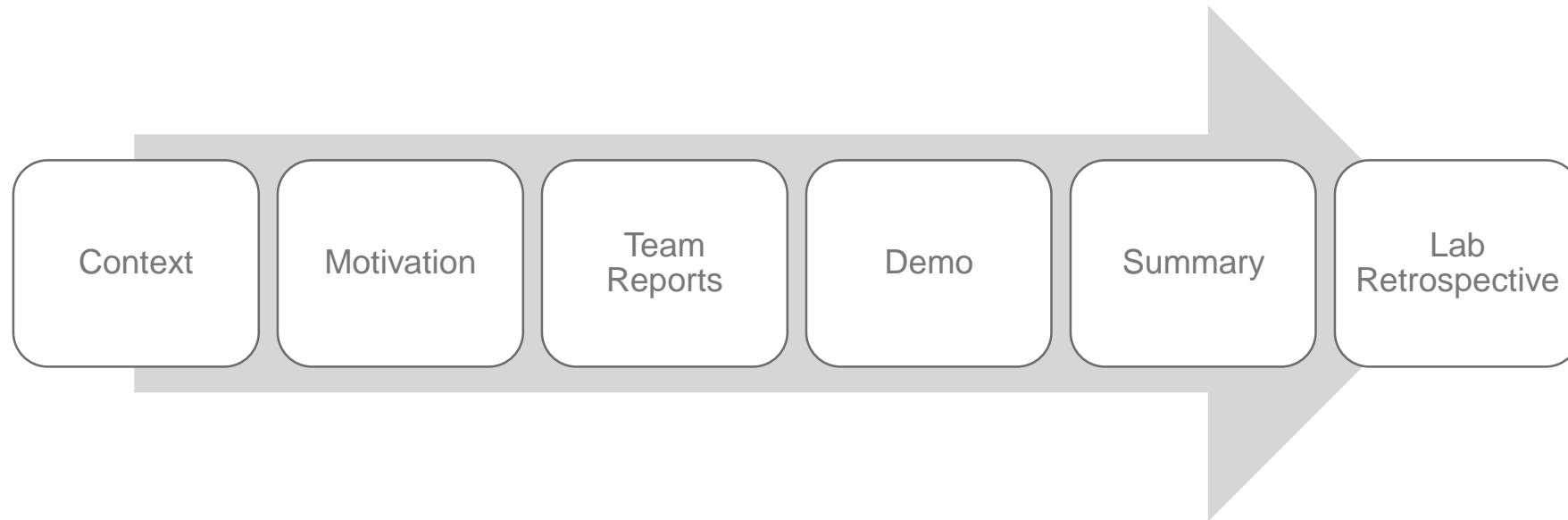


MECALs

Final Lab Presentation

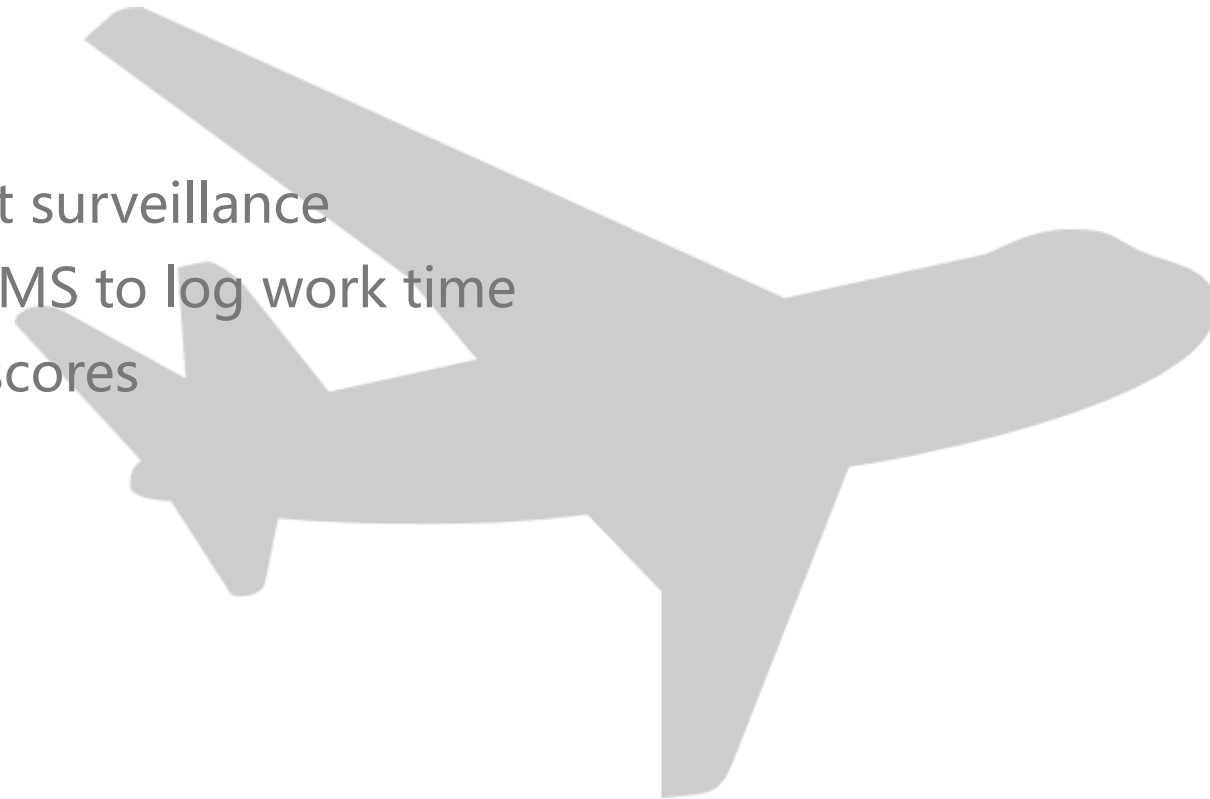
14.03.2017 Jönköping

OVERVIEW



CONTEXT

- SAMO
- ATCO, Shift-Managers, Flight surveillance
- Cardreaders, CALS and NARMS to log work time
- SAFAPS to calculate health scores



MOTIVATION

Cardreaders breaking down

Replace with mobile phones

Lower costs

Enabler for future use cases

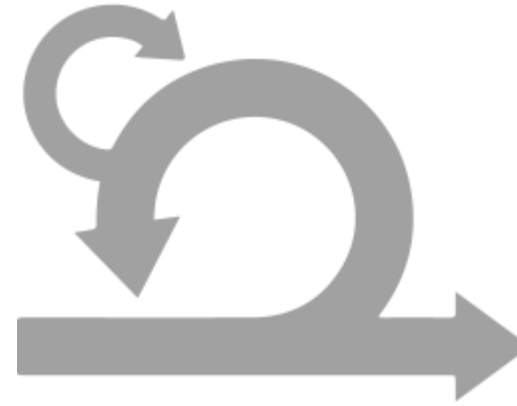
LAB SETTINGS



8 weeks



6 teams



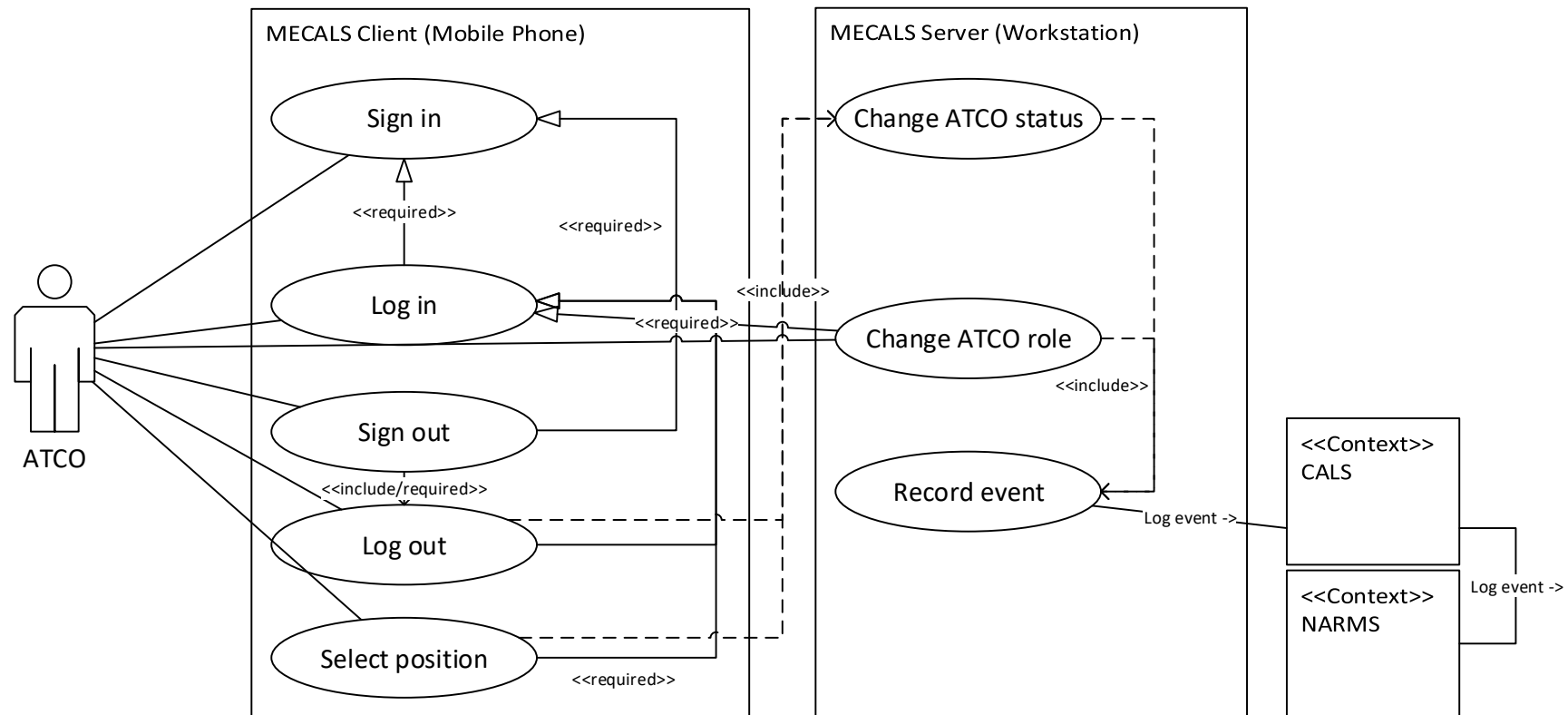
Scrum

TEAM MANAGEMENT

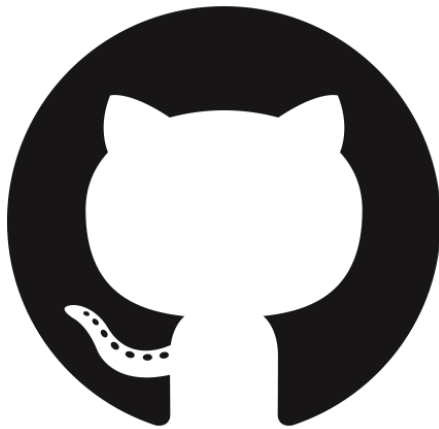
- Product Owner and Scrum Master
- Tasks
 - Requirements and Business Value Analysis
 - Scrum Management
 - Project Management (not part of Scrum)
- Technological and Business Constraints

Neubauer Adrian
Sarda Jean

USE CASES



TEAM TOOLS



Github



Slack



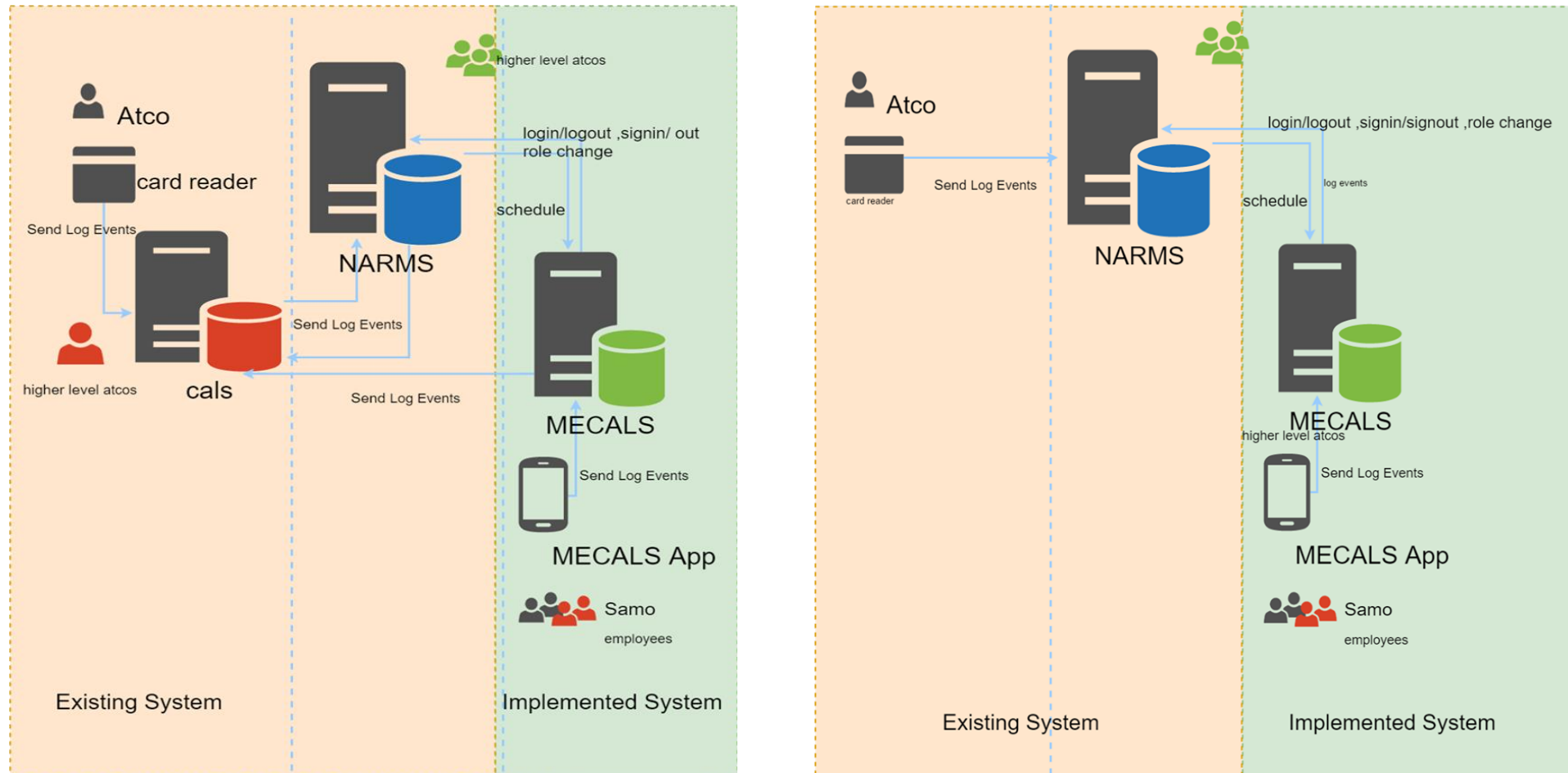
Trello

TEAM ARCHITECTURE

- Design architecture for system under development
- Provide documentation for module interoperability

Ajay Kumar Rajamundry
Benjamin Couillaud
Onete Bogdan Gabriel
Theo Ardouin

CONTEXT DIAGRAM



QUALITY ATTRIBUTES - GENERAL

Priority	Title	Description
1	Availability	Because of the fact that an ATCO has to manage air space then has many lives on his hands, the tools he uses must always work properly and be highly available.
2	Security & Safety	For the same reason, MECALS must be secure and safe. A malicious attack on the system could have a several consequences.
3	Robustness	MECALs must endure unusual situation in order to insure its first priority as the availability. Air space control depend on a hazardous environment like unpredicted delays on arrivals planning.
4	Resilience	MECALs must endure sudden burst of load for the same reasons quoted earlier.

QUALITY ATTRIBUTES - MECALS

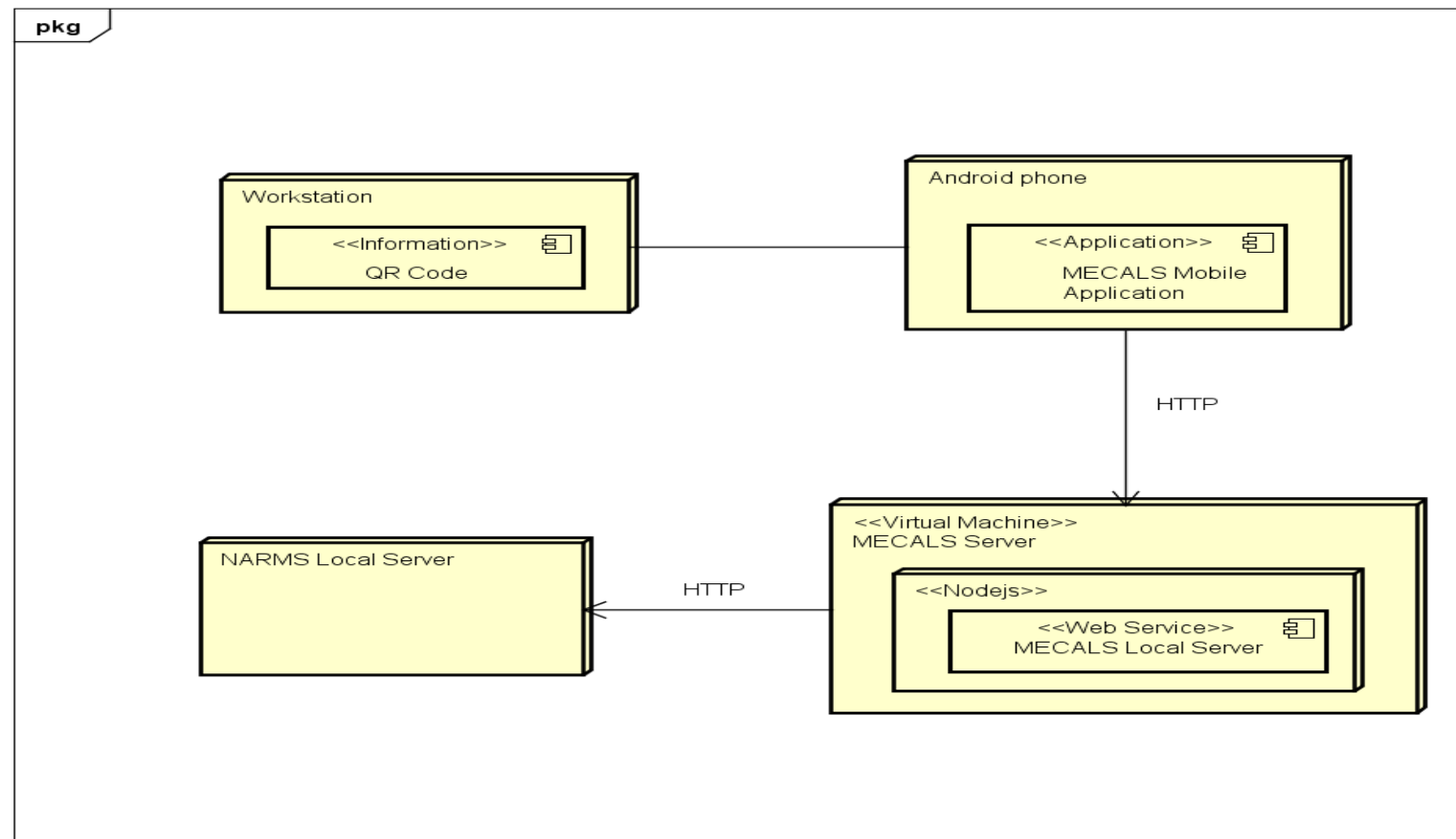
- Server Quality Attributes

Priority	Title	Description
5	Efficiency	The serve must be responsive.
5	Usability	The application must be easy to use by the intended users.

- Application Quality Attributes

Priority	Title	Description
5	Efficiency	The mobile application must load quickly and be responsive to any device.
5	Usability	The mobile application must be easy to use and understand by the intended users.

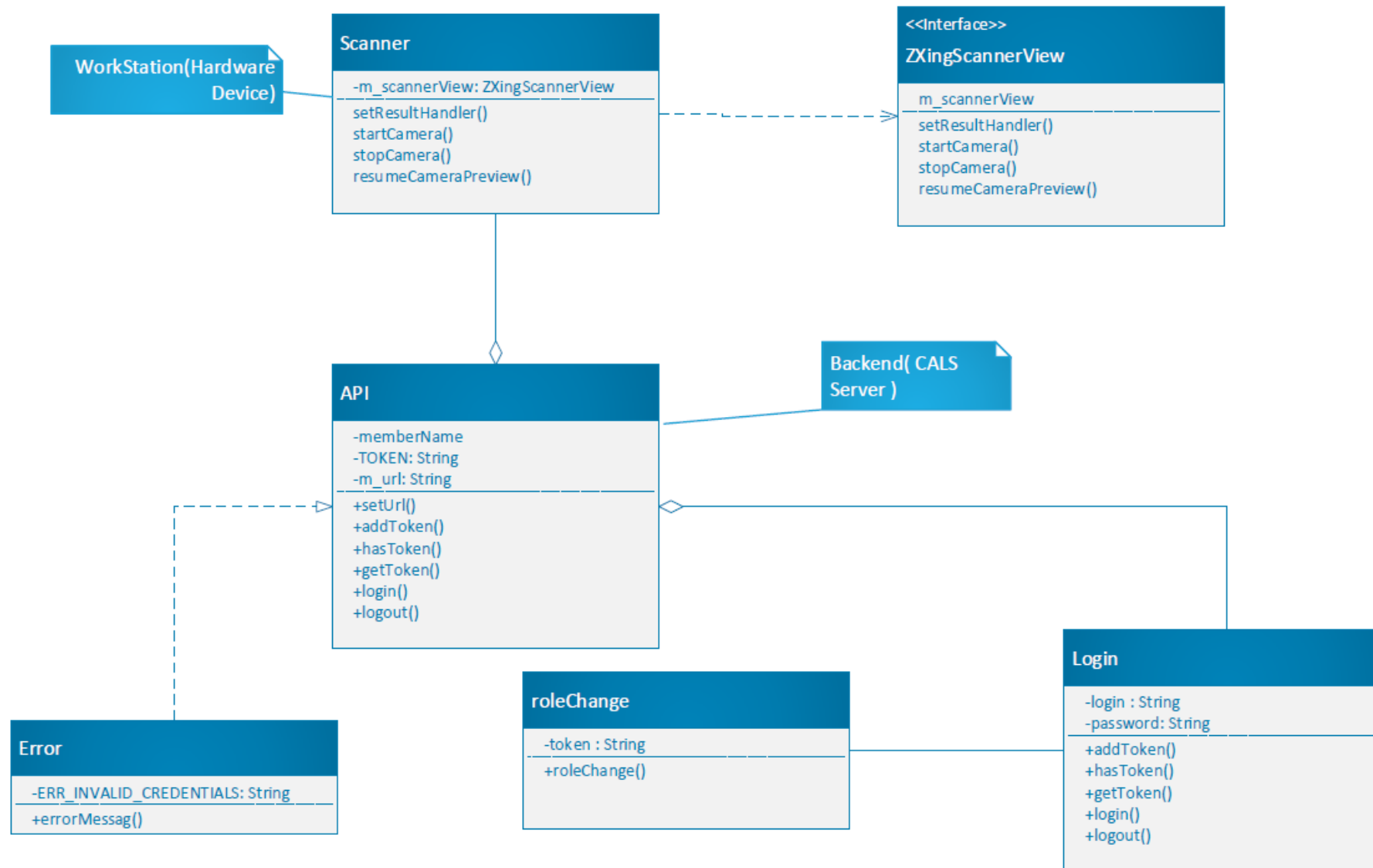
DEPLOYMENT DIAGRAM

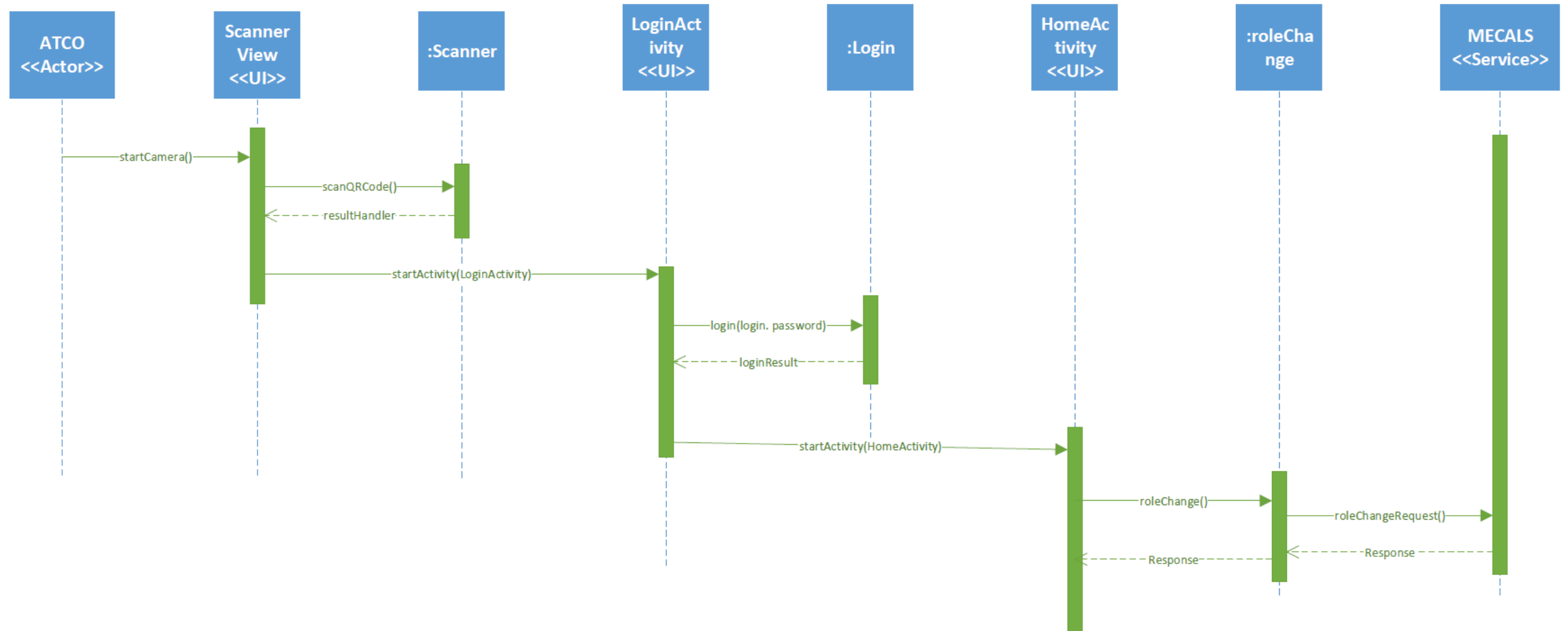


TEAM FRONTEND

- Mobile application in Android Studio and Java
 - Lack of testing devices for iOS
 - No cross platform necessary
- Travis instead of AppVeyor

Al-Ghareeb Meelad
Darchy Olivier
Deschamps Maxime
Qasim Muhammad



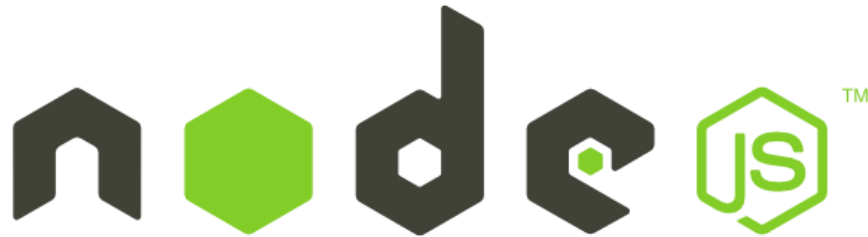


TEAM BACKEND

- Business and logging logic
- Communicates with NARMS

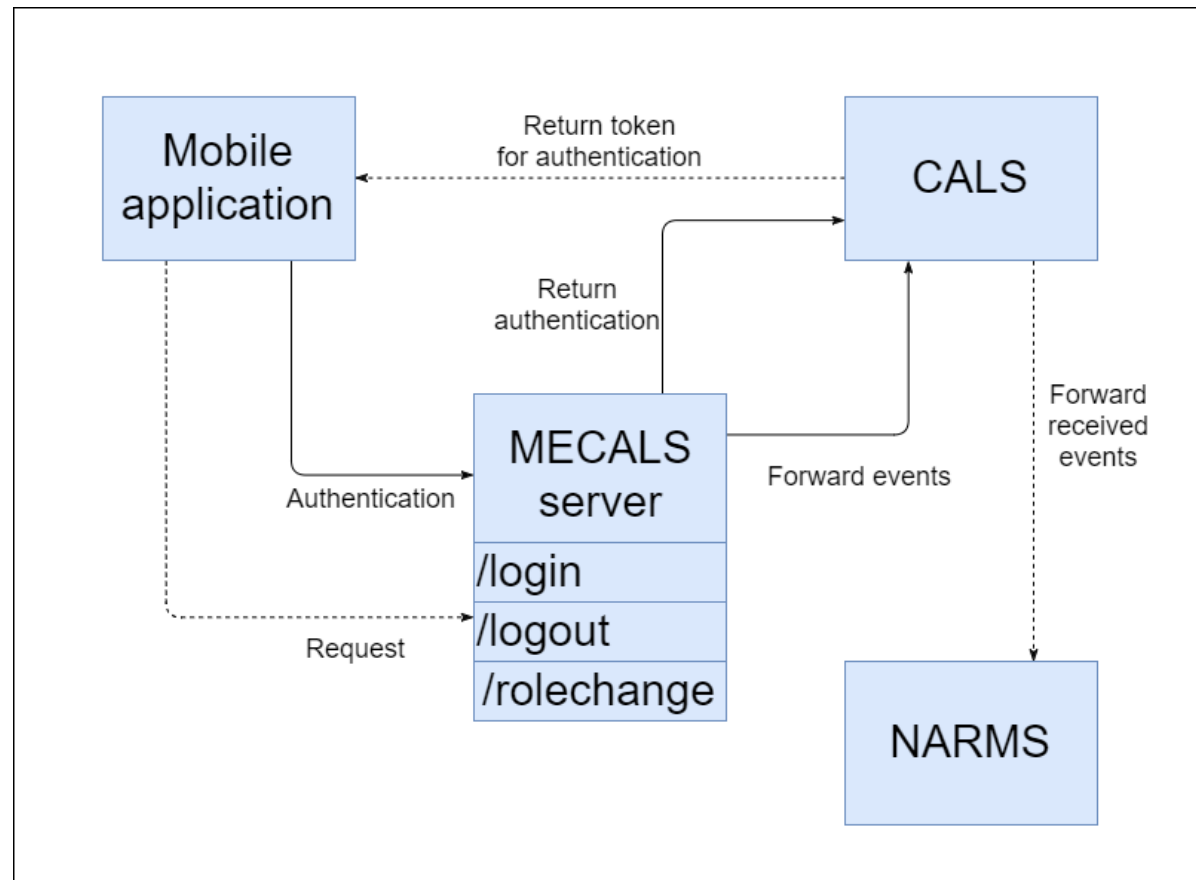
Carlsson Fredrik
Eriksson Klas-Göran
Milox Thomas
Prenat Hugo

TECHNOLOGY CHOICE

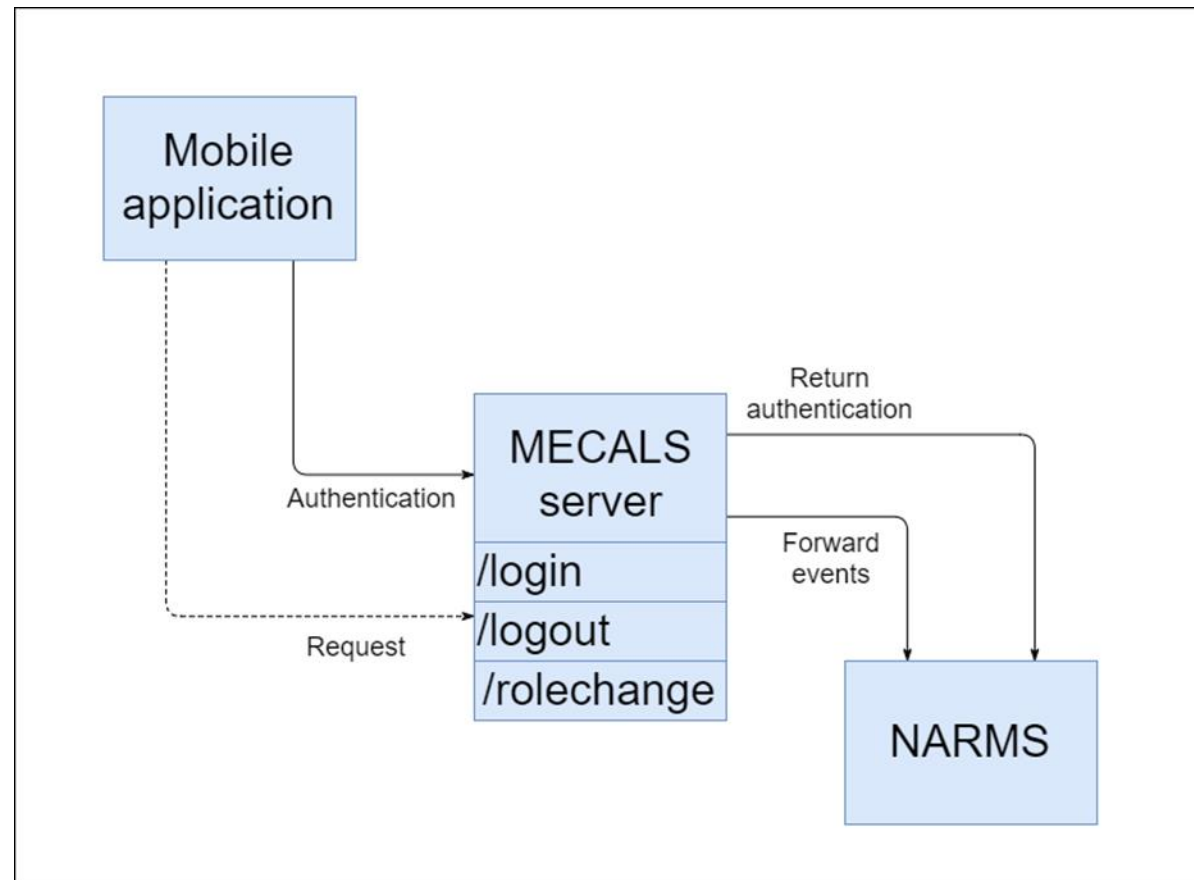


express

INITIAL BACKEND ARCHITECTURE



CURRENT BACKEND ARCHITECTURE





SLATE

API DOCS GENERATOR

<https://spa-mecals.github.io/slate>

API

Login

Login to an account

This endpoint allows you to login as an employee.

HTTP Request

POST `http://193.10.30.169/login`


Query Parameters

The parameters to pass must be in the form of a JSON body.

Property	Type	Required	Description
email	string	true	Email of the user you want to login with
password	string	true	Password of the user you want to login with

Return Codes

Code	Description
200	Success – OK
401	Unauthorized – Your credentials are wrong



Search

Introduction
Login
Logout
Change Status

Documentation Powered by Slate

Introduction

Welcome to the Documentation of the backend of MECALS.

Login

Login to an account

This endpoint allows you to login as an employee.

HTTP Request

POST `http://193.10.30.169/login`

Query Parameters

The parameters to pass must be in the form of a JSON body.

Property	Type	Required	Description
email	string	true	Email of the user you want to login with
password	string	true	Password of the user you want to login with

Return Codes

Code	Description
200	Success – OK
401	Unauthorized – Your credentials are wrong

Response

The request returns a JSON structured like this (this is a pure exemple that is not working):

```

{
  "worker_profiles": [
    {
      "worker_profile": {
        "id": 123456,
        "pub_id": "1234abcd",
        "active": true,
        "name": "Doe",
        "first_name": "John",
        "date_of_birth": null,
        "created_at": "2017-01-01T00:00:00.000Z",
        "updated_at": "2017-01-01T00:00:00.000Z",
        "facility_id": 123456,
        "user_id": 123456
      },
      "facility": {
        "id": 123456,
        "pub_id": "1234abcd",
        "active": true,
        "name": "Facility Name",
        "location": null,
        "created_at": "2017-01-01T00:00:00.000Z",
        "updated_at": "2017-01-01T00:00:00.000Z"
      }
    }
  ]
}

```

TEAM TESTER

- Continuous Integration
- Continuous Deployment

Darsi Venkata Narayana
Kasprzak Milan
Lacour Arthur
Nirmal Kumar

CONTINUOUS INTEGRATION

Each push...

... on the GitHub repository...

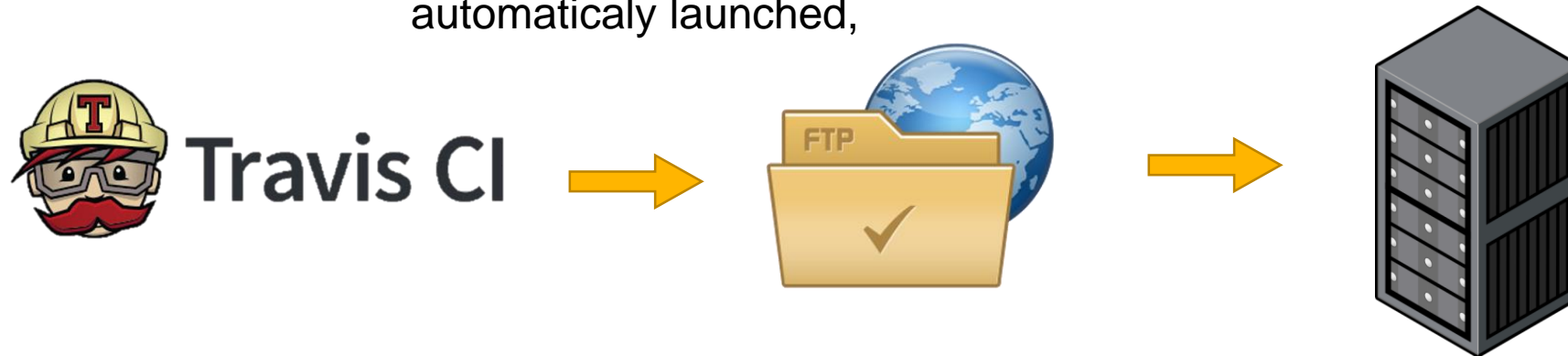
... triggers a build.



AUTOMATIC DEPLOYMENT

If (and only if) the build is successful...

... the software is uploaded via FTP to the server, where it's automatically launched,



ANDROID APPLICATION

Travis can build and even run Android application...

...using the chosen Android API and the gradle build script



Travis CI



DEMO

LAB RETROSPECTIVE

- Definition of done and team contract
- Challenges
 - No iOS devices
 - False documentation
 - CALS broken
- Points to optimize
 - Team communication
 - Work dependencies

DELIVERABLES (APPENDIX)

- Architectural Description
- Documentation
- Repositories
- Development Infrastructure

QUESTION?



JÖNKÖPING UNIVERSITY

School of Engineering

LAB PARTICIPANTS

- Team Architects
 - Ardouin, Théo
 - Couillaud, Benjamin
 - Onete Bogdan, Gabriel
 - Rajamundry Ajay, Kumar
- Team Front-End Developers
 - Al-Ghareeb, Meelad
 - Darchy, Olivier
 - Deschamps, Maxime
 - Qasim, Muhammad
- Team Management
 - Neubauer, Adrian (Scrum Master)
 - Sarda, Jean (Product Owner)
- Team Back-End Developers
 - Carlsson, Fredrik
 - Eriksson, Klas-Göran
 - Milox, Thomas
 - Prenat, Hugo
- Team Darter (Testers)
 - Darsi, Venkata Narayana
 - Kasprzak, Milan
 - Lacour, Arthur
 - Nirmal, Kumar
- Team NARMS
 - Rolland, Paul
 - Atokaran, Edwin Thomas
 - Ganta, Jitendra

IMAGE SOURCES

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