Appendix 4 – Technical Documentation

Module: BTX8221 – Bachelor Thesis
Project: Firecard, Appointment System for MIDATA
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Version: 1.0
Date: 16.06.2022

1 Introduction

This document aims to help you test the Firecard application, as well as to provide useful information for those who would like to take over the project.

2 Used Tools

In this section, you will find all the tools with their version number useful for the good functioning of the project. If you want to run the Source Code or run Firecard on a simulator, you will need it.

Tools	***Versions***
Windows 11 Professional	21H2
Android Studio	Chipmunk 2021.2.1 Patch 1
Android SDK Platform 30	30 Rev 3
Google Play Intel x86 Atom_64 System Image	30 Rev 10
Android SDK Build-Tools 33	30.0.2
Android SDK Command-line Tools	6.0
Android Emulator	31.2.9
Android Emulator Hypervisor Driver for AMD Processors	1.8.0
Eclipse Temurin JDK Hotspot x64	11.0.12.101
Node.js	16.14.2

3 Used Packages

In this section, you will find all packages used in Firecard with their version number. You can also find them in P27_firecard/firecard_code/package.json.

```
"dependencies": {
    "@i4mi/fhir_r4": "^1.1.0",
    "@react-native-community/datetimepicker": "6.1.2",
    "@react-navigation/bottom-tabs": "^6.3.1",
    "@react-navigation/native": "^6.0.10",
    "@react-navigation/native-stack": "^6.6.1",
    "@reduxjs/toolkit": "^1.8.1",
    "expo": ">=45.0.0-0 <46.0.0",
    "expo-calendar": "~10.2.0",
    "js-sha256": "^0.9.0",
    "moment": "^2.29.2",
    "native-base": "^3.4.1",
    "react": "^17.0.2",
    "react-native": "0.68.0",
    "react-native-app-auth": "^6.4.3",
    "react-native-bootsplash": "^4.1.5",
    "react-native-calendars": "^1.1275.0",
    "react-native-config": "^1.4.5",
    "react-native-safe-area-context": "^4.2.4",
    "react-native-screens": "^3.13.1",
    "react-native-sensitive-info": "^5.5.8",
    "react-native-svg": "^12.3.0",
    "react-native-uuid": "^2.0.1",
    "react-native-vector-icons": "^9.1.0",
    "react-redux": "^8.0.0",
    "redux": "^4.1.2",
    "redux-persist": "^6.0.0",
    "redux-persist-sensitive-storage": "^1.0.0"
  }
```

4 How to Run Firecard on a Smartphone

Installing Firecard on an Android smartphone is simple. Before, you should enable developer mode. Follow the first chapter of this website: https://developer.android.com/studio/debug/dev-options#apps

Next, follow these instructions:

1. Open the Android settings.
2. Search “Install unknown apps”.
3. Click on it. Here you must select the file explorer application of your device, and you have to allow it to install from this source.
4. Unzip the APK file in P27_firecard/firecard_APK/app-debug.zip, and transfer it on the smartphone.
5. Go to the file explorer and click on the file. It should prompt a dialogue asking if you want to install the application.

Firecard should have been installed.

5 Setting up the Environment

If you intend to run Firecard on an Android Simulator or by running the source code, you should follow these instructions (Please refer to Used Tools section for the versions):

1. Install Node.js and a Java JDK 11.
2. Install Android Studio.
    a. Go to the SDK Manager in Android Studio.
    b. Make sure that under SDK Platforms/Android 11.0 (R) the following items are checked:
        i. Android SDK Platform 30.
        ii. Google Play Intel x86 Atom_64 System Image.
    c. Make sure that under SDK Tools/Android SDK Build-Tools 33 the following item is checked:
        i. 30.0.2.
    d. Make sure that under SDK Tools/Android SDK Command-line Tools (latest) the following item is checked:
        i. Android SDK Command-line Tools 6.0.
3. Open the Virtual Device Manager of Android Studio.
    a. Click on create device.
    b. Choose Phone > Pixel 4. Then click next.
    c. In the x86 Images tab, you should see: R, 30, x86_76, Android 11.0 (Google Play), without the download annotation. Select it.
    d. Then, click next and finish.
4. Open https://reactnative.dev/docs/environment-setup and follows the chapter 3 and 4.

5.1 How to Run Firecard on a Simulator

If you want to run Firecard on your Android simulator, you should follow these instructions:

1. Launch your virtual device from the Device Manager.
2. Click on the start button if the screen is black.
3. Unzip the APK file in P27_firecard/firecard_APK/app-debug.zip.
4. Open a terminal prompt in P27_firecard/firecard_APK.
5. Execute: adb install .\app-debug.apk

6. You should find the Firecard application on the virtual device.

5.2 How to Run Firecard Source Code

If you want to run Firecard source code on your Android Simulator, you should follow these instructions:

1. Launch your virtual device from the Device Manager.
2. Click on the start button if the screen is black.
3. Open a terminal prompt in P27_firecard/firecard_code.
4. Execute: npm install. It will install all the dependencies.
5. Execute: npx react-native start. If it asks if you want to install react-native say yes. It should launch a program with a big blue M in the terminal.
6. Open another terminal prompt in P27_fire/firecard_code.
7. Execute: npx react-native run-android. It will compile the app and send it to the virtual device.

6 MIDATA Test Account

Here are two test accounts with some appointment in it.

Users	***Emails***	***Passwords***
Jean Sebastien	jean.sebastien@test.ch	Pa$$w0rd
Marc Henri	marc.henri@test.ch	Pa$$w0rd

7 Version control

Versions	***Dates***	***Descriptions***	***Authors***
v1.0	16.06.2022	First draft.	Fahrni Alex