



MOBILE TRIAGE APP

DESIGN REPORT

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1. EXECUTIVE SUMMARY

This document is a summary report of the design details represented in the high-fidelity prototype which is interactive and similar to the final application. The prototype is prepared in MockingBot tool that allows collaborative teamwork in its cloud environment.

The purpose of this report is to represent the particular design guidelines for the Mobile Triage App prototype create by our design team that is very much experienced in terms of the last trends of design principles in the world.

Report commences with the design guidelines of every page in the application. This is the main part of the report. Sub-topics are the pages in the application. Under every sub-topic, design details are explained in detail with the necessary screenshots from our final version of the prototype. While explaining the design details for each and every page, essential guidelines is applied for the best usability of the application. Furthermore, Sitemap of the application is added into the Appendix part.

We consider the needs of every type of users who are going to use this application while designing our prototype. Our main aim is to create the simplest design via covering all the most necessary functionalities for the mobile. In the future we are going to make the best wearable design for the particular application.

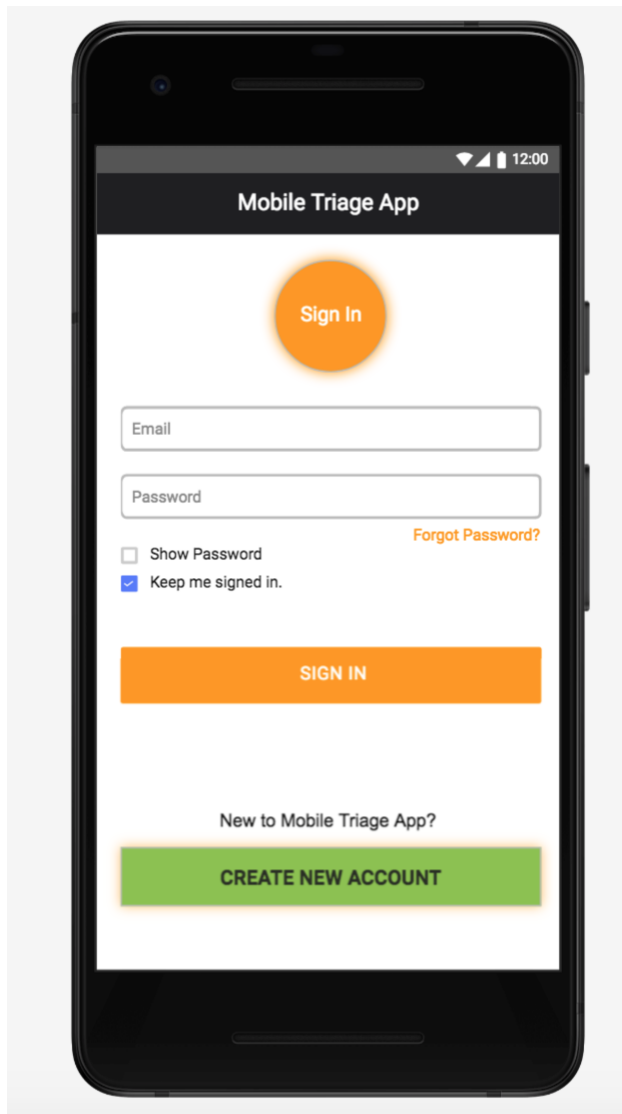
TABLE OF CONTENTS

| | |
|---|-----------|
| 1. DESIGN GUIDELINES | 4 |
| 1.1. SIGN-IN AND SIGN-UP | 4 |
| 1.2. HOME AND NAVIGATION | 11 |
| 1.3. USER PROFILE AND PROFILE EDIT | 12 |
| 1.4. SIEVE | 16 |
| 1.5. SEARCH | 21 |
| 1.6. REPORTS | 25 |
| 1.7. MAP | 28 |
| 2. REFERENCE LIST | 30 |
| 3. APPENDICES | 31 |

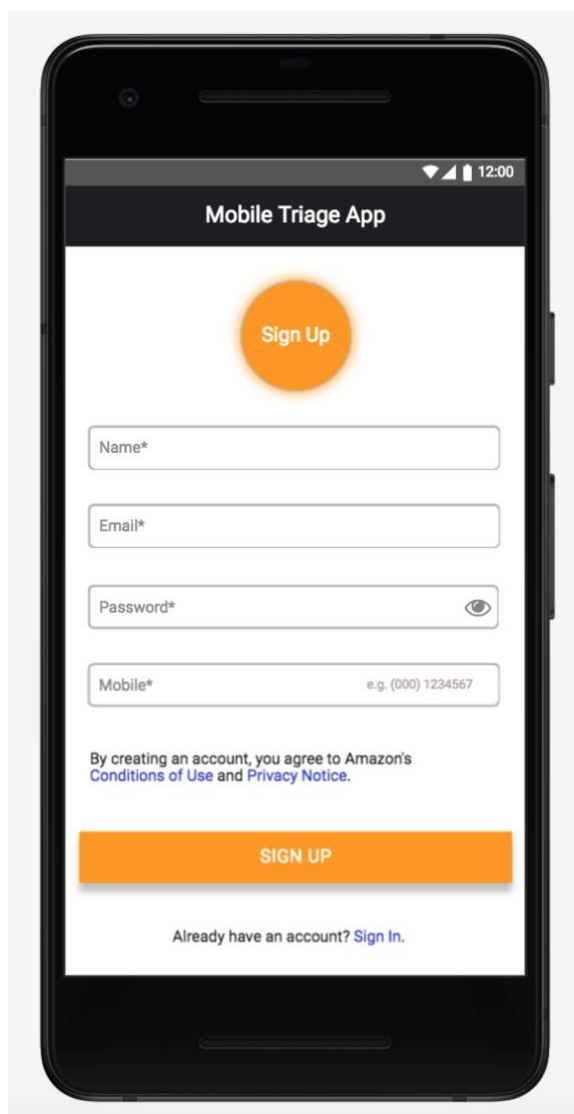
1. DESIGN GUIDELINES

1.1 Sign-in AND Sign-up

Mobile Triage app meets user with Sign-In page once a user initiates the application as depicted in *Screenshot 1.1.a*. If user does not have an existing account, there is an account creation button which redirect him/her to the similar designed Sign-Up page as shown below in *Screenshot 1.1.b*.



Screenshot 1.1.a



Screenshot 1.1.b

In both pages, every item has their own signifier inside and each of them has their own clear specific affordance such as buttons for actions, text areas for input and checkboxes for selections in which in both design pages Conceptual Model is very much considered to help users to complete their desired actions properly. Furthermore, as designers we try to create the design as closer as the contemporary common designs in order to keep reduce the cognitive load of the user via aiming their short-term memories.

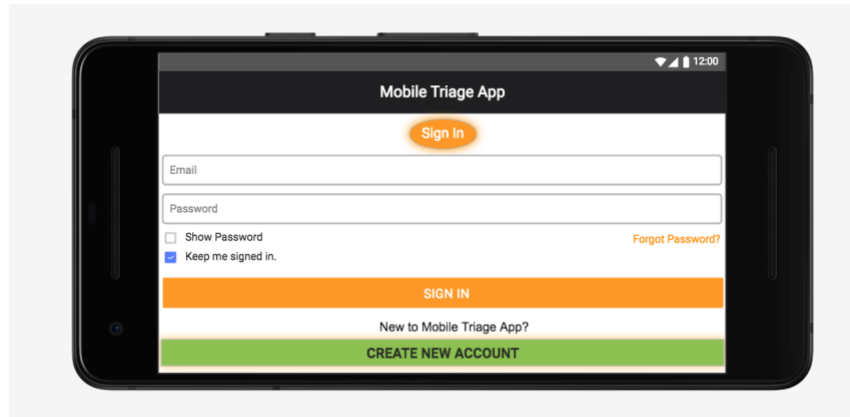
First of all, Sign in page there are minimum options which are the most necessary ones for the users that are Sign-in for existing users and Sign-up for new comers, email/password insertion input text area including hint texts, hide or show the password and save the user credentials checkboxes and forgot password whether the users are forget their password.

Similarly, Sign-up page has minimum options for the users as well. Text input areas for Name, Email, Password and Mobile phone enter in which all are required to be filled. Necessary required signifiers (*) are added with the hint signifiers inside the text areas. Moreover, there is a proper sample mobile phone insertion sample given as an additional hint in Mobile text entrance field. In addition to these, there is a clear Sign-up button for account creation and link to turn back to Sign-in page for redirect to login page without registration.

Furthermore, there is a text information explaining user's acceptance of application Terms of Use having Contextual Navigation inside that redirect users to the related agreement details.

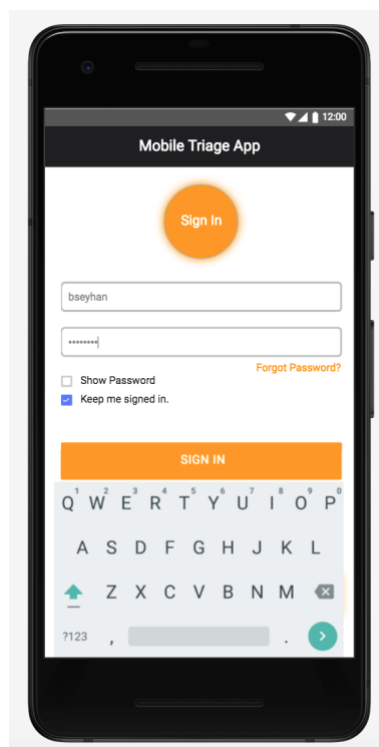
Lastly, as in the Sign-in page, there is an interactive eye icon that enables to show/hide password to the user. Currently, we are monitoring user activities both different options for show/hide password in those pages in order to decide the best option for us.

Landscape mode of the Sign-in page pictured in *Screenshot 1.1.c* below as an example. All pages are particularly responsive for the landscape mode of related devices.



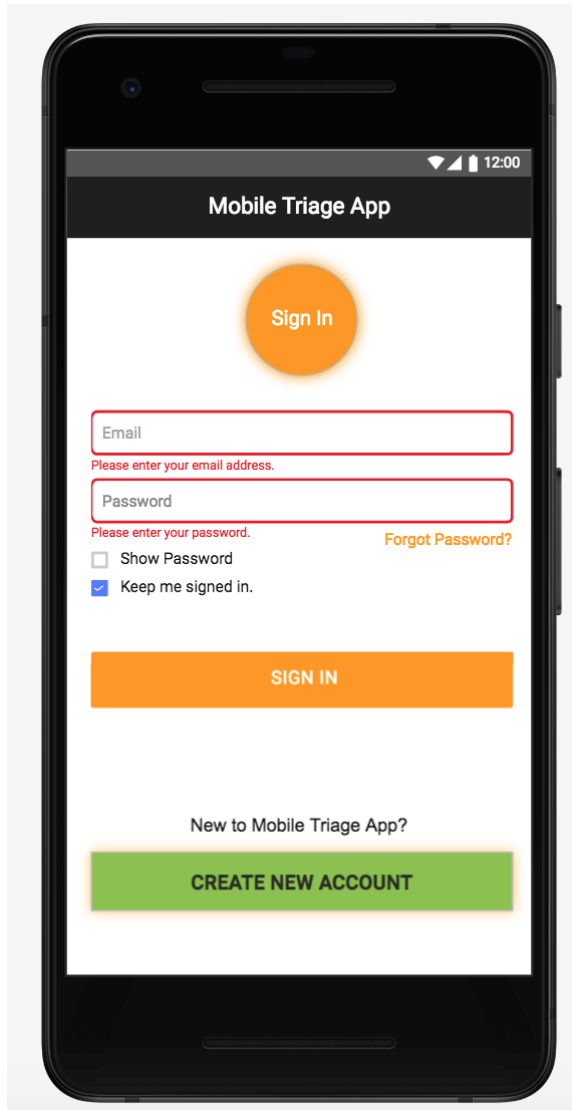
Screenshot 1.1.

Screenshot 1.1.d indicates the Sign-in page while the user entering his/her credentials keyboard.

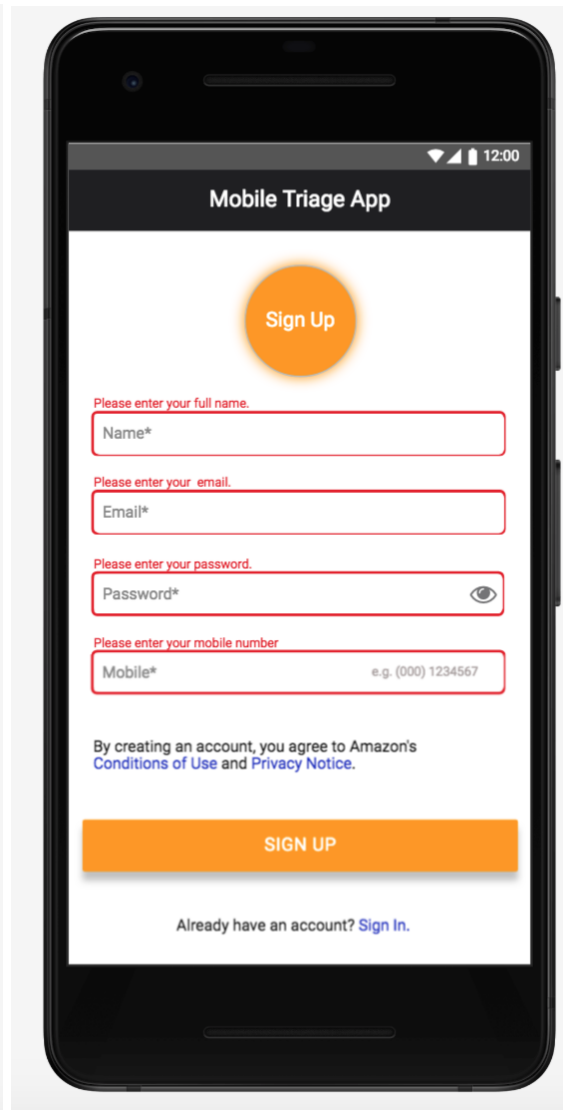


Screenshot 1.1.d

On the other hand, as you see in *Screenshot 1.1.e* and *Screenshot 1.1.f*, for the required text fields there are clear error messages and error correction feedbacks for the users in both of the pages.

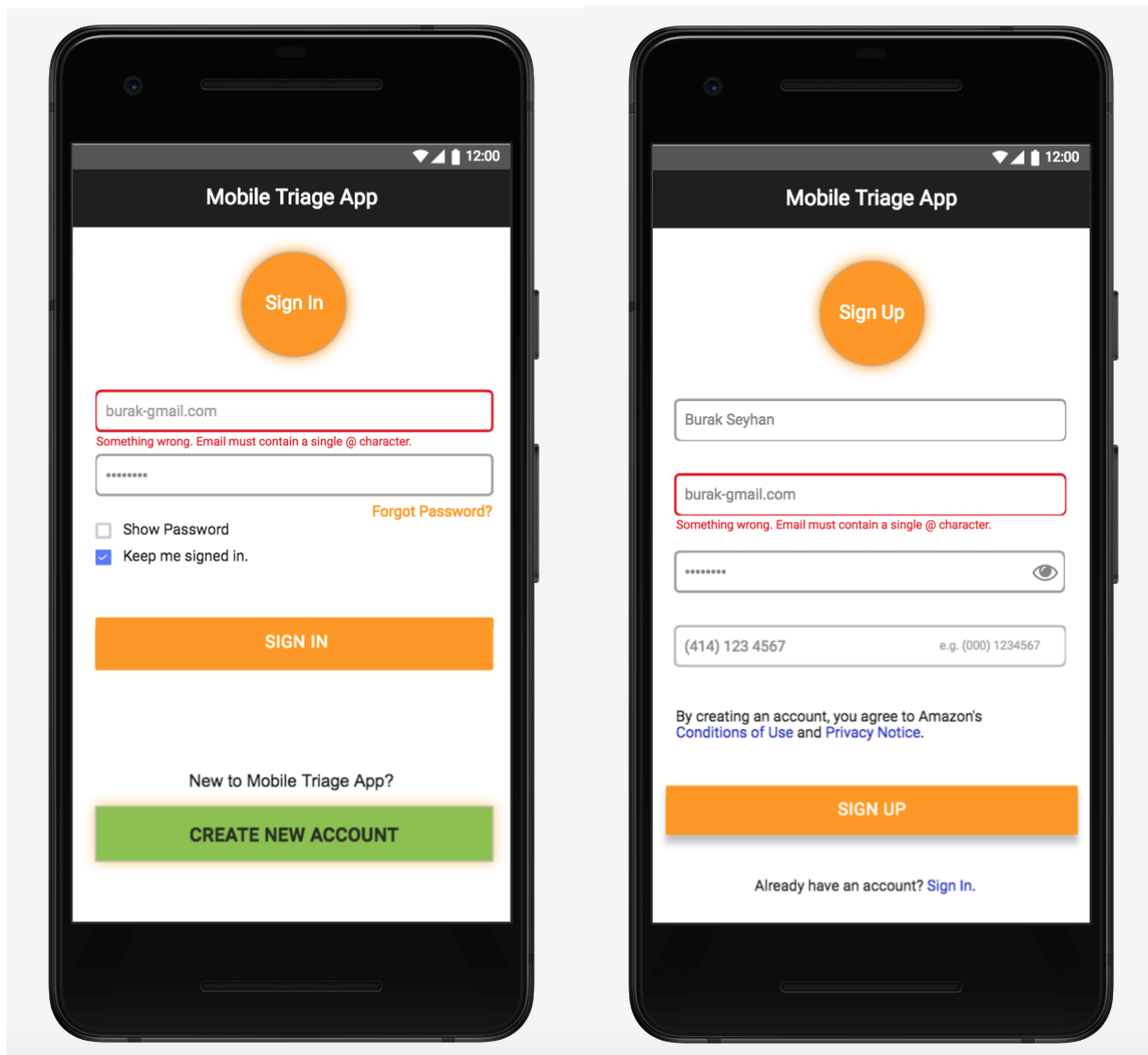


Screenshot 1.1.e



Screenshot 1.1.f

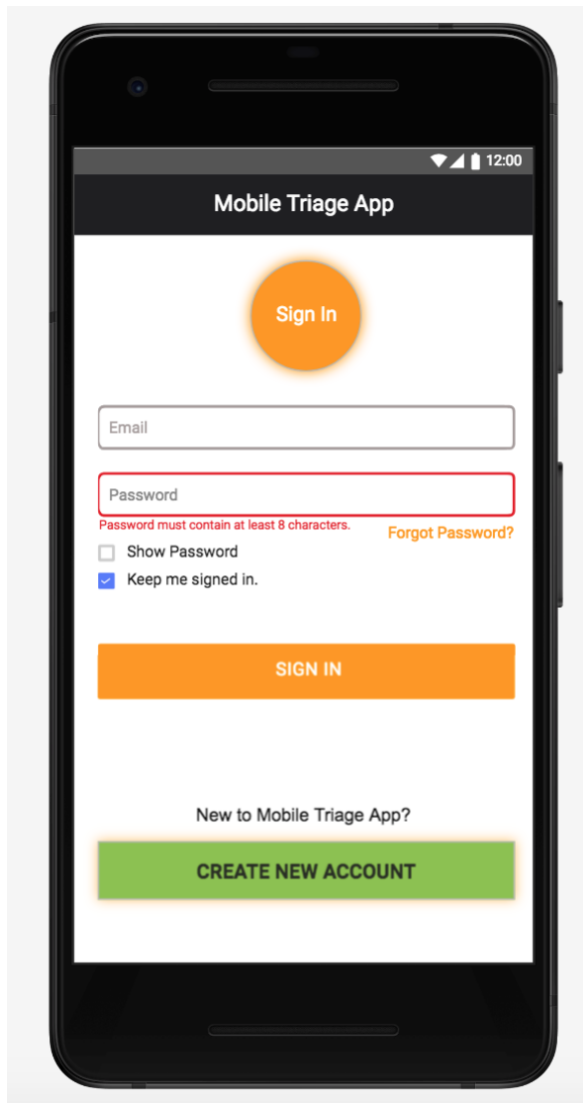
Additionally, there is a very common and necessary validation for Email address entrance with a proper error correction message in both pages indicated in *Screenshot 1.1.g* and *Screenshot 1.1.h*.



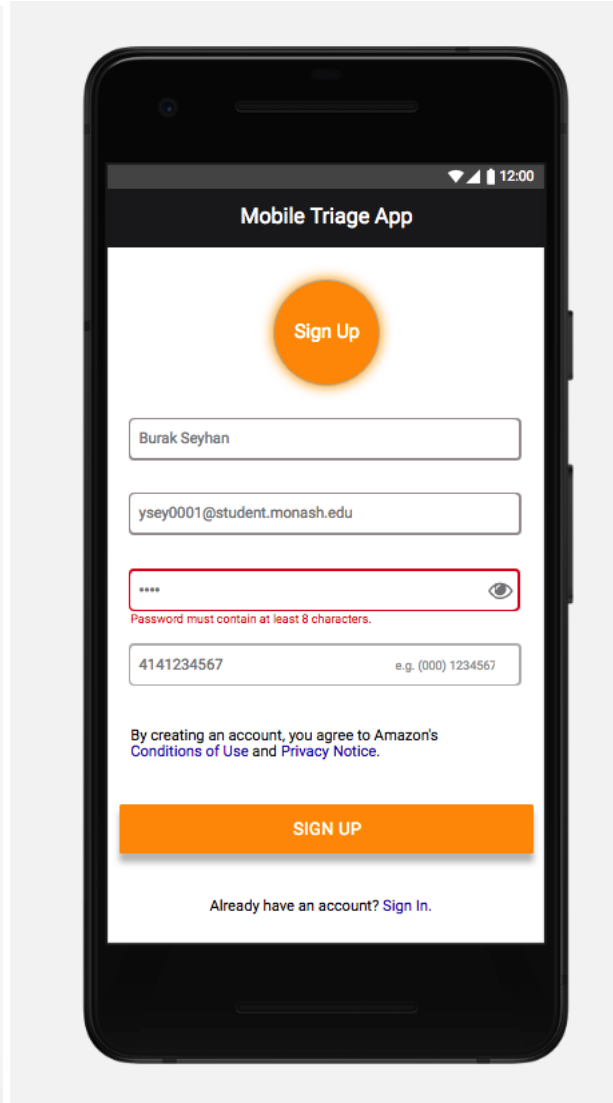
Screenshot 1.1.g

Screenshot 1.1.h

For sustaining better security for the passwords, character count constraint added into the password entrance including necessary error correction messages in the situation of violation as depicted in *Screenshot 1.1.i* and *Screenshot 1.1.j* below.

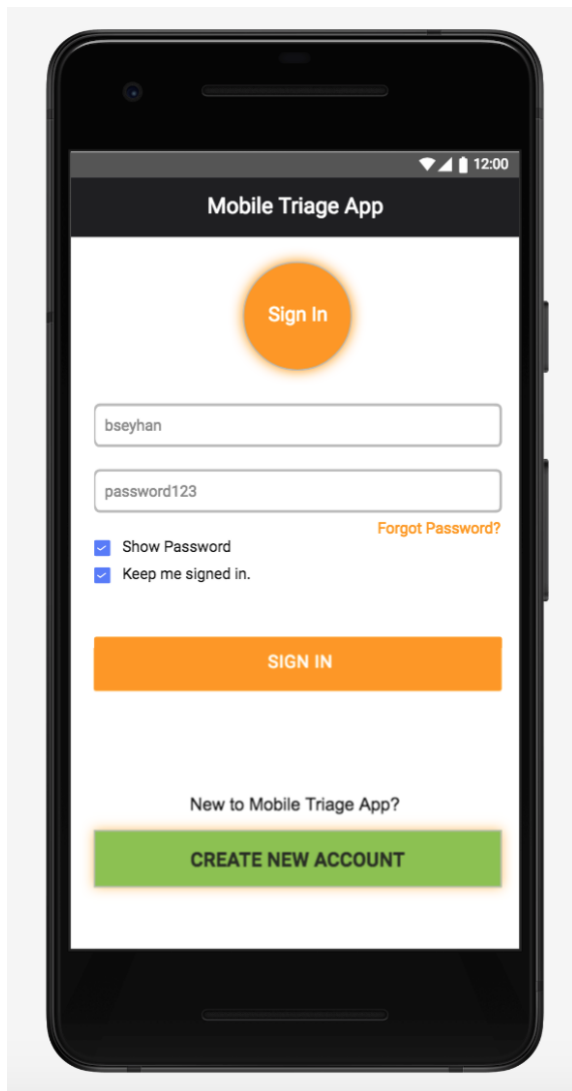


Screenshot 1.1.i

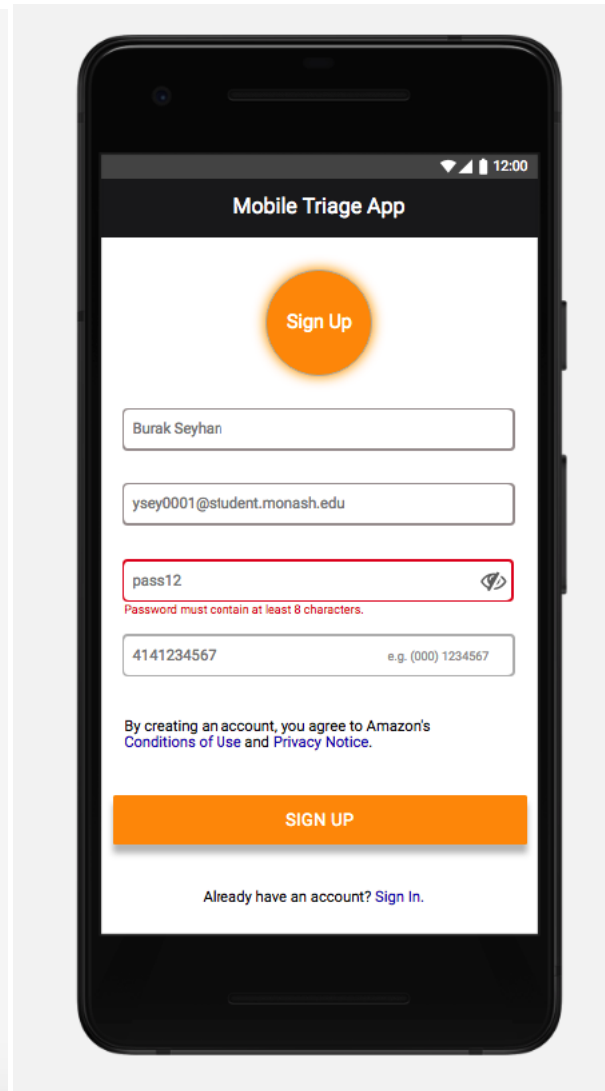


Screenshot 1.1.j

Screenshot 1.1.k and Screenshot 1.1.l shows the enabled password visibility in both Sign-in and Sign-up pages.



Screenshot 1.1.k



Screenshot 1.1.l

Last but not least, Visual Design guidelines are considered throughout the app design. Especially for the colors are selected very carefully in order for users to use the app easily. As designers, we pay attention very much to sufficient color contrast via being aware of color blindness. For example, red is used for error attention. Link texts are made in different colors.

1.2 Home AND Navigation Drawer

Once user logged in to the application, s/he comes to the account home page. In the home page, weather temperature in the particular suburb that user lives with a date/hour information is indicated. Such information is retrieved from user profile. The image is dynamic according to the temperature level (See *Screenshot 1.2.a*).



Screenshot 1.2.a

Screenshot 1.2.b

In home page, there is also side drawer navigation bar on the left-hand side used for primary navigation. It is opening via the hamburger bar icon.

Side drawer consists of logically grouped primary navigation items with related icons along with the name and email information of the user. As indicated in *Screenshot 1.2.b*, it is visible on the home page.

1.3 User Profile and Profile Edit

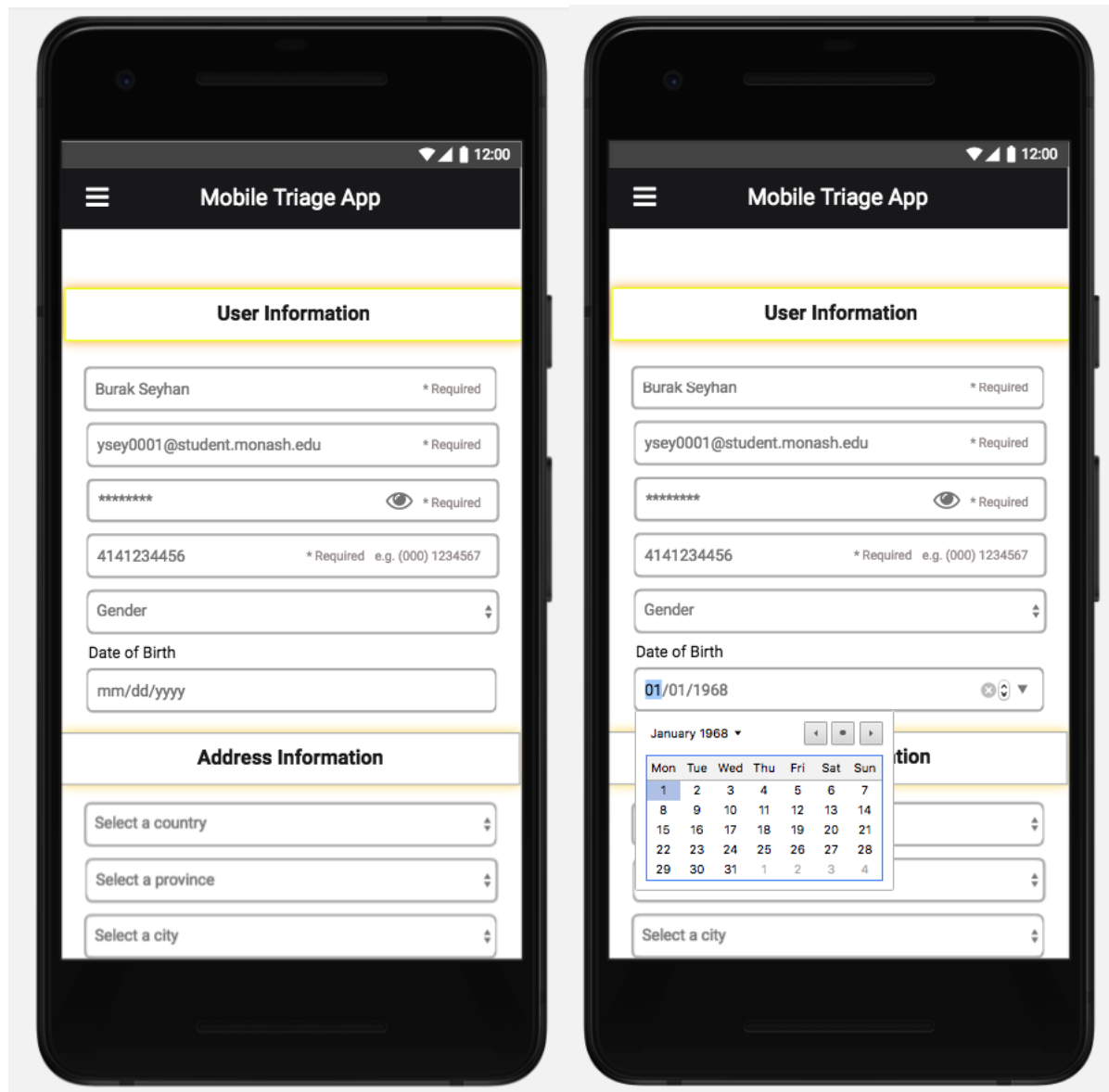
User profile page is similar with account registration page in the application with additional fields for the users in order to get more information from them that are essential data for the business logic. As indicated in *Screenshots* below, form is grouped into two parts logically as User Information and Address Information.

In User Information section, along with the information fields of the register, phone number, gender selection there are two additional fields that are Gender selection and Date of Birth input.

Firstly, name, email, password and mobile fields are already filled with the data retrieved during the registration. All these fields are required and stated specifically as hint text. Moreover, same show password option and mobile entrance help are given to the user likewise in the register. Apart from that, latter fields in the user information section is optional. Also, all the fields have their own specific signifier to guide users for data entrance properly. Gender field is a dropdown selection among the predefined options.

Vertically labelled date of birth field entrance is calendar that is knowledge in the world hence it becomes easier for the users to select their date of birth. You can review these design choices in *Screenshot 1.3.a* and *Screenshot 1.3.b* below.

Arrow icons in dropdown selection fields help users understand field's affordance.

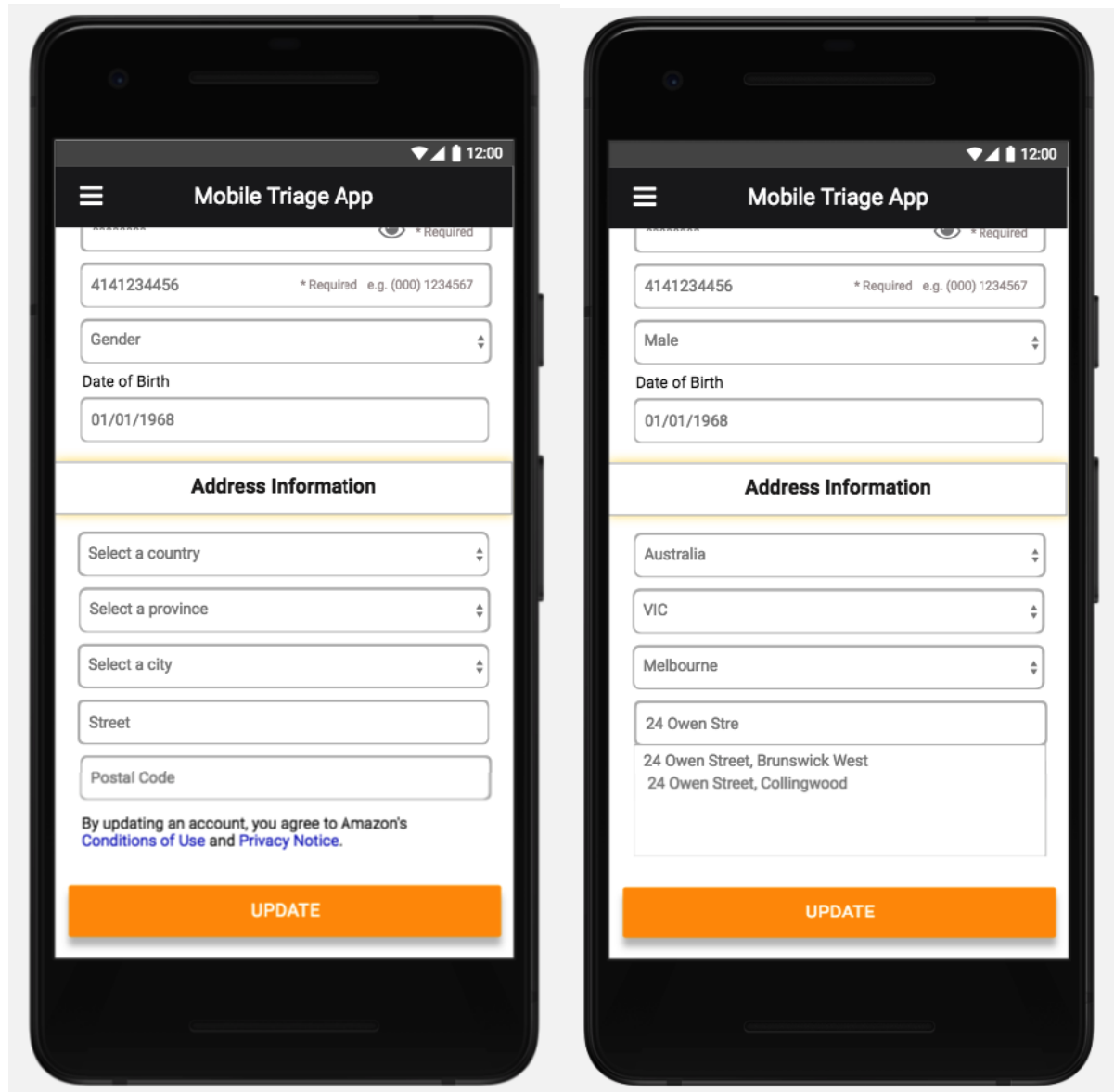


Screenshot 1.3.a

Screenshot 1.3.b

Secondly, Address information section has following options; country, province, city dropdown selections, street information and postal code text area input. All the fields under this section is hierarchical; and each selection filters the subsequent. In addition, street field has its own

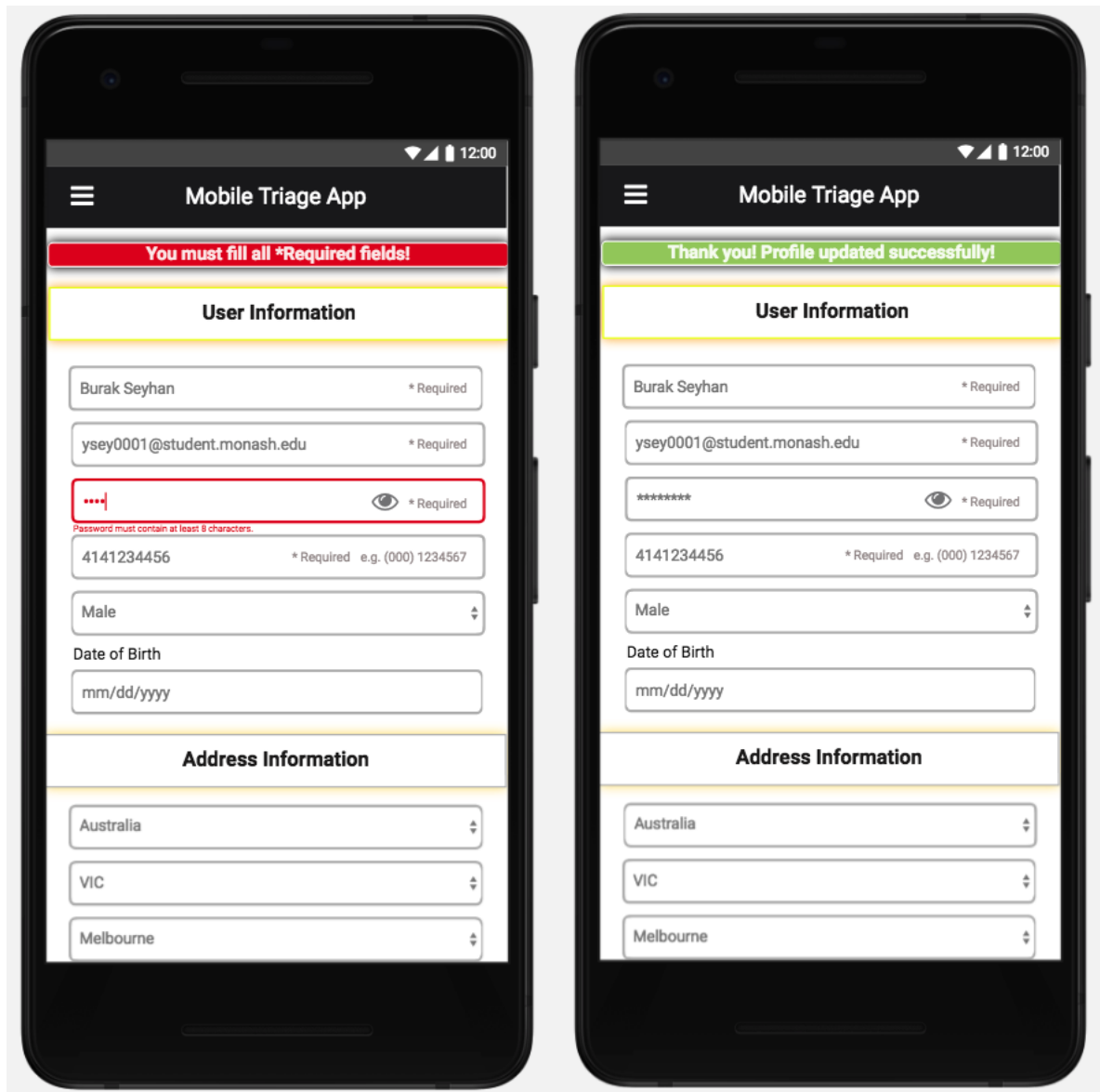
recommendation for the users to aid and minimize data entrance mistakes. You can see the related actions in *Screenshot 1.3.c* and *Screenshot 1.3.d* below.



Screenshot 1.3.c

Screenshot 1.3.d

After user updates the profile with necessary information including the required fields, new information is saved successfully with a smooth thank you feedback message animation with a green color. Otherwise animation becomes alert as depicted in *Screenshot 1.3.e* and *Screenshot 1.3.f* below.



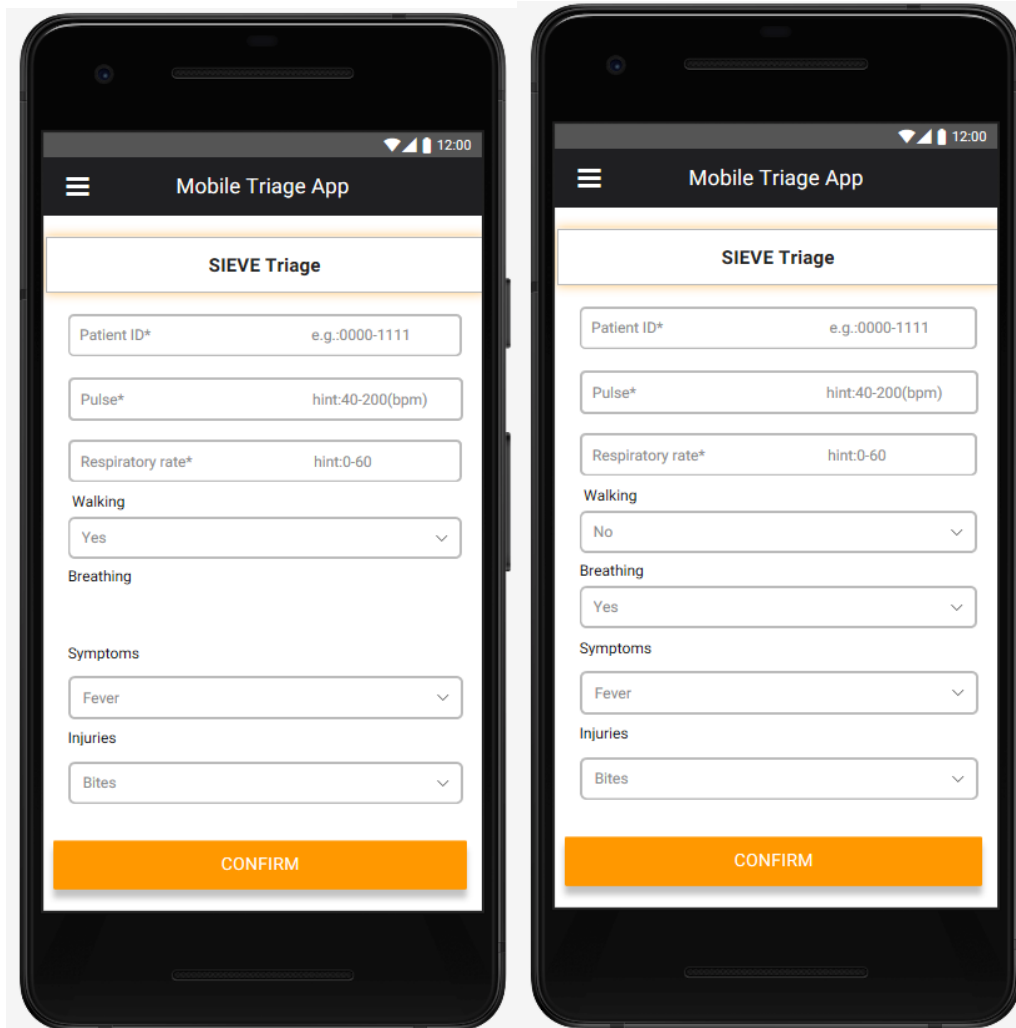
Screenshot 1.3.e

Screenshot 1.3.f

1.4 SIEVE

Sieve triage is a method for dividing users into several scenario by choosing different options, which makes patients can find proper hospital for them in this mobile application (Zahabi, L., 2010). As indicated in *Screenshots* below, form is grouped into three parts logically as Sieve triage main page, error pages and three different results of scenario pages.

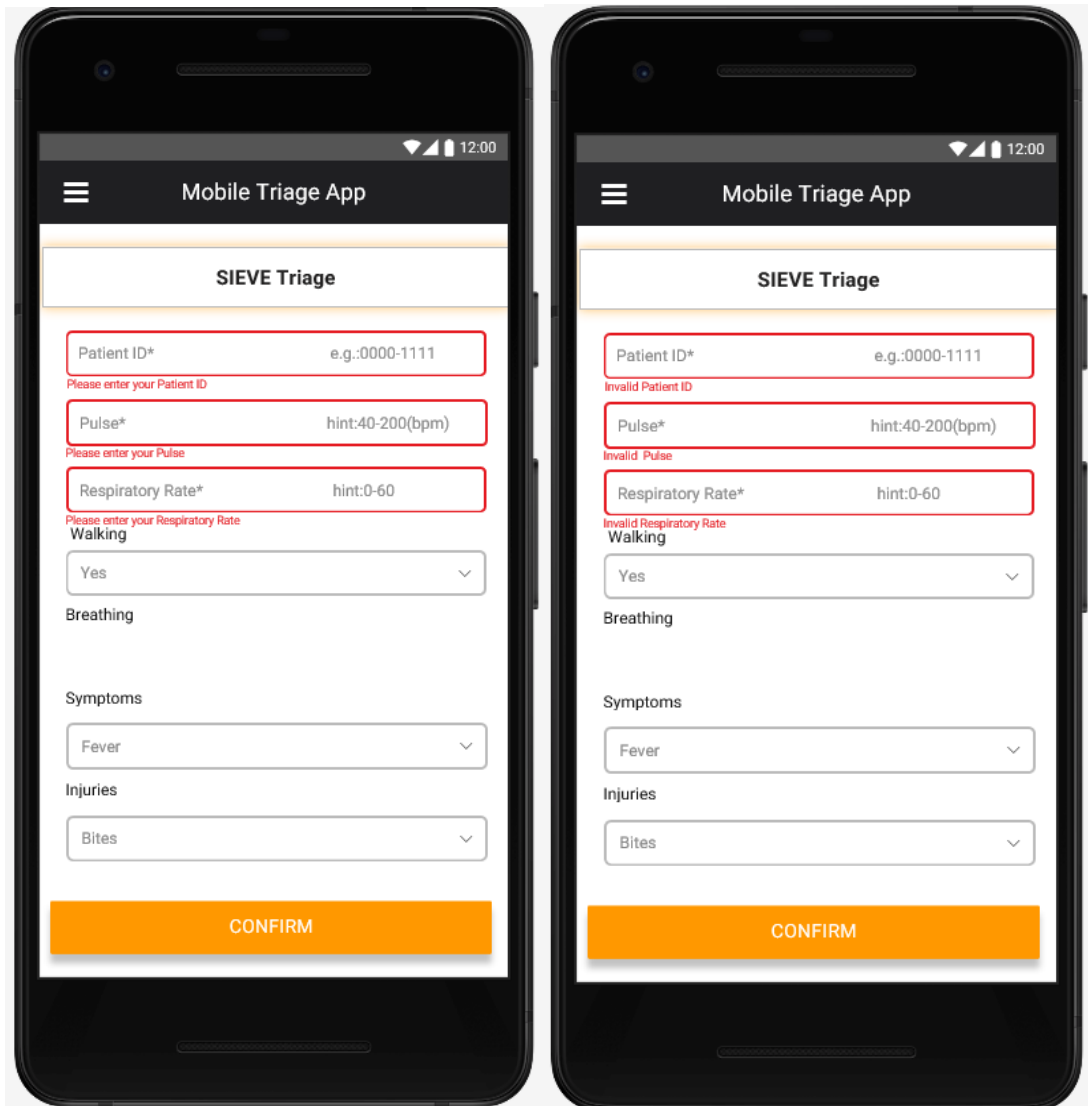
Firstly, in Sieve triage main page, as is shown in the screenshot 1.4.a and 1.4.b, this screen will first allow the user to enter the patient ID, the pulse, respiratory rate, and whether the patient is breathing and walking. This screen will also allow the user to enter two other fields in addition to the above-mentioned details. They include symptoms (i.e. Fever, Heachache, Joint/Muscle Ache, Rash, Seizure, Unconsciousness, Vomiting, Diarrhea, Not Classified), and injuries (i.e. Bites, Burns, Cardiovascular Problems, Fracture/Sprain/Dislocation, Heat-related Condition, Hypothermia, Laceration, Wounds, and Not Classified). The only difference between these two pages is the breathing part will show up until user firstly chooses “No” option in walking part.



Screenshot 1.4a

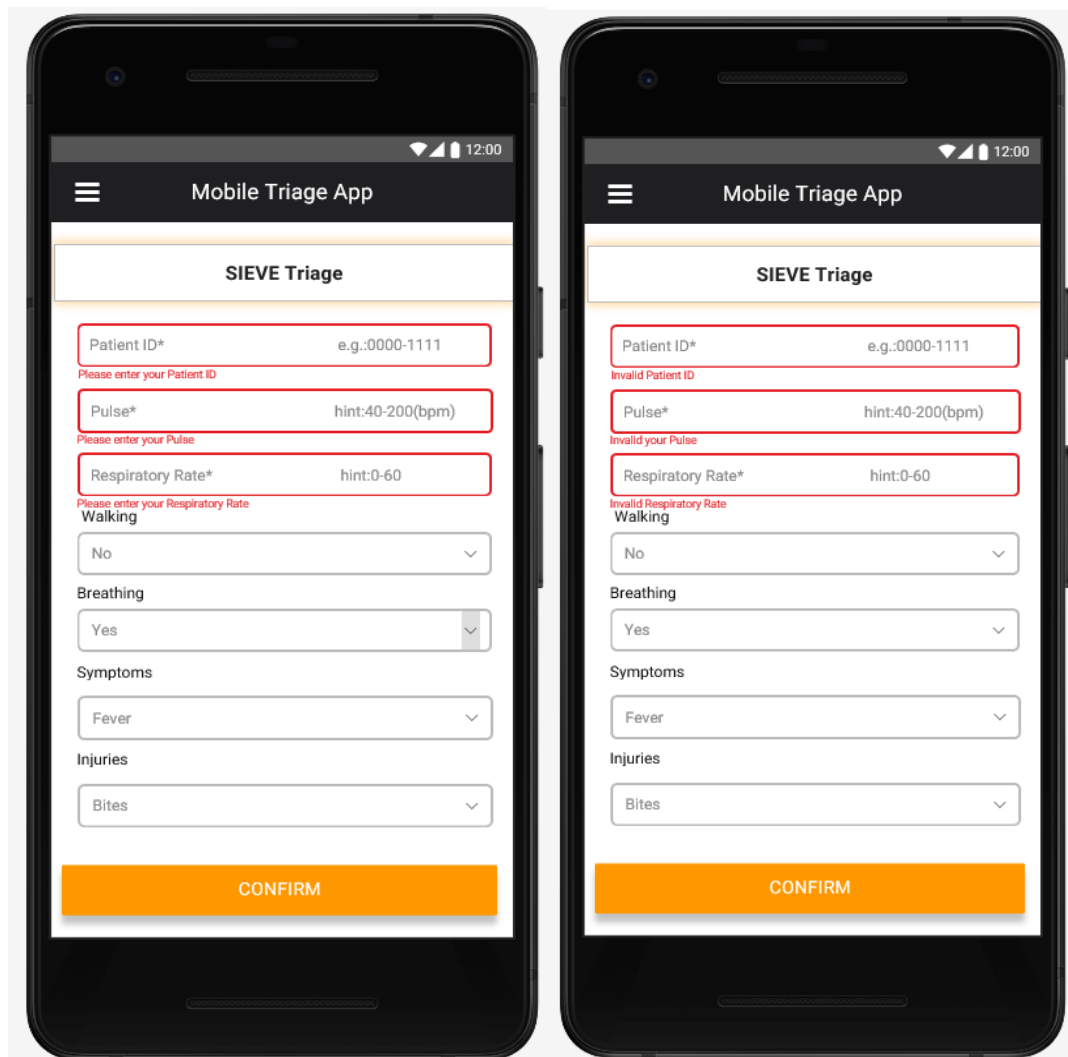
Screenshot 1.4.b

Secondly, in error pages, as is shown in the screenshot 1.4.c, 1.4.d, 1.4.e and 1.4.f, when user input invalid information or input nothing and press the confirm button, the error pages will remind user to input valid information.



Screenshot 1.4.c

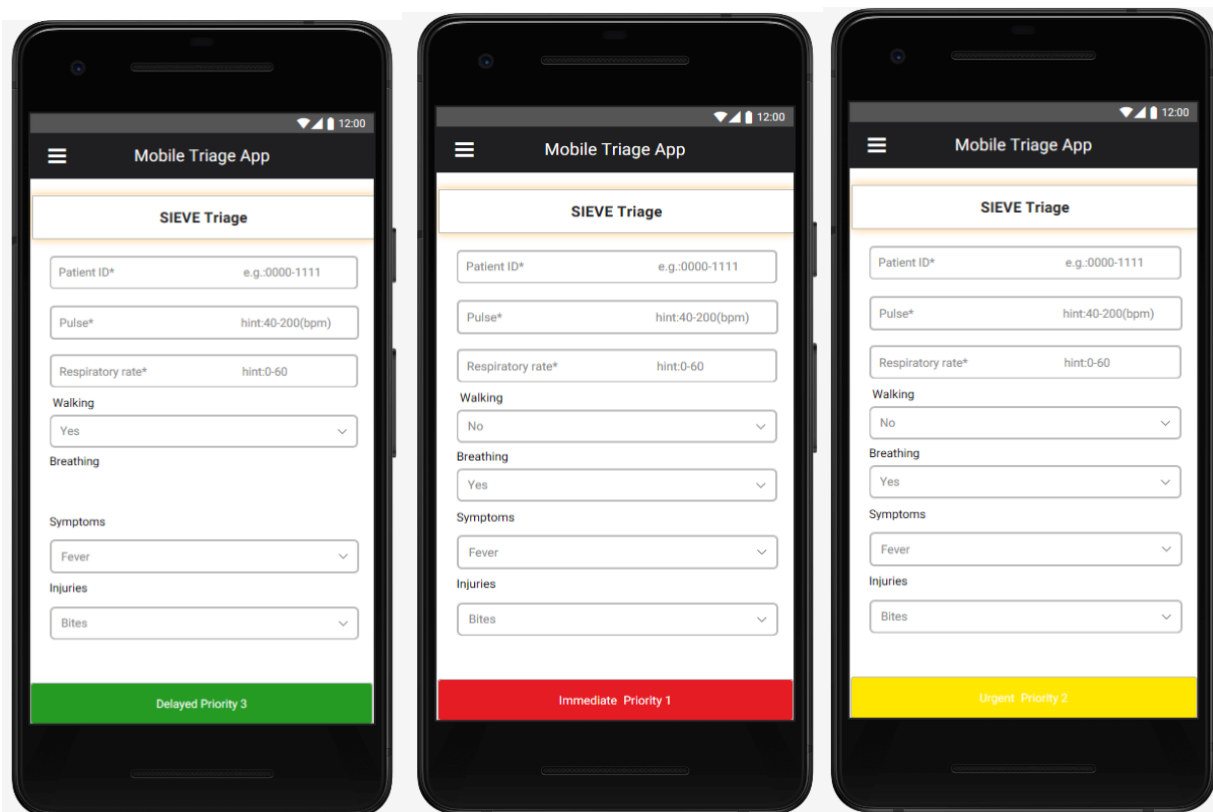
Screenshot 1.4.d



Screenshot 1.4.e

Screenshot 1.4.f

Last but not the least, if user input valid information, three scenarios will finally show up which is helpful for user to pick the best suitable hospital. The first scenario is when user chooses “Yes” in walking option, the page will turn to Delayed Priority 3. Then the map will show the position if user press on Delayed Priority 3. The second scenario is when walking option is “Yes” and breathing option is “No”, meanwhile, either of the following conditions is the respiratory rate is less than 10 or larger than 30 and pulse is less than larger than 120, the page will turn to Immediate Priority 1. The last scenario is “No” for walking, “Yes” for breathing, respiratory rate is between 10-29 and pulse is less than 120. This is a dangerous situation, Therefore the Urgent priority 2 will be shown in the screen.



Screenshot 1.4.g

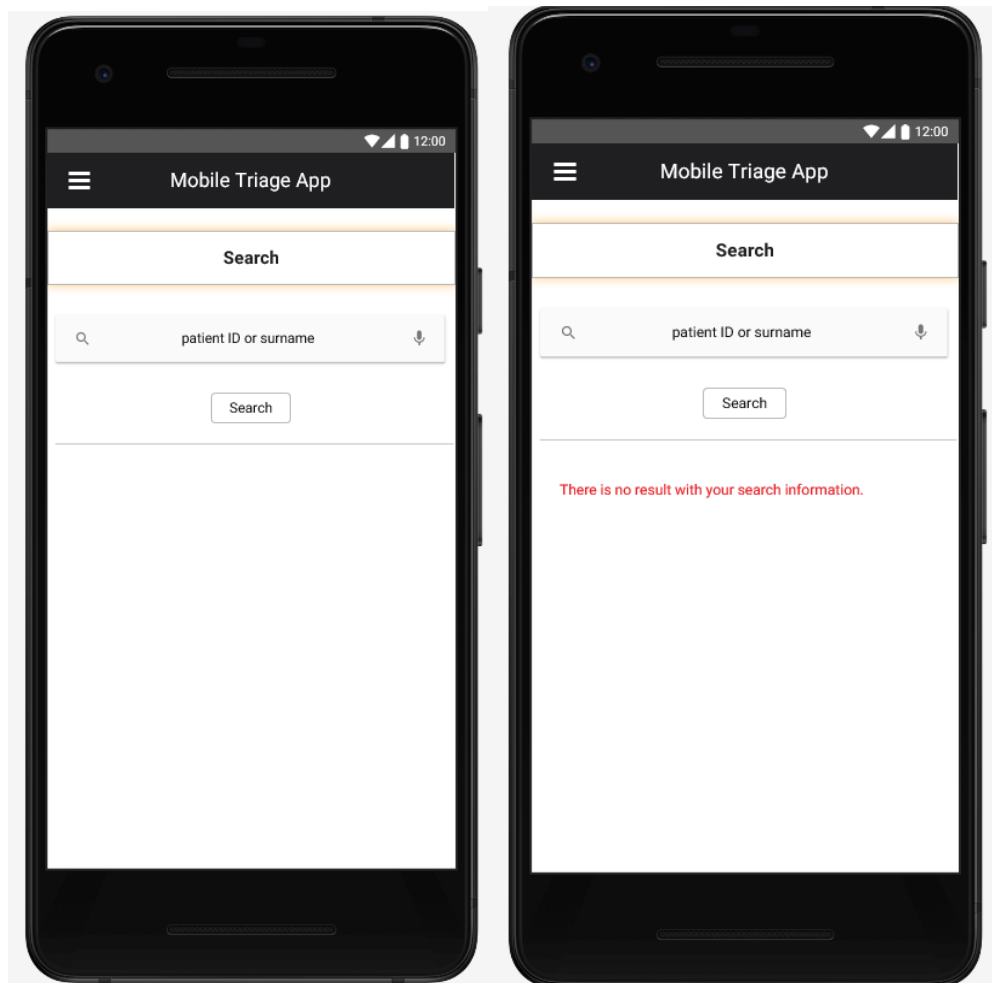
Screenshot 1.4.h

Screenshot 1.4.i

1.5 SEARCH

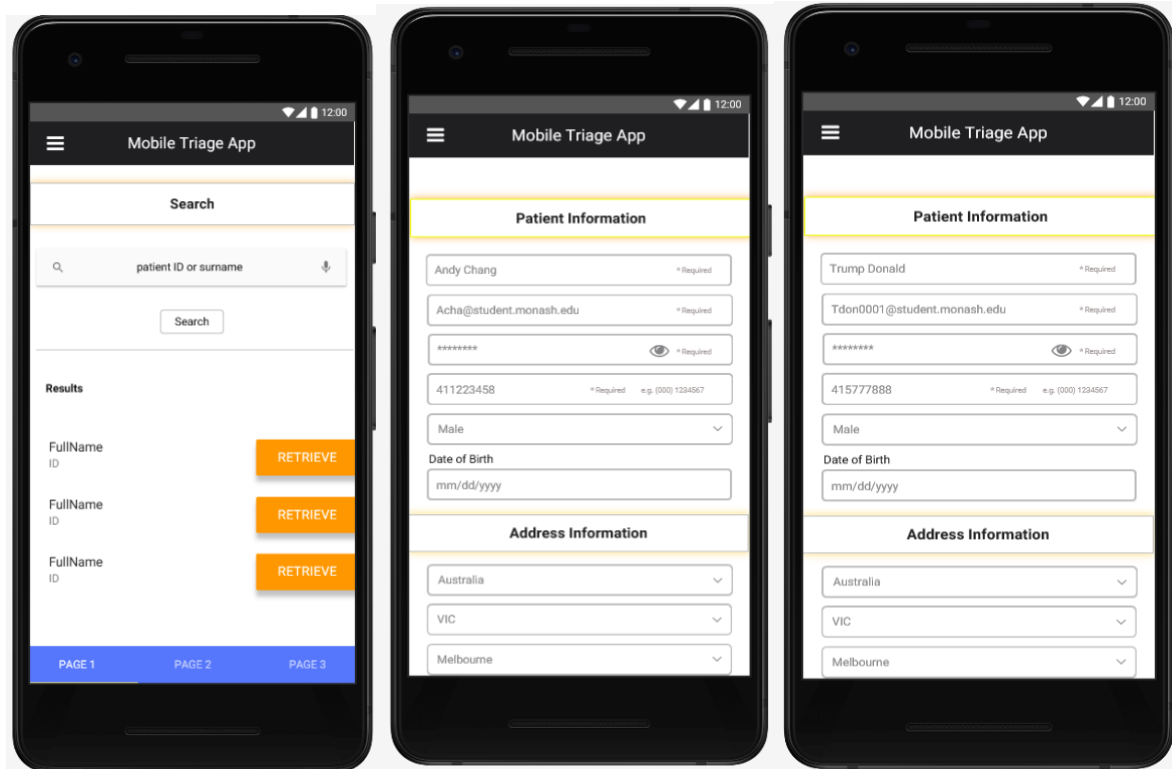
In the search function part, there are two search engine which separately are search by patient and Multi-Criteria Search.

The first search function is search by patient. As screenshot are shown below. This allow the user to enter the patient ID or surname and retrieve all their information. If there is no result about the search, the no result remind will show up. If results exist, a list will be given, and users can retrieve details about that person.



Screenshot 15.a

Screenshot 15.b



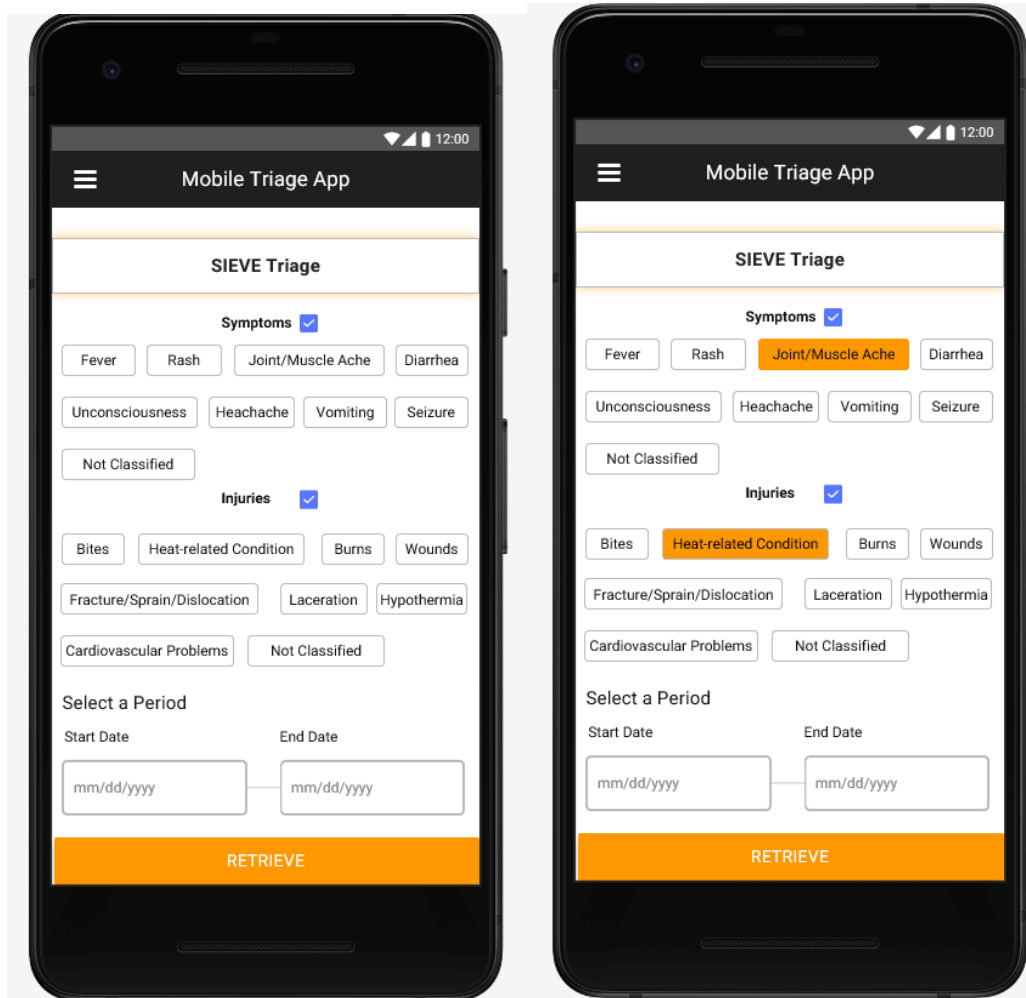
Screenshot 1.5.c

Screenshot 1.5.d

Screenshot 1.5.e

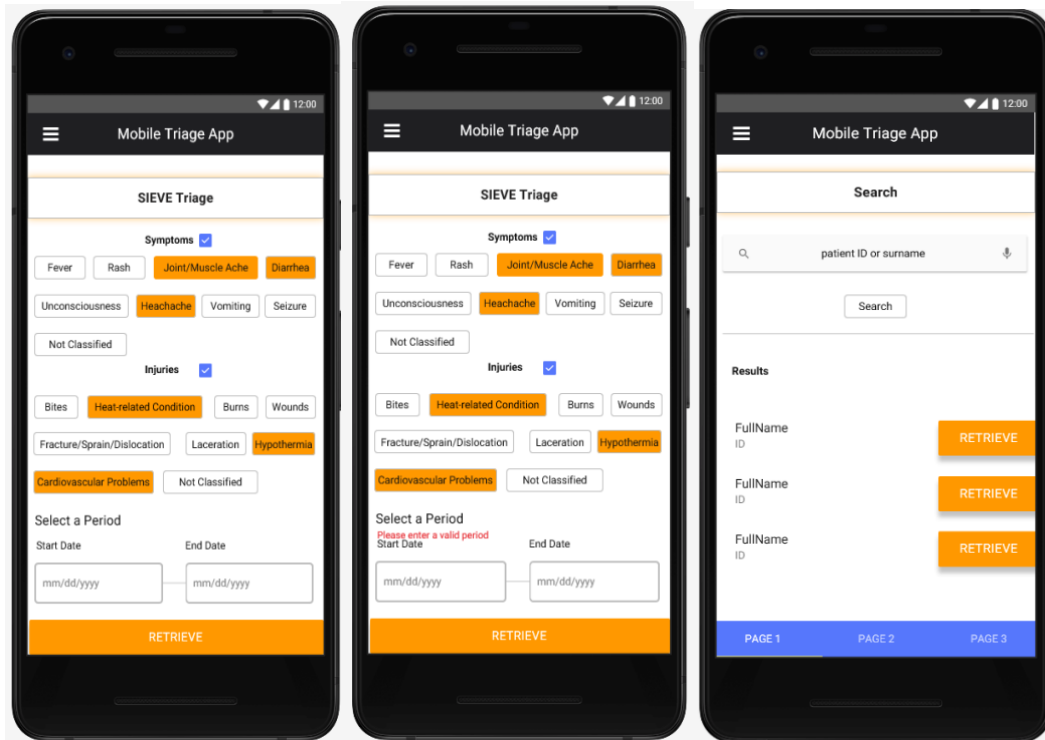
The second search function is Multi-Criteria Search. Burton (1991) claims that multi-criteria search is a more explicit method to search for best results. The screen will first allow the user to select a triage label, a symptom or/and an injury, and also a date (or a period of time) and retrieve all patients with that triage label, symptom or/and injury (showing their full names and IDs as a list). If the user press any of these patients in the list, they can view further details. This screen will also allow the user to enter two other fields in addition to the above-mentioned details. They include symptoms (i.e. Fever, Headache, Joint/Muscle Ache, Rash, Seizure, Unconsciousness, Vomiting, Diarrhea, Not Classified), and injuries (i.e. Bites, Burns, Cardiovascular Problems, Fracture/Sprain/Dislocation, Heat-related Condition, Hypothermia, Laceration, Wounds, and Not Classified). If the period that user chose is not

a valid period, an error remind will be shown. If all information is choosing and input in a proper way, the results will be shown in the same page and users and press retrieve for more details.



Screenshot 1.5.f

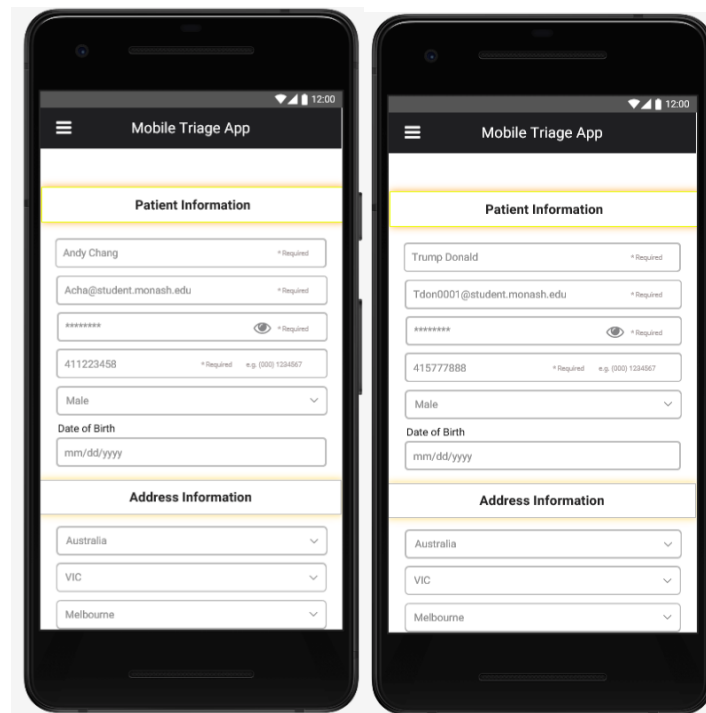
Screenshot 15.g



Screenshot 1.5.h

Screenshot 15.i

Screenshot 1.5.j



Screenshot 1.5.k

Screenshot 1.5.l

1.6 Reports

Reports page consists of two required sections. In the first section user selects a particular date or a date period from a calendar that is informed in the very same page as well. After the date selection user selects chart type which is Pie Chart or Bar Graph as pictured in *Screenshot 1.5.a* and *Screenshot 1.5.b* below.

The screenshot shows the 'Mobile Triage App' interface with a 'REPORTS' section. It includes a prompt '* Please select a date or a date period', a 'Select a Date' field with a placeholder 'mm/dd/yyyy', a 'Select a Period' section with 'Start Date' and 'End Date' fields (both with 'mm/dd/yyyy' placeholders), a 'Chart Type' dropdown menu with 'Select Chart Type' as the selected option, and an orange 'Run Report' button at the bottom.

Screenshot 1.5.a

This screenshot shows the same 'Mobile Triage App' interface but with user input. The 'Select a Date' field now contains '10/15/2018'. Below it, a calendar for 'October 2018' is displayed, with the date '15' highlighted. The 'End Date' field is empty with the placeholder 'mm/dd/yyyy'. The 'Chart Type' dropdown menu now shows 'Please select a chart type.' as the selected option. The orange 'Run Report' button remains at the bottom.

Screenshot 1.5.b

If there are no results for the selected dates, necessary information feedback is indicated in the very same page properly (See *Screenshot 1.5.e*). On the other hand, for the date selection once user selects one of the selection options (specific date or a range) the other one becomes disabled that guides. If user wants to enable the passive date field, double click makes the very specific field disabled that is also signified properly under the very same area (See *Screenshot 1.5.d*, *Screenshot 1.5.f*, *Screenshot 1.5.h*).

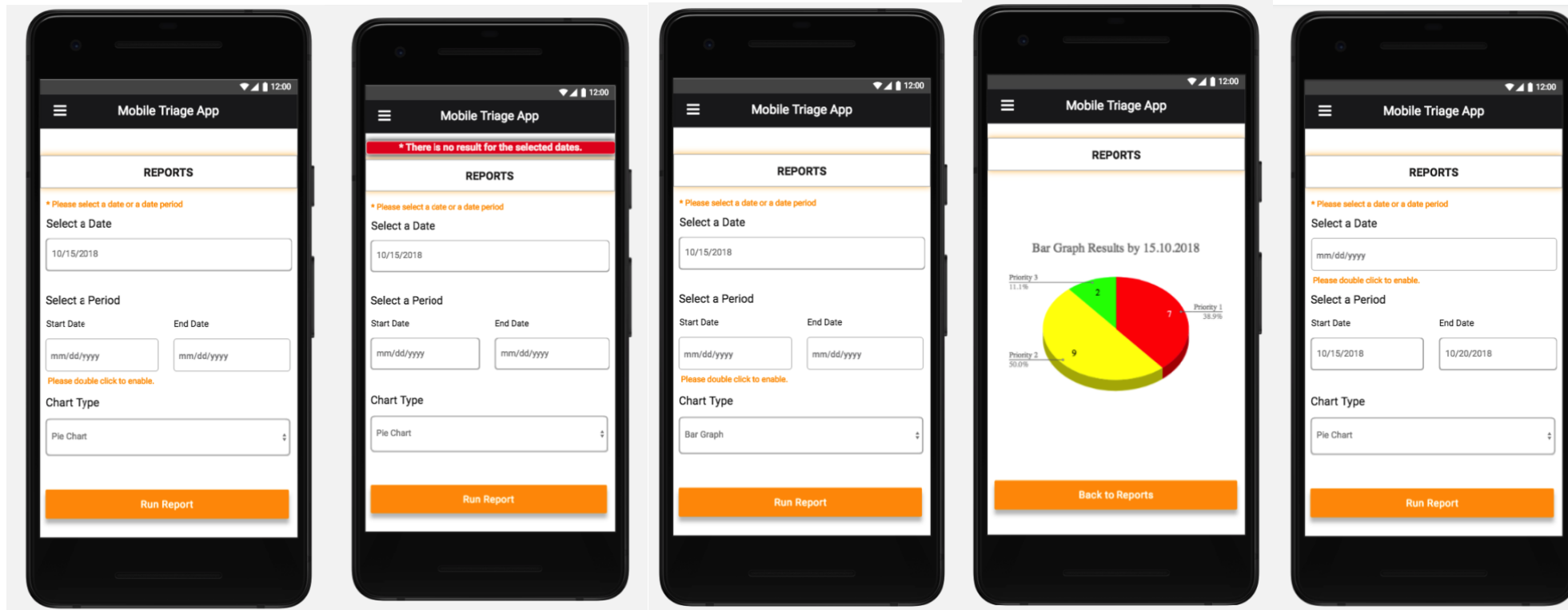
Furthermore, once user runs the report for the date having triage label data with related report option selection, it is indicated to the user in the new page having a landscape option which is also very differentiable from the background (See *Screenshot 1.5.c*). Report displays the relationship between number of patients and triage labels. In the title, selected date and report type is indicated to the user. Similarly, for the when the user choice is date range option, selected range is indicated in the title. (See *Screenshot 1.5.i* and *Screenshot 1.5.k*).

In addition to this for the Typography we select Roboto for better readability and apply for bold whenever necessary.

In pie chart option, colors are used for explaining the priority level hierarchy. Red is for the highest priority, yellow is for the middle and green is for the lowest one which is replicated from traffic lights in the world (See *Screenshot 1.5.g*).

Furthermore, it is obvious the fact that both of the reports are very much dominant in each page as it should be.

Last but not least, in the parameter section we pay attention to the alignment of the elements of in the page in order for better visual design.



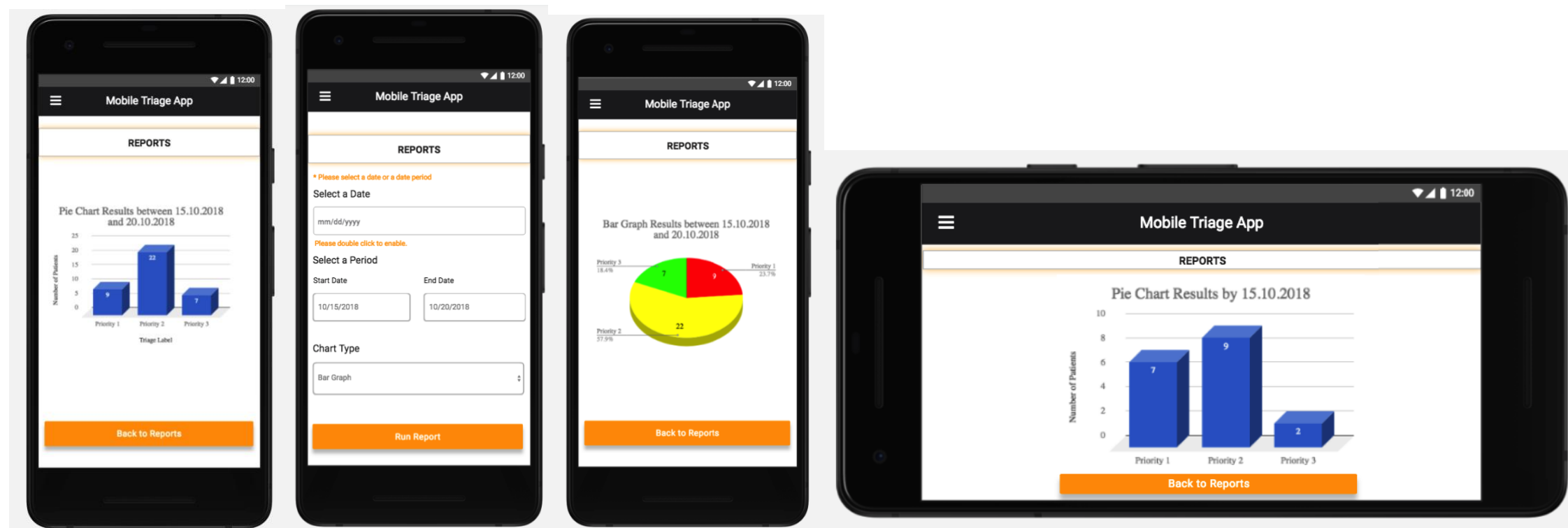
Screenshot 1.5. d

Screenshot 1.5.e

Screenshot 1.5.f

Screenshot 1.5. g

Screenshot 1.5.h



Screenshot 1.5.i

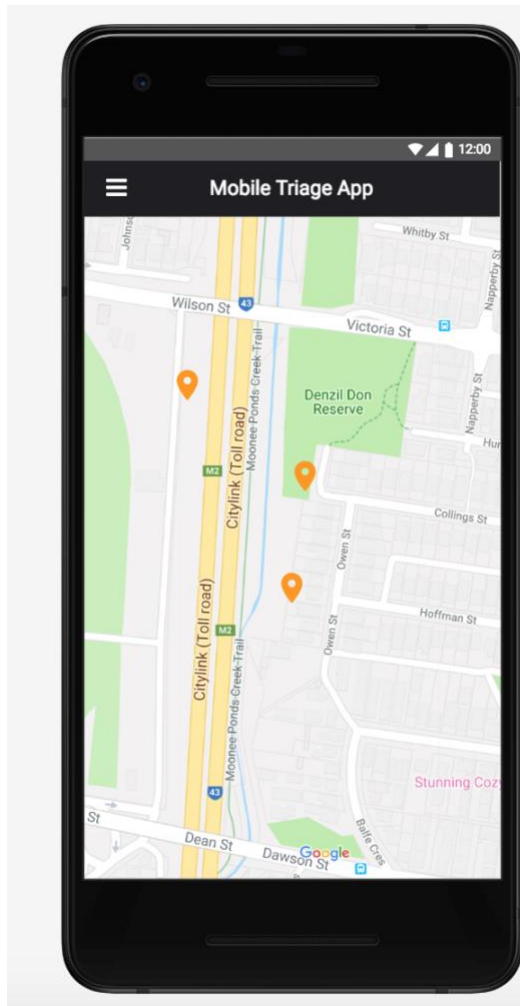
Screenshot 1.5.j

Screenshot 1.5.k

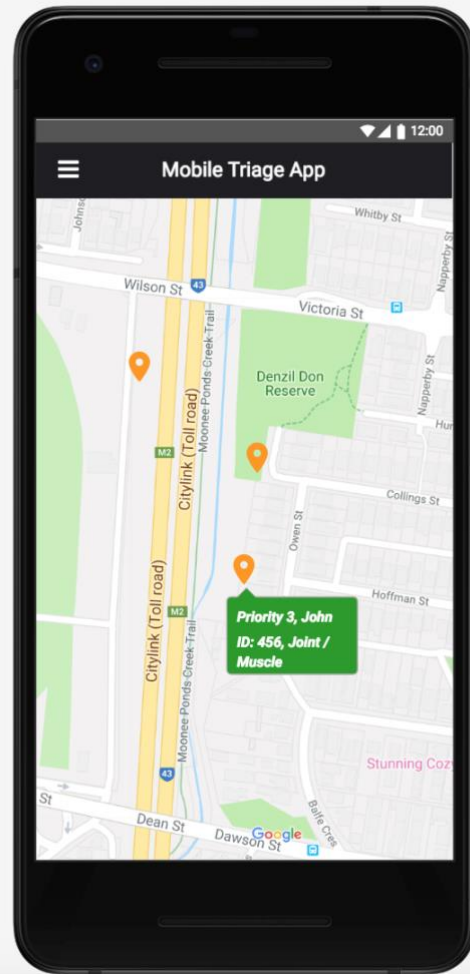
Screenshot 1.5.l

1.7 Maps

In maps page, initially Google maps API is utilized since it is majority of the users are using it thus they are familiar. Patients are specified and grouped with a specific icon via applying for Gestalt similarity law (See *Screenshot 1.6.a*).

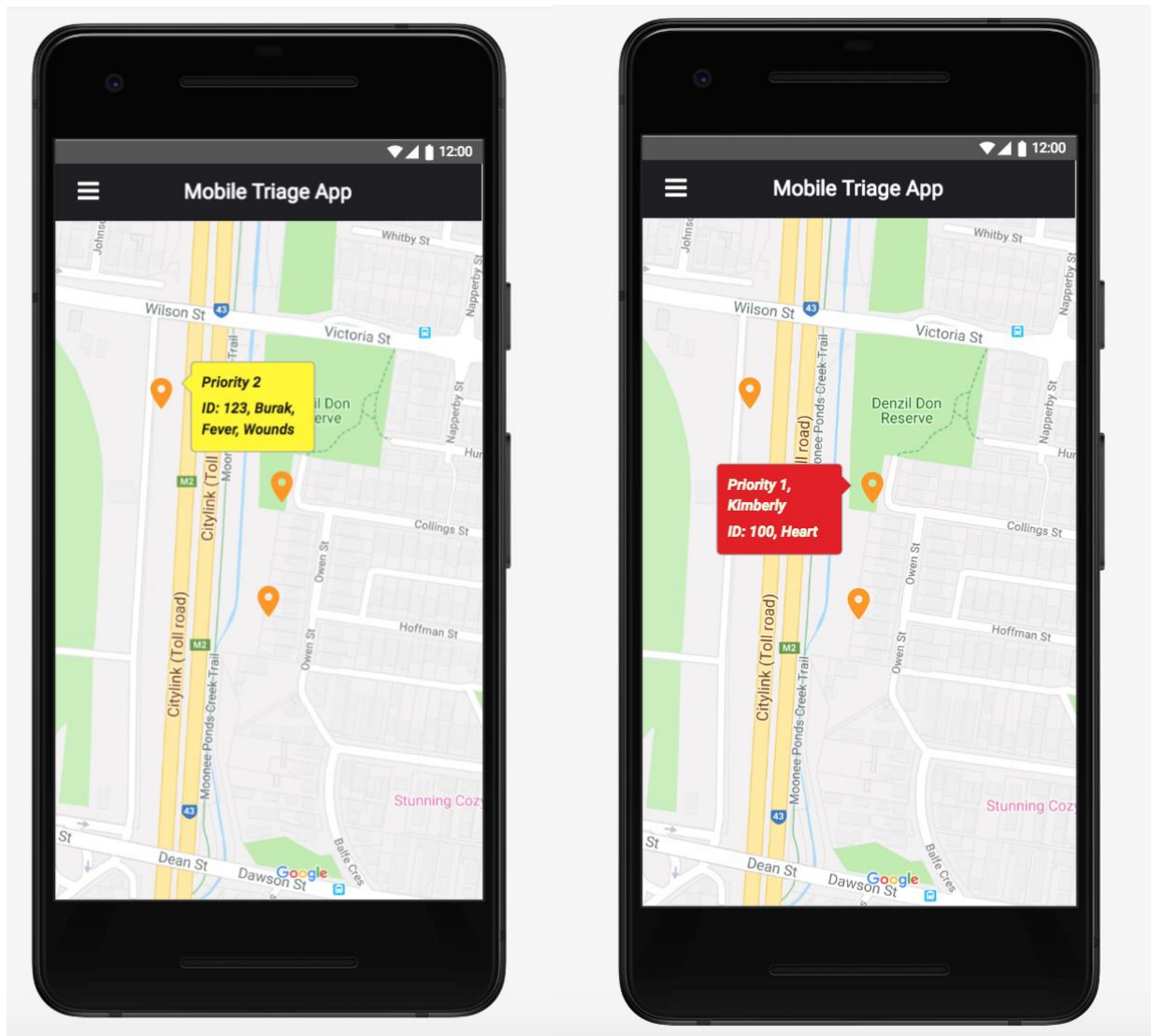


Screenshot 1.6.a



Screenshot 1.6.b

As clearly depicted in *Screenshot 1.6.b*, *Screenshot 1.6.c* and *Screenshot 1.6.d*, when user click on each of the icon representing the very particular patient, tip box appears on the map. In the tip box triage label and patient information stated. Additionally, each color represents the priority of the triage label in terms of the hierarchy.



Screenshot 1.6.c

Screenshot 1.6.d

On the other hand, in terms of the Visual Design principles, we do very much consider the unity of the elements on the map and repeating the same icon colors in order to provide consistency.

2. REFERENCE LIST

Hassenzahl, Marc. "User experience (UX): towards an experiential perspective on product quality." Proceedings of the 20th Conference on l'Interaction Homme-Machine. ACM, 2008.

Nielsen, J. (1992). Finding Usability Problems Through Heuristic Evaluation. *Proceedings of the SIGCHI conference on Human factors in computing systems CHI ' 92*, Monterey, ACM.

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Wharton, C., Bradford, J., Jeffries, R., & Franzke, M. (1992, June). Applying cognitive walkthroughs to more complex user interfaces: experiences, issues, and recommendations. In Proceedings of the SIGCHI conference on Human factors in computing systems (pp. 381-388). ACM

3. APPENDIX

Sitemap Diagram

