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Centennial College

School of Engineering Technology and Applied Science

Electronics Engineering Technology

Design Documentation

Samsung Android App Development



e-touchcare

Group: Team One

Toronto, December 2016

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- MARVEL HIGH FIDELITY PROTOTYPE:

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Team One:

- Jose Apablaza -300823547
- Guilherme Morais - 300878610
- Wenzhong Zheng -300909195

Title:

eTouchCare

Project Description:

eTouchCare is the new Clinical App design for Doctors and Nurses that allows them access to their patient records. It provides patient information and allows several functionalities through an interactive, easy-use interface. The implemented functionalities are access to the patient information, and three edition methods: create new attributes, and edit or delete the ones that already exist.

Analysis:

Project Description:

Monitor and Manage patient's records within a clinical environment. Online Database accessible from different platforms; the Mobile Phone implementation provides the user a portable and intuitive accessibility. Safe time and resources when it comes to review or edit patient's records. Considering this information, we can affirm the final goal of this app points to increase the quality of the clinical service and to make the clinical service more efficient by saving time and resources during the data storage and manage processes.

Target:

- Target Devices:

Android

- Target Markets:

Private Companies and Government Institutions.

Employees within any clinical environment who need to work with an interface in order to access to their patient's records. Specially dedicated for active staff within the health context, meaning it is being designed as a portable interface to help doctors and nurses in their work, so they can spend more time providing a better health service to the patients. This app does not mean to compete with other solutions deployed in any Desktop platform or system.

Worldwide users. Internationalization → English and French.

Professionals from 18 to 65 years.

Mobile Phone Expertise → Basic Interaction: navigation and tipping.

- Final Persona:

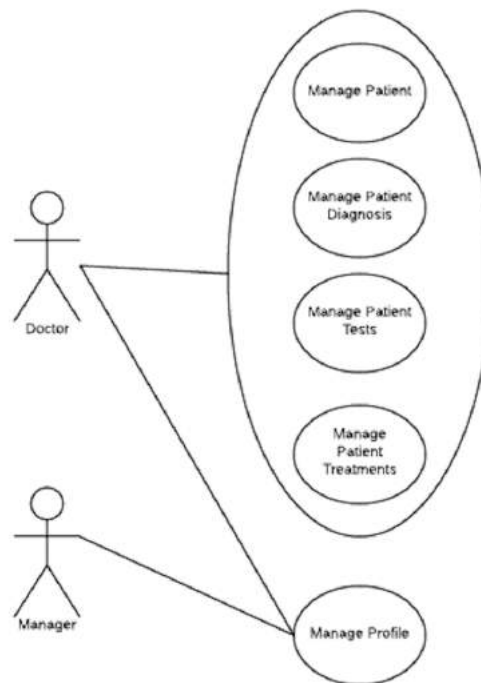
Doctors and Nurses. Might be extended to other qualify staff.

From 18 to 65 years old.

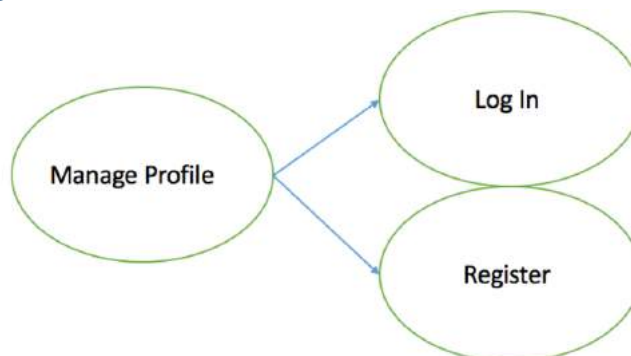
Worldwide. Internationalization → English and French.

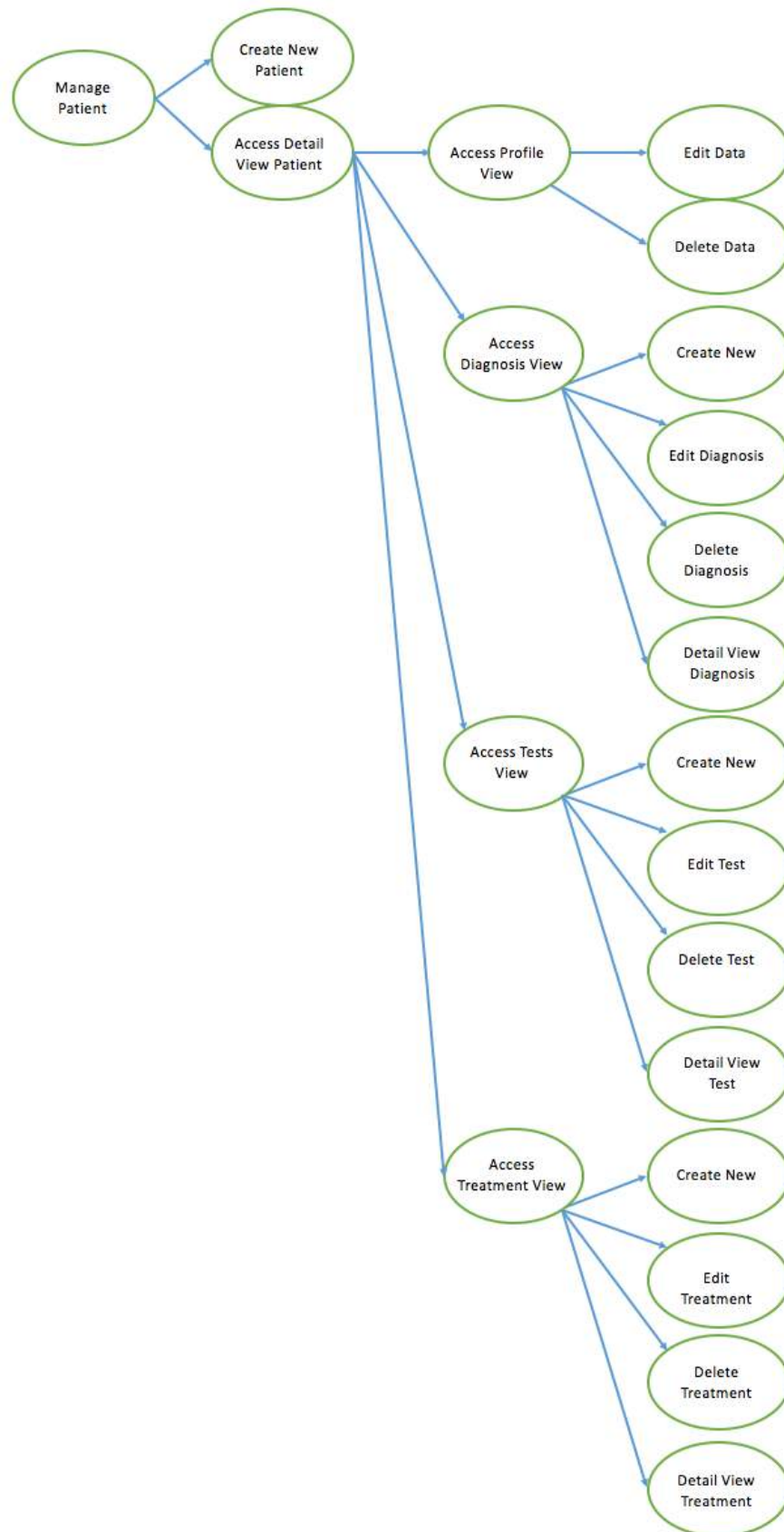
Use Cases:

- Main Use Case Diagram:



- User Cases Diagram:





User Stories:

As a Doctor I am in the elevator of the hospital/clinic heading to the patient's room, I want to review his/her case before get there.

As Doctor/Nurse working in the Emergency Area, I want to create and manage the patient's record asap.

As a Nurse after leaving the lab, I want to update the patient's tests records on my way to my next task, without stopping by in the office.

Future Considerations:

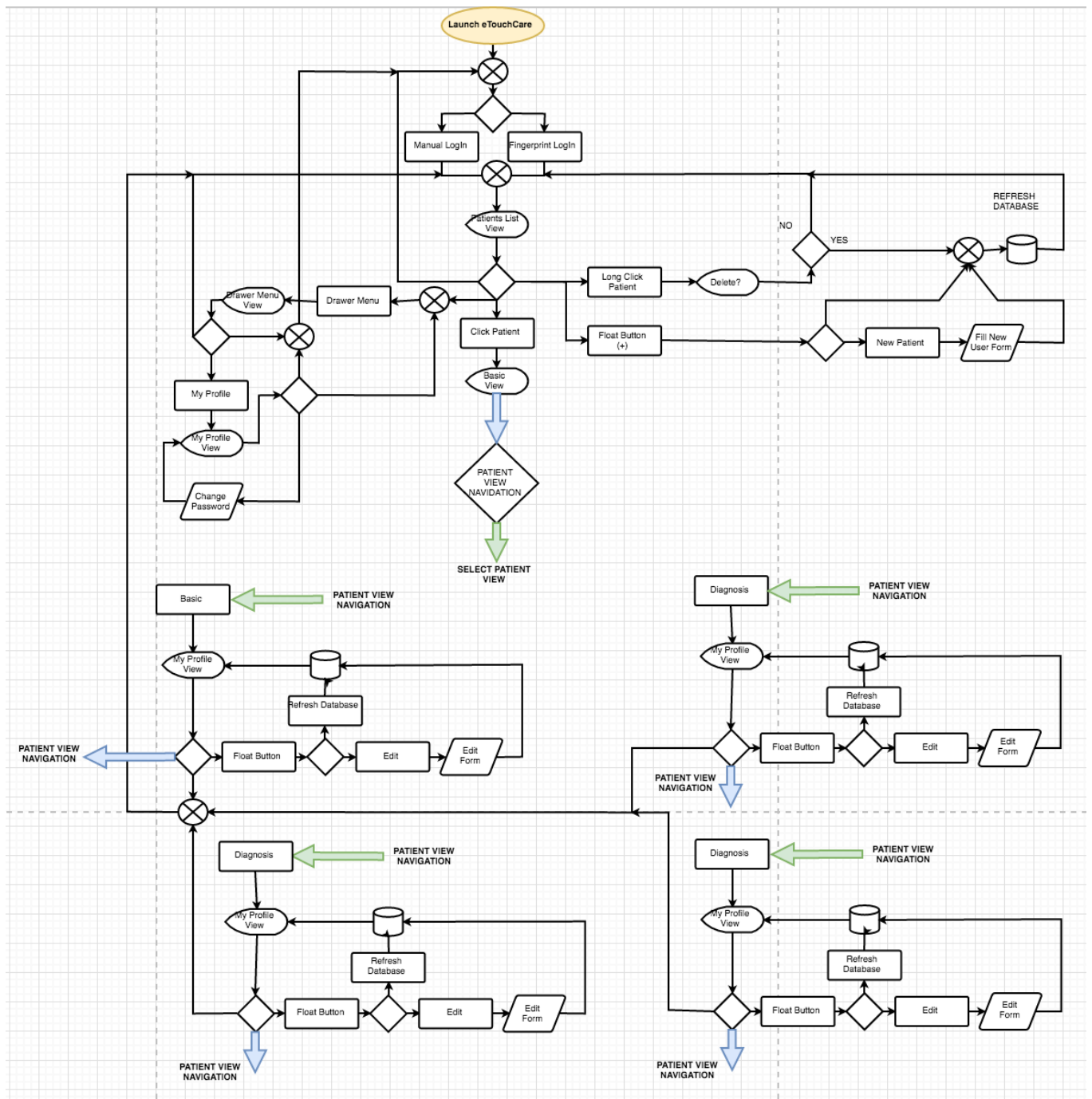
Monetization:

This app won't have a direct monetization approach; it is not the purpose. However, it will implement several upgrades in the future that will raise the staff qualification what increase the Hospital/Clinic value. Meaning the organization will be increasing their business value by implementing the following indirect monetization feature.

Develop an Academic feature for the faculty that will provide access to documentation, news and a web training platform. This way any user will have access to resources that will increase their qualification and knowledge.

Design:

Flow Diagrams:



Interaction Design & User eXperience Design:

- Information Architecture:

The interface structure and navigation scheme. The decisions regarding how to perform this tasks are strongly related with our Database design. Both designs have as a common goal to satisfy the corporate business strategy and user experience strategy, and to accommodate all use cases and product requirements.

It is required that our App must provide a view where the Patients will be listed. Besides, users need to have access to patient's records. This information must include some Basic/Profile information, Diagnosis, Tests and Treatments.

It is noted that the four sections listed before have been gathered in only one screen improving the accessibility of the information. However, they have been implemented using four different tabs, with the aim of provide not just an intuitive user experience, but a consistency (matches the requirements); and coherence (follows logic information hierarchy, the four section are placed in the same level, and each of them includes detail information).

The navigation and structure diagrams have been included in the Flow Diagram and Use Cases sections of this document.

- Patients

- Get - All : <http://etouch.azurewebsites.net>
- Get - One: <http://etouch.azurewebsites.net/id>
i.e. <https://etouch.azurewebsites.net/582de16906ee352605f29397>
- Post: <http://etouch.azurewebsites.net>
- Delete <http://etouch.azurewebsites.net/id>

- Basic

- Get - All: <https://etouch.azurewebsites.net/patientconditions/all>
- Get – By Patient: <http://etouch.azurewebsites.net/patientconditions/patientId>
- Post: <http://etouch.azurewebsites.net/patientconditions>
- Delete <http://etouch.azurewebsites.net/patientconditions/id>

- Diagnosis

- Get - All: <https://etouch.azurewebsites.net/trials/all>
- Get - One: <http://etouch.azurewebsites.net/trials/id>
i.e. <https://etouch.azurewebsites.net/trials/582f72fe294b6d19fff07d82>
- Post: <http://etouch.azurewebsites.net/trials>
- Delete <http://etouch.azurewebsites.net/trials/id>

- Tests

- Get - All: <https://etouch.azurewebsites.net/patienttests/all>
- Get - One: <http://etouch.azurewebsites.net/patienttests/patientId>
- Post: <http://etouch.azurewebsites.net/patienttests>
- Delete <http://etouch.azurewebsites.net/patienttests/id>

- Treatments

- Get - All: <https://etouch.azurewebsites.net/patienttreatments/all>
- Get – By Patient: <http://etouch.azurewebsites.net/patienttreatments/patientId>
- Post: <http://etouch.azurewebsites.net/patienttreatments>
- Delete <http://etouch.azurewebsites.net/patienttreatments/id>

- Interaction Design:

Design Patterns:

Getting input:

There are two different edition options in our app that require an input data from the patient. On one site, when the user creates a new object (new patient, test, ...) or when the user selects the edit object option on an existing object. In both cases the input data will be executed by tipping inside specific forms, these are clear, and include a predefine type of data as input in any case (date, numerical, text, date).

Navigation:

Considering how busy the clinical staff is, facilitate the navigation within the App is crucial. With this aim, the navigation follows an intuitive pattern base in the swift movement. We use this pattern to navigate through the different sections of a patient records, or to display the Drawer Menu.

Besides, we include click functionalities based on how long the user presses the object. In the Main Patients List you can access to the Detail Patient Records by performing s short click on the label, or you can call the delete object dialog by performing a long click.

Dealing with data:

The information that only belongs to one exclusive section is displayed in the Main detail view as an overview, however it is also displayed (in this case in a deeper way) in the Detail view screen when you want to access in detail to a section or to an object that belongs to that section (Ex. Test 2 from the Test List view from Patient ID: 3).

Onboarding:

It will be implemented in the future. Inside the settings display, a Tutorial tag will link the users to YouTube videos where the different test cases will be display and prove.

- Usability Engineering:

JUnit test classes.

This usability testing affects favorably my ability to maintain neutrality when conducting the app evaluation.

- Visual Design:

We already set the Project goals within this document. Now, inside the visual design description we must remind the final goal is to provide a functional and clear product. Entertain is not the purpose here. That been said, the design includes the company logo as a brand feature, and intends to yield a familiar environment following Android Design Guidelines.

- **Prototype Engineering:**

It is worth stressing that work with prototypes before start the implementation offers a huge opportunity for increasing process efficiency. Tools as Invision and Marvel have played a remarkable role in the App Design.

The prototypes and its description are well described in other sections in this document.

Monetization, Retention and Attrition Design:

- **Monetization:**

This app won't have a direct monetization approach; it is not the purpose. However, it will implement several upgrades in the future that will raise the staff qualification what increase the Hospital/Clinic value. Meaning the organization will be increasing their business value by implementing the following indirect monetization feature.

Develop an Academic feature for the faculty that will provide access to documentation, news and a web training platform. This way any user will have access to resources that will increase their qualification and knowledge.

- **Retention:**

1. Satisfy all the company requirements means this solution will be implemented and supported by them.
2. Provide in-App training to the IT department of the Clinic/Hospital will be fundamental to provide a good support to users.
3. Keep improving your app with elements as the mention onboard feature will increase the company satisfaction.

Onboarding Design:

It will be implemented in the future. Inside the settings display, a Tutorial tag will link the users to YouTube videos where the different test cases will be display and prove.



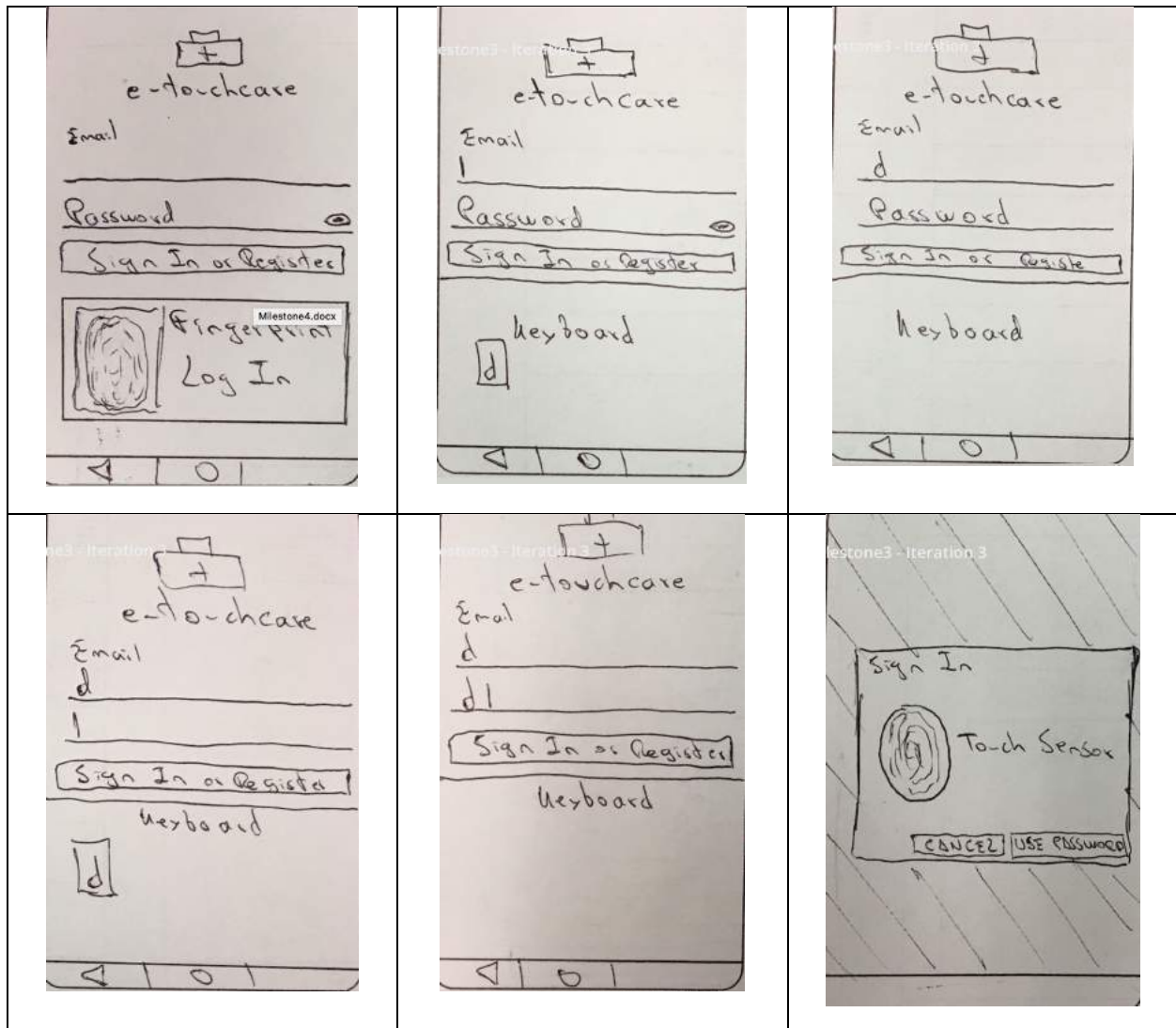
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Testing:

Paper Prototype:

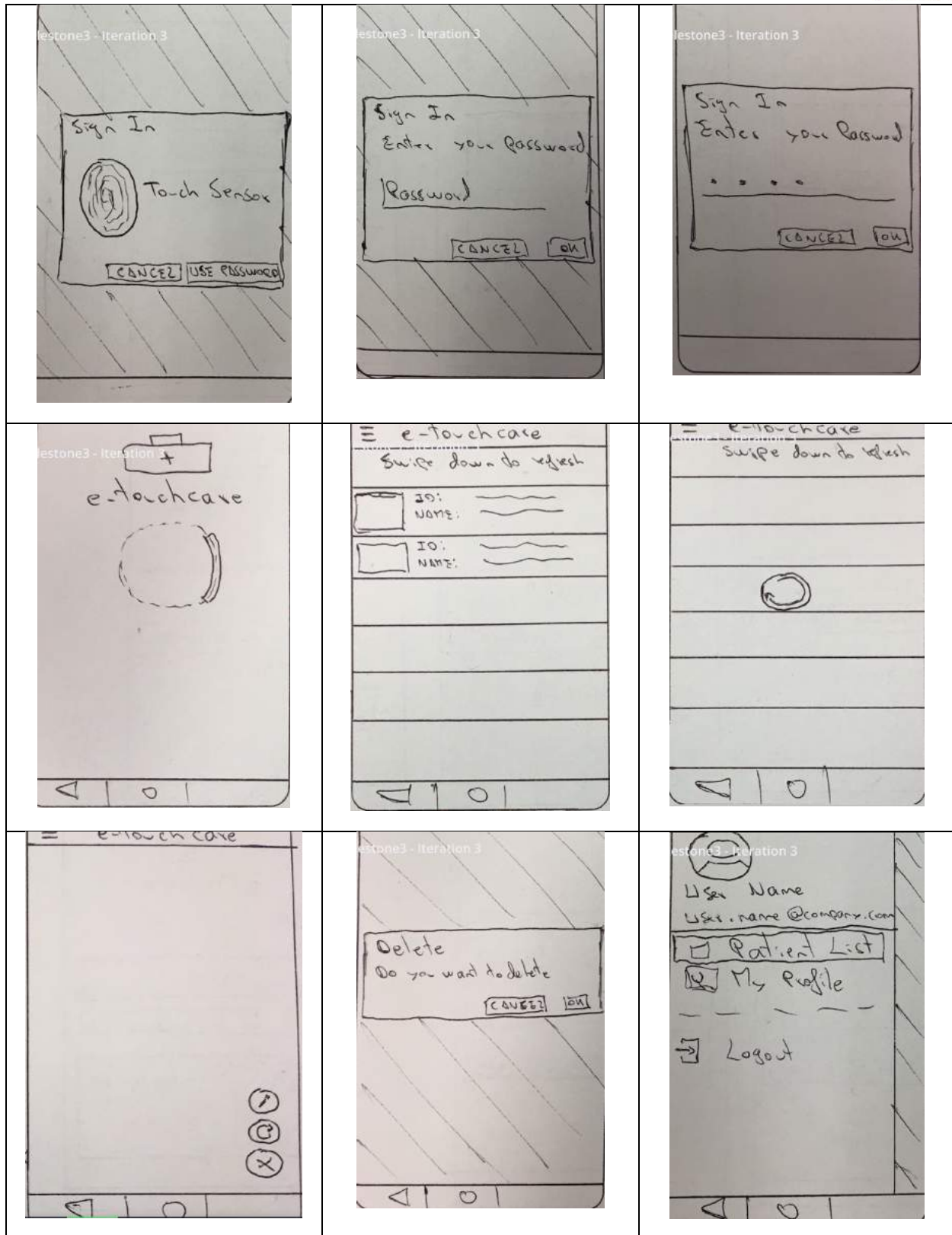




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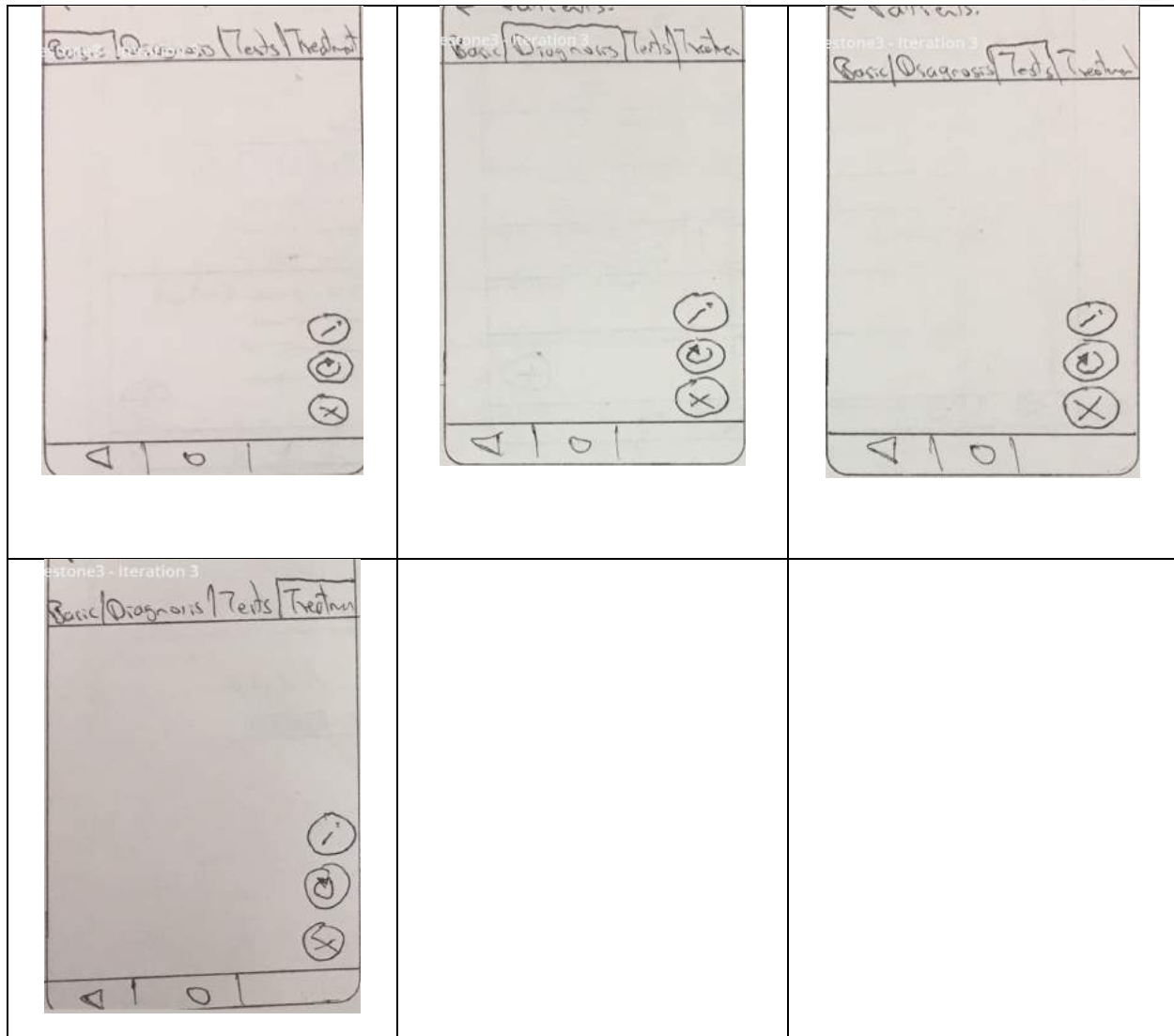
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Clickable Prototype Wireframes:

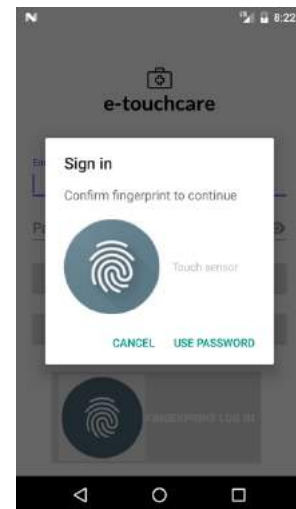
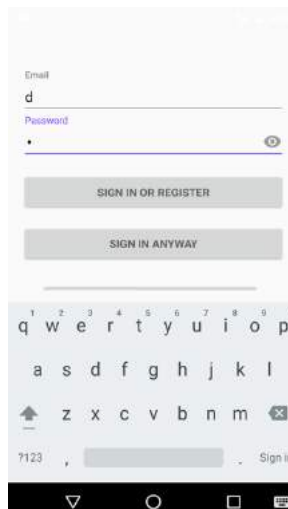
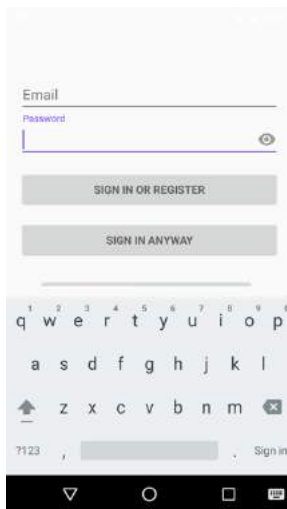
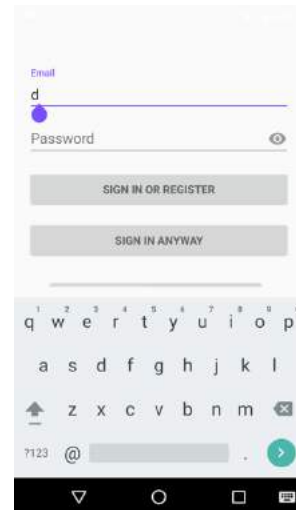
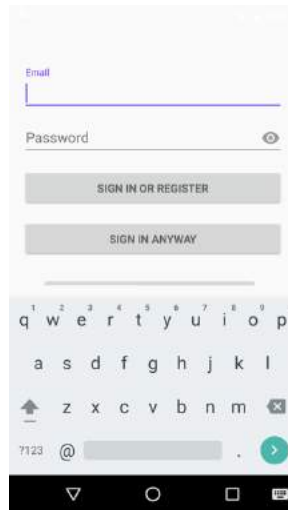
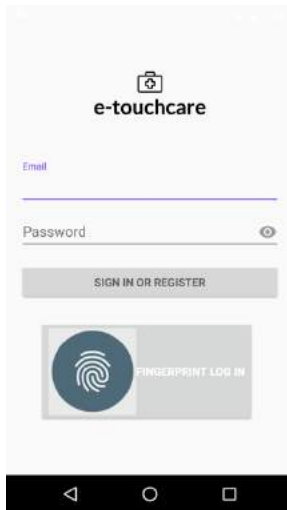
- Marvel Paper Prototype:
→ <https://marvelapp.com/1367f30>
- Marvel High Fidelity Prototype:
→ <https://marvelapp.com/133g0cf>

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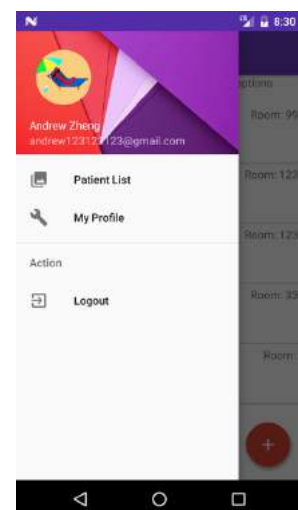
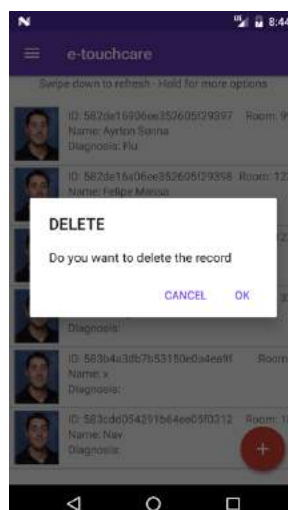
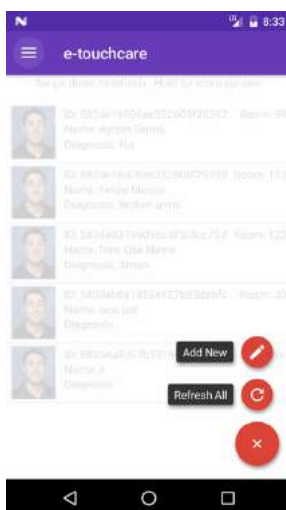
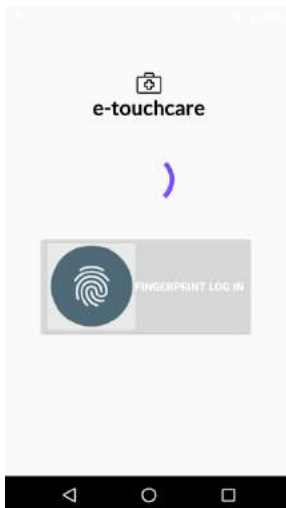
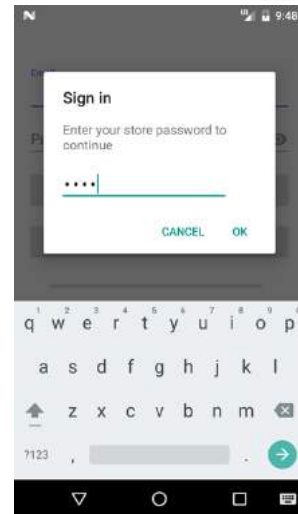
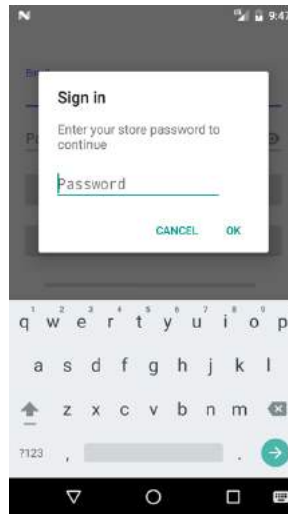
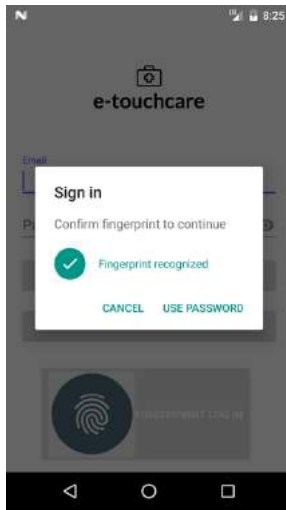
Visual & High Fidelity:



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Andrew Zheng
 andrew123456@gmail.com
 ★★★★★


Current Password

New Password

Confirm New Password

SUBMIT

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 Andrew Zheng
 andrew123456@gmail.com

Patient List

My Profile

Action

Logout

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Patient

Name:

Condition:

Age:

Room:

Contact Information

q w e r t y u i o p
 a s d f g h j k l
 z x c v b n m

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Condition: **Successful**

Age: **18**

Room: **66**

Contact Information

Email: **nav@scorpion.com**

Phone: **6123450789**

Address: **unknown st, Toronto**

Emergency Contact

Name: **Wife**

Phone: **6987054321**

ADD

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Swipe down to refresh - Hold for more options

ID: 582de16905ee352605f29397 Room: 99
 Name: Ayrton Senna
 Diagnosis: Flu

ID: 582de16a06ee352605f29398 Room: 123
 Name: Felipe Massa
 Diagnosis: Broken arms

ID: 5838e83799d96c4f5c8cc75d Room: 123
 Name: New One Name
 Diagnosis: Stress

ID: 5838e8a1452e927b55debfc Room: 33
 Name: new pat
 Diagnosis:

ID: 583b4a3db7b53150e0a4ea9f Room:
 Name: x
 Diagnosis:

ID: 583cdd054291b64ee05f0312 Room: 18
 Name: Nav
 Diagnosis:

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Patients

BASIC **DIAGNOSIS** **TESTS** **TREATMENT**


 ID: 583cdd054291b64ee05f0312
 Name: Nav
 Age: 28
 Room: 18

Contact Information

Email: andrewwer@gmail.com
 Phone: 1252132542
 Address: 152 Coober Road, Toronto

Emergency Contact

Name: Goshpy Gouba
 Relationship: Friend
 Phone: 1262234521

Patients

BASIC **DIAGNOSIS** **TESTS** **TREATMENT**

Diagnosis

Flu

Symptoms

ID: 5834ac0e6aee2ca1775f6a27
 Detail: This guy is not ok
 Date: 2016-11-19 12:30:00

ID: 5834ac3c6aee2ca1775f6a28
 Detail: This guy can't remember his name
 Date: 2016-11-18 12:30:00

Patients

BASIC **DIAGNOSIS** **TESTS** **TREATMENT**

Tests

ID: 5834804e73a58491ebbcad3f
 Test: Blood Pressure
 Result: OK
 DATE: 2016-11-19 12:30:00

ID: 58348032a294b6d19ff07d86
 Test: Heart Beat Rate
 Result: Failed
 DATE: 2016-11-19 12:30:00

Patients

BASIC **DIAGNOSIS** **TESTS** **TREATMENT**

Treatment Plan

ID: 58386af19112c0157d200d91
 Detail: Treatment 1
 Date: 2016-11-18 12:30:00

ID: 58386af89112c0157d200d92
 Detail: Treatment 2
 Date: 2016-11-18 12:30:00

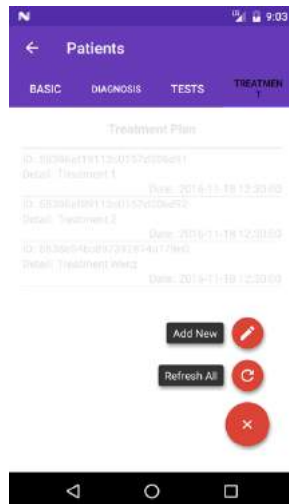
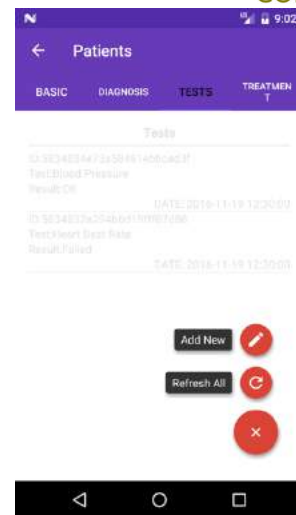
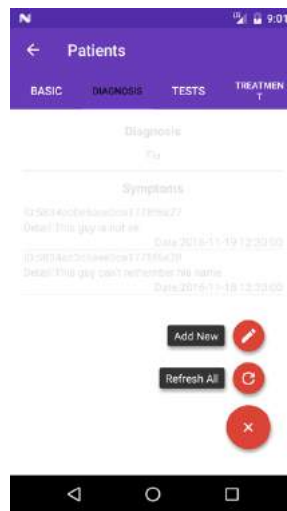
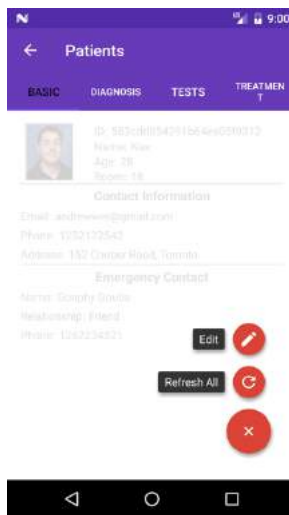
ID: 5838e54bc897392874a179e0
 Detail: Treatment Wenz
 Date: 2016-11-18 12:30:00



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Implementation:

The implementation has been performed according the following steps:

- Individual Paper Prototype.
- Discussion and Invision iterations.
- Final Group Paper Prototype.
- Beta App Implementation.
- Final App Implementation → Full functionality.