Acronym: UniAcmapView

Project: # Universal Active Aircraft Viewer with Map

Doctype: **Requirements**

Author: **Kai Warendorf**
Contact: Kai.Warendorf@hs-esslingen.de

Client: Esslingen University
Contact: Faculty of Information Technology

Version: 2.0
Date: 9 Sept. 2017

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Chapter 1

Project Drivers

1.1 Purpose of the Project

1.1.1 Vision Statement

This project aims at developing an application that shows the active aircraft in range of the ADS-B receiver on a map provided by a web server.

1.1.2 Project Outcomes

The Java application reads aircraft messages.

The Java application decodes aircraft messages.

The Java application transforms aircraft message data into aircraft data.

The Java application displays decoded aircraft data.

The Java application displays the aircraft in range on a map.

The Java application changes the map location.

1.1.3 Learning Objectives

After having completed this project, as student, you can ...

- develop integrate map apis.
- develop simple map applications.

1.2 Stakeholders

1.2.1 Project Team

Various members and roles.

1.2.2 Product Users

Local Flight Control Engineer, User. Priority: **Key User**.

Chapter 2

Functional Requirements

2.1 Functional Requirements

UniAcMapView.F.10 Start UniAcMapView essential

Feature In order to get an overview of the local flight traffic, as a flight control engineer, I want to be able to observe the aircraft that are currently in range.

Scenario

Given the application is off

When I start the application

Then the application should shows the aircrafts in range on a map

UniAcMapView.F.40 Observe Aircrafts on Map essential

Feature In order to get an overview of the local flight traffic, as a flight control engineer, I want to be able to observe the aircrafts on a map.

Scenario

Given an aircraft

When the aircraft is in range of the map center

Then it shall be shown as a plane on the map at its correct position

UniAcMapView.F.50 Change Map Center Coordinates essential

Feature In order to get an overview of other places on earth, as a flight control engineer, I want to be able to change the center of the map.

Scenario

Given the map

When I change the map center by entering new LatLon in the provided fields

Then the new center shall be shown on the map and display all planes in range

UniAcMapView.F.55 Change Map Center Interactively essential

Feature In order to get an overview of other places on earth, as a flight control engineer, I want to be able to change the center of the map with a simple click

Scenario

Given the map

When I change the map center by clicking on the new center location

Then the new center shall be shown on the map and display all planes in range

Chapter 3

Non-Functional Requirements

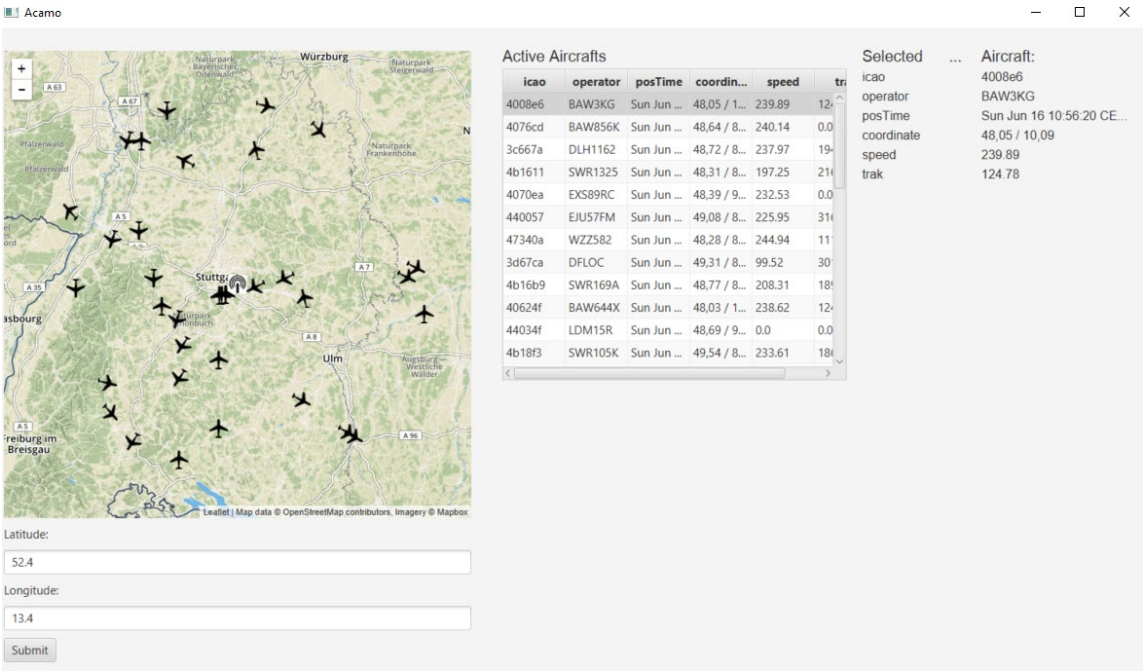
3.1 Look and Feel Requirements

UniAcMapView.NF.10 Graphical User Interface (GUI) essential

Feature The application user interface shall be realized as graphical user interface with a map.

Feature : Existing Functionality from AcMapView The GUI window shall be organized in terms of a list of the aircrafts in range, the map and a pane for the selected aircraft.

Feature : New Functionality in UniAcMapView The display of the change location fields and button in the GUI shall be according to the figure below.



3.1 Performance Requirements

UniAcMapView.NF.20 Timing **essential**

Feature The list of active aircraft shall be updated at least once per second.

3.2 Implementation-Specific Requirements

UniAcMapView.NF.50 Test Driven Development **essential**

In order to ascertain sufficient testing of the product, the implementation must be carried out following a test-driven development approach.

3.4 Maintainability Requirements

UniAcMapView.NF.70 Documentation **essential**

In order to ascertain high understandability, the source code must be self-explanatory.

UniAcMapView.NF.80 Cohesion and Coupling **essential**

In order to support high maintainability, the modules of the system must be realized with high-cohesion and low coupling.

UniAcMapView.NF.90 OO Design Principles **essential**

In order to support high maintainability, the other well-known principles of good object-oriented design must also be applied.