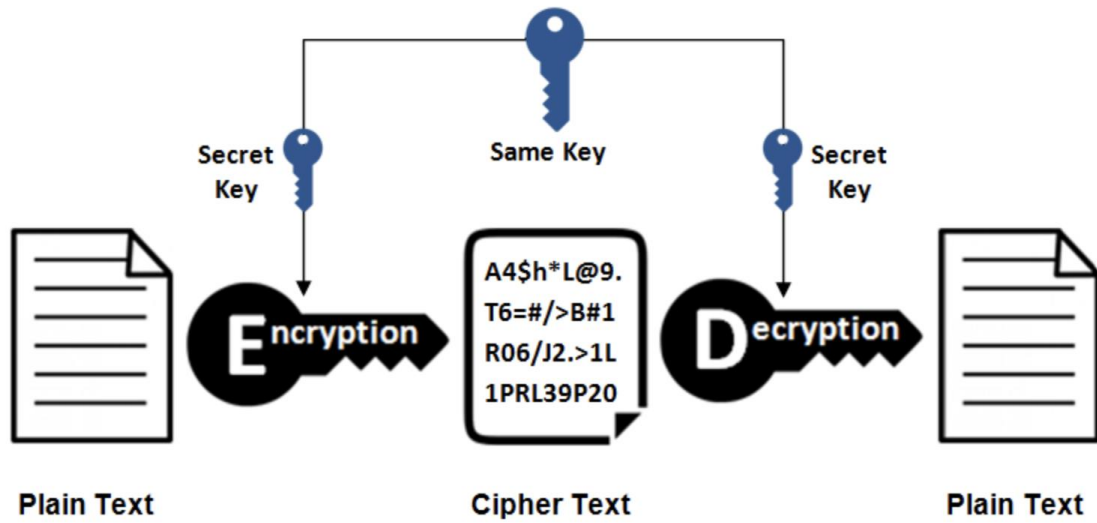


Attribute-Based Access Control

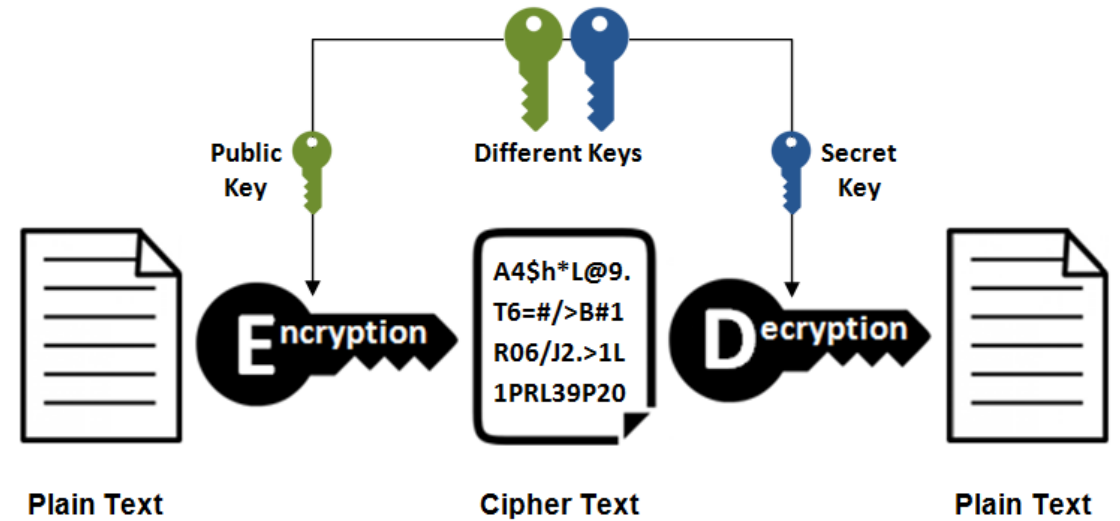


ENCRYPTION – HOW CAN I PROTECT DATA?

Symmetric Encryption



Asymmetric Encryption





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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





AGENDA

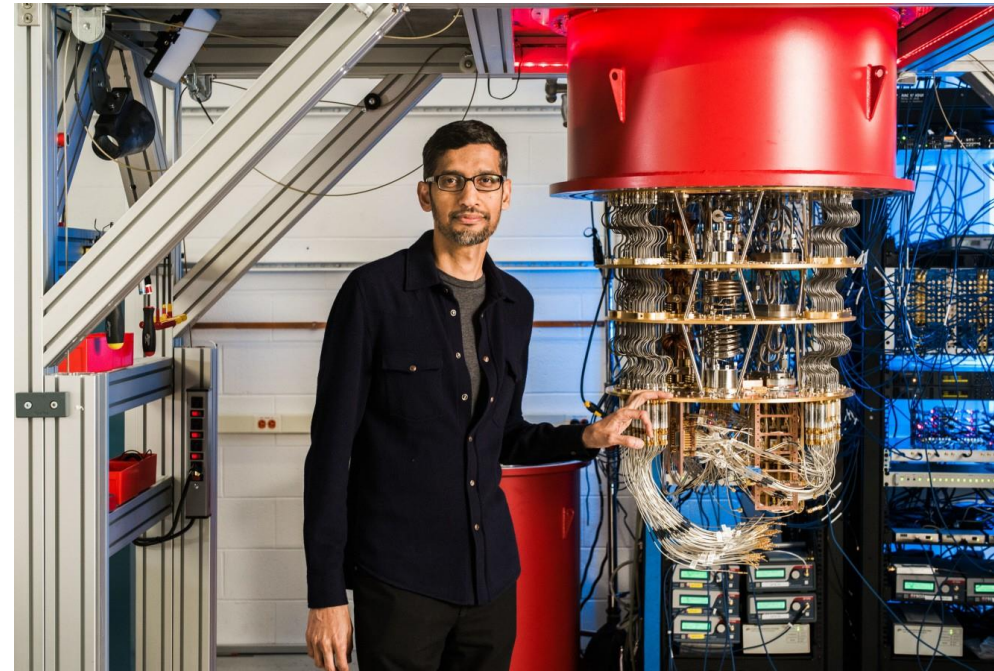
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OUTLOOK

Mobile Apps



Security



SECOND POLL

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

QUESTIONS?