

COMP2000

Assessment 1: Set Exercises

Scenario: FarmBnB

Github Classroom: <https://github.com/Plymouth-University/comp2000-main-assignment-ORG4N>

Set Exercise 1 (5 marks):

The primary users of FarmBnB consist of the public consumers (holiday bookers) as well as the system administrators.


The public consumer will use the application to browse and book reservations from a variety of different listed accommodations. Making a booking requires the user to provide personal information (such as contact information). After making an account they will further be allowed to book any of the listed accommodations. These reservations can be viewed by the user via the app at any time, and the application will also push notifications to users for conveying important information, such as indicating the confirmation of a booking, or upcoming arrival/departure dates.

Meanwhile, the system administrators will use the application to update bookings that are listed on the app – a use case scenario deriving from this would be that a booking requires maintenance and is therefore not bookable/usable and is therefore public users are prevented from booking that specific accommodation. For access control and integrity purposes, system administrators will have unique user accounts that provide them greater system permissions.

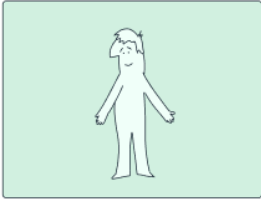
Finally, as an Android application, FarmBnB will be used by both users via mobile Android devices and should therefore be suitable for handheld devices and smaller screens.

Set Exercise 2 (15 marks):


Storyboard

**Persona:** Generic public user


User story / Scenario: As a holiday maker, I want to see all of the possible accomodations so that I can make a booking



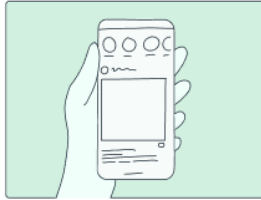
Person wants to go on a holiday.




Person opens FarmBnB on their mobile device.




Person creates an account and logs in to the app.



FarmBnB app shows all choices to the person.



Person selects an accomodation to view more details



Person selects an accomodation and makes booking

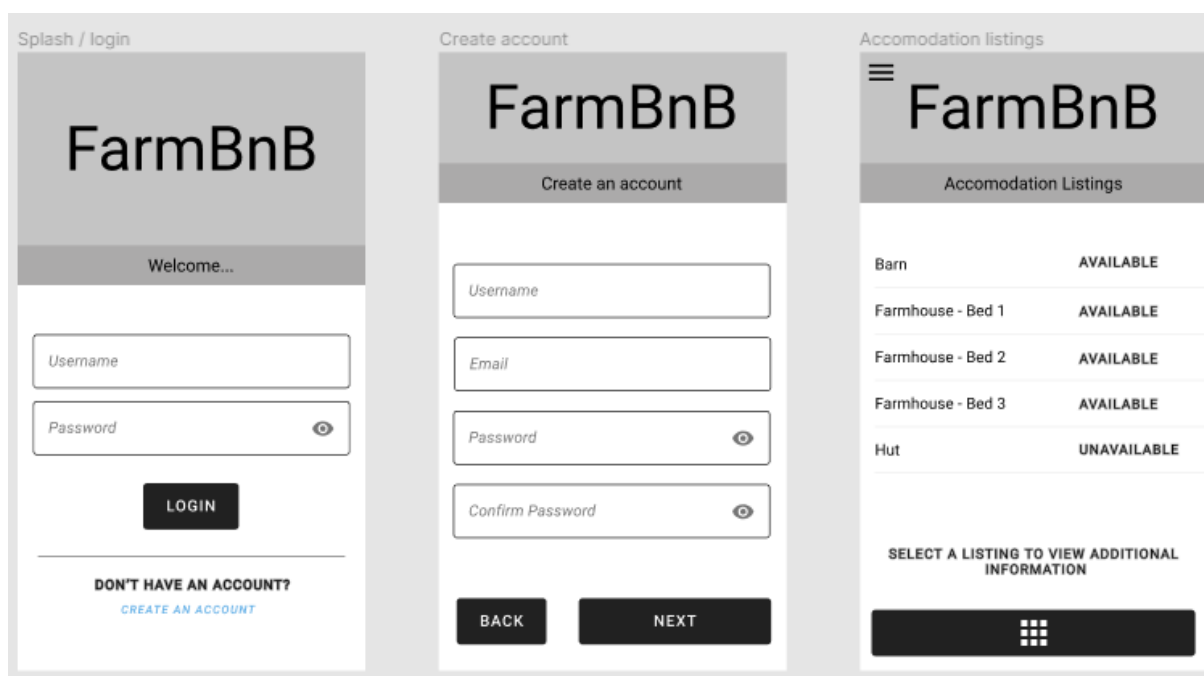
The above storyboard depicts the aforementioned scenario of a public user making a booking through the FarmBnB app. This storyboard depicts the process as simply as possible and will be further drawn upon within the low-fidelity prototype shown on the next page.

Depending on whether the user has signed in with an account that has admin privileges, or is an ordinary public account, the user will be displayed different views when they sign in to the app.

Admin accounts are solely intended to be used for managing the system, and therefore an admin cannot create a booking, unless they make their personal consumer account first, and then make a booking via that account.

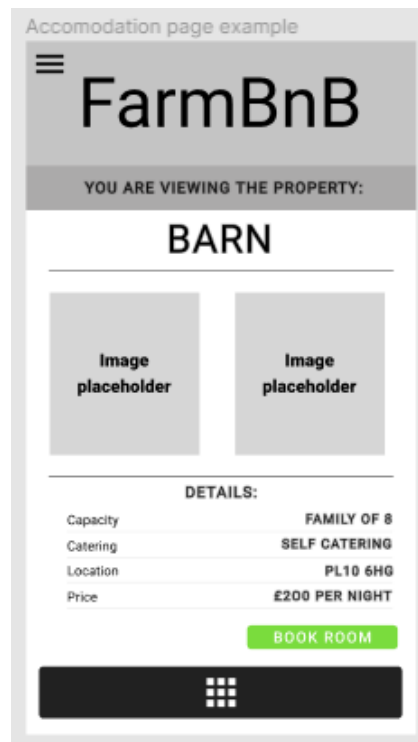
Public User:

The far left view shows the initial screen that is displayed to the user when they open the app; from this page they can either create an account or sign in. If the user needs to create an account they will be shown the middle view, otherwise they will log in to see the right-side view. The far right view will become the home page once the user has signed in.

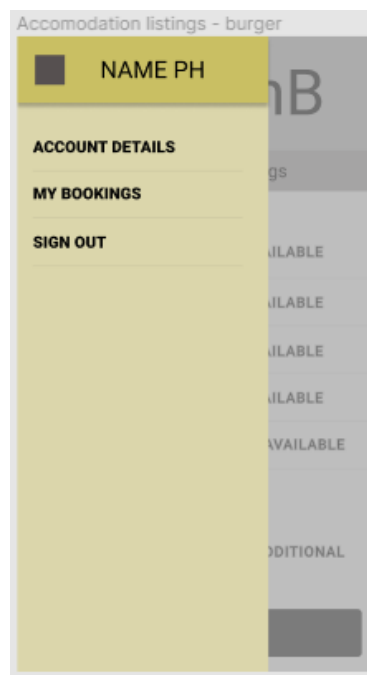


The user will move throughout the views up pressing on the buttons, such as "LOGIN", "BACK", and "NEXT". The user will also find that they can tap on the input fields to type in information.

Selecting an accommodation from the list will show a view that fetches and displays all of that accommodation's information and details. From here the user can book the selected accommodation by pressing on the 'BOOK ROOM' button:



When signed in, a burger menu will be visible at all times in the top left of the screen and the user can expand the burger menu:



Through the burger menu, the user can: view their account details, view a history of their previous and current bookings, and sign out of their account and return to the login page.

If the user chooses to view their account details, they can also edit them by pressing on a button that makes the text modifiable (changes will need to be confirmed):

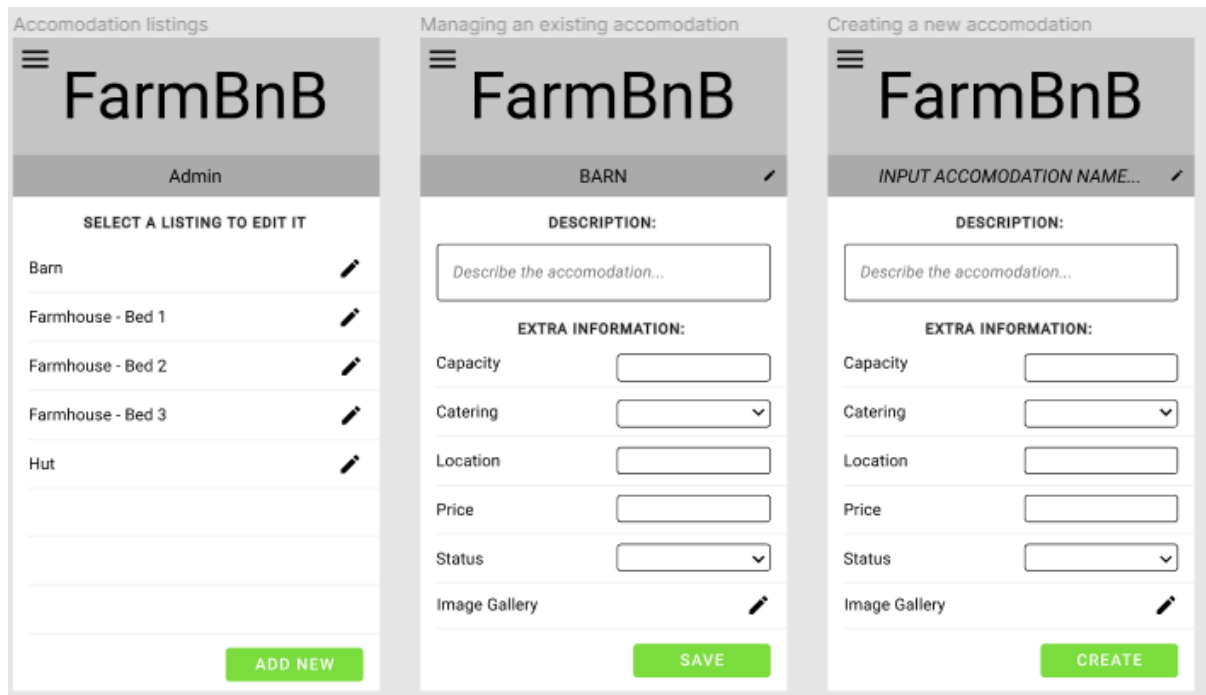
The image displays two side-by-side mobile app screens for 'FarmBnB'. Both screens have a grey header with a burger menu icon and the 'FarmBnB' logo. The left screen is titled 'Account details' and shows a form with five rows: Forename, Surname, Email, Tel Number, and Address, each with a 'PLACEHOLDER' text. A red 'EDIT' button is at the bottom right. The right screen is titled 'Account details - editing' and shows the same form with input fields. The Forename field has a placeholder 'Placeholder input text'. A green 'CONFIRM' button is at the bottom right. Both screens have a black footer with a white grid icon.

Choosing to view their bookings will categorise all upcoming and past bookings:

The image displays two side-by-side mobile app screens for 'FarmBnB'. Both screens have a grey header with a burger menu icon and the 'FarmBnB' logo. The left screen is titled 'My Bookings' and shows two sections: 'UPCOMING BOOKINGS:' with two rows of dates (07/11/2021 and 15/12/2021) and eye icons, and 'PREVIOUS BOOKINGS:' with one row of a date (03/05/2018) and an eye icon. The right screen is titled 'Upcoming booking view' and shows a detailed view of a booking. It has a date field 'dd/mm/yyyy' and two sections: 'ACCOMODATION:' with fields for Name (BARN), Arrival Date (DD/MM/YY), Departure Date (DD/MM/YY), and Location (PL10 6HG); and 'DETAILS:' with fields for Capacity (FAMILY OF 8), Catering (SELF CATERING), and Price (£200 PER NIGHT). A black 'BACK' button is at the bottom left. Both screens have a black footer with a white grid icon.

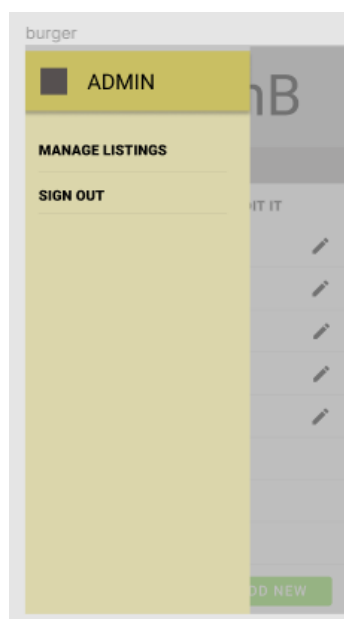
Admin User:

Admins will be shown different views than public users. When they sign in, they will be directed to the far left view. From here, they can tap on the pencil edit icon button to amend that specific accommodation's details. Likewise, they can press on the green button at the bottom of their screen to create a new accommodation.



The views for both amending and creating new accommodations are shown above. In both instances, the user will have to press the button to save their changes – this ensures integrity.

The admin's burger menu also changes to reflect the parts of the app they can access:



Set Exercise 3 (25 marks):

Usability Test Plan

Overall Goals of the test plan:

1. To ensure all requirements are implemented
2. To ensure users can intuitively and easily use the application

<p style="text-align: center;">Scenarios:</p> <p>As a user, I want to be able to view a list of available accommodations so that I can book one of them for my holiday visit.</p> <p>As a user, I want to be able to change my account details, so that I can be contacted by FarmBnB if needed.</p>	
Scenario Specific Goals	<ol style="list-style-type: none">1. To ensure that customers can clearly navigate between different views2. To ensure that information is displayed clearly and effectively
Quantitative Measurement List	<ul style="list-style-type: none">• Time taken to complete the task• Difficulty in completing task (usability)• Number of issues uncovered
Task List / Procedure	<ol style="list-style-type: none">1. Login successfully (previous scenario)2. Select any accommodation3. Create a booking4. Use burger menu to find booking details
Qualitative Measurement List	<ul style="list-style-type: none">• Accessibility• Navigability• How effective an elements design is
Potential Observation of Users	<p style="text-align: center;">Observe:</p> <ul style="list-style-type: none">• Which elements are slow/difficult to interact with• Which elements are intuitive/easy to interact with• Body language and facial expressions (Confused? Comfortable?)
Test Setup Details	<ol style="list-style-type: none">1. Prepare questionnaire to input answers2. Prepare workstation (eliminate distractions)3. Reintroduce context of the prototype formally4. Sign consent form5. Proceed with testing when ready6. Follow up with questionnaire7. End session

As the testing criteria for both scenarios are very similar (testing for general usability instead of the outputs of specific functionality), the scenarios being tested have been compiled into a singular testing plan.

Minor questions will be asked throughout the User Observation process. However, at the end of the observation, the user will be asked to carry out a questionnaire.

Pre-Observation Questionnaire:

- How old are you?
- Do you have any disabilities/conditions that you are willing to share?
- How much time do you spend online?

During Observation questions:

- How was your experience navigating that screen?
- What do you think of the UI design?
- Did you notice any grammatical errors, or any text that did not make sense?
- What do you think that screen was trying to convey?

Post-Observation Questionnaire:

- What was your overall opinion of the app?
- What were your favourite parts about the app?
- What were your least favourite parts about the app?
- What are your opinions on the UI (colour, layout etc.)?
- Could you ever see yourself using this app in real life?
- Are there any features you think aren't needed?
- Are there any features you think need to be added?
- If you could change any existing part of the app, what would it be?
- If you have any disabilities, how was your experience using the app?

During the pre-test phase of the test/observation process, the test subject will be asked to fill out the following consent form:

FarmBnB Usability Prototype Test consent form:

Your involvement within the testing process will include:

- Performing certain tasks using a given prototype
- Providing feedback on your experience using this prototype

All information used within this study will remain private and will only be used for the purposes of improving the prototype in accordance with the feedback required. Any identifiable information provided will be anonymised – at no time will this type of information be shared. At any time, if you wish, you can refuse to continue taking part in the study.

By signing below, you consent to carrying out testing for FarmBnB's prototypes, and you understand what is required from you.

Signature:

Date:

Test Subject A Observations/Measurements:

Time taken: 4 minutes (including pre-test questions)

Notes:

- Make app have more colour – too grey
- User could easily find out what they need to do

Post Observation Questions:

- How old are you? 19
- Do you have any disabilities/conditions that you are willing to share? None
- How much time do you spend online? 6 hours + per day

Test Subject A Questionnaire Results:

- What was your overall opinion of the app?
 - Very clear and intuitive to use. Would definitely use in real life.
- What were your favourite parts about the app?
 - Simple and nice layouts make it easy to perform actions.
- What were your least favourite parts about the app?
 - Very little colour.
- What are your opinions on the UI (colour, layout etc.)?
 - Use more vibrant colours to attract attention – very boring to look at. Layout is really good and shouldn't change.
- Could you ever see yourself using this app in real life?
 - Yes
- Are there any features you think aren't needed?
 - No
- Are there any features you think need to be added?
 - Payment page for booking a room.
- If you could change any existing part of the app, what would it be?
 - Add a logo for the company and make the app look prettier/fit a theme
- If you have any disabilities, how was your experience using the app?
 - N/A

Test Subject B Observations/Measurements:

Time taken: 5 minutes (including pre-test questions)

Notes:

- Accessibility features needed
- User found it hard to focus on/read text

Post Observation Questions:

- How old are you? 64
- Do you have any disabilities/conditions that you are willing to share? Bad vision
- How much time do you spend online? 2 hours per day

Test Subject B Questionnaire Results:

- What was your overall opinion of the app?
 - Good, but found it hard to read lots of text
- What were your favourite parts about the app?
 - Layout style, can view all my bookings, can see lots of room details
- What were your least favourite parts about the app?
 - Buttons and text were too small
- What are your opinions on the UI (colour, layout etc.)?
 - Buttons should be bigger
- Could you ever see yourself using this app in real life?
 - If I could use it on a bigger device, or make the text bigger
- Are there any features you think aren't needed?
 - No
- Are there any features you think need to be added?
 - Accessibility features, notifications pop up when doing something specific
- If you could change any existing part of the app, what would it be?
 - Zoom into text
- If you have any disabilities, how was your experience using the app?
 - Found it difficult to read text (especially listings etc)

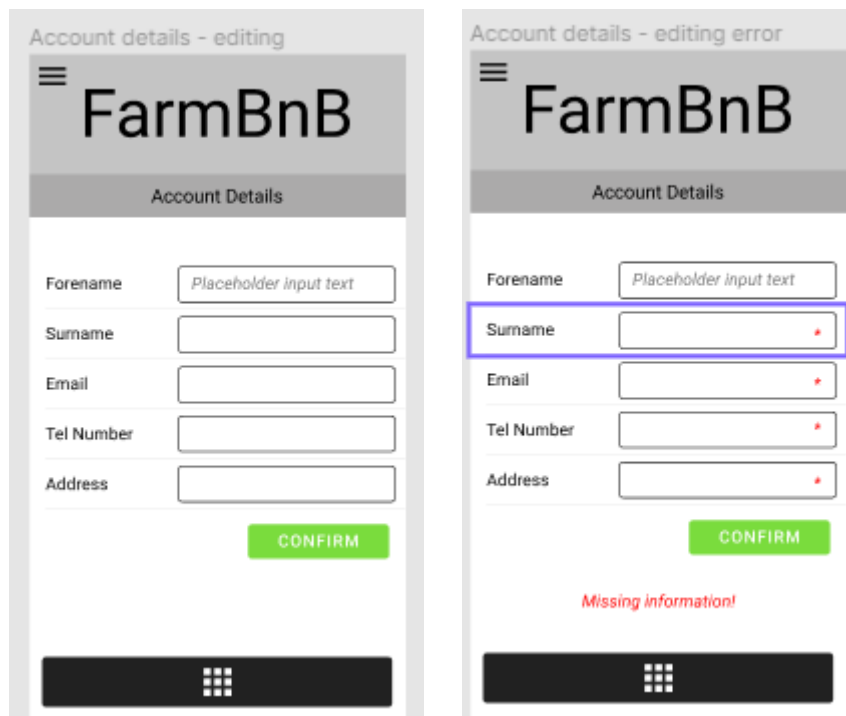
Set Exercise 4 (15 marks):

In response to the criticism received during the questionnaires, the prototype has been expanded to handle events that will output messages if inputs are incorrect/invalid.

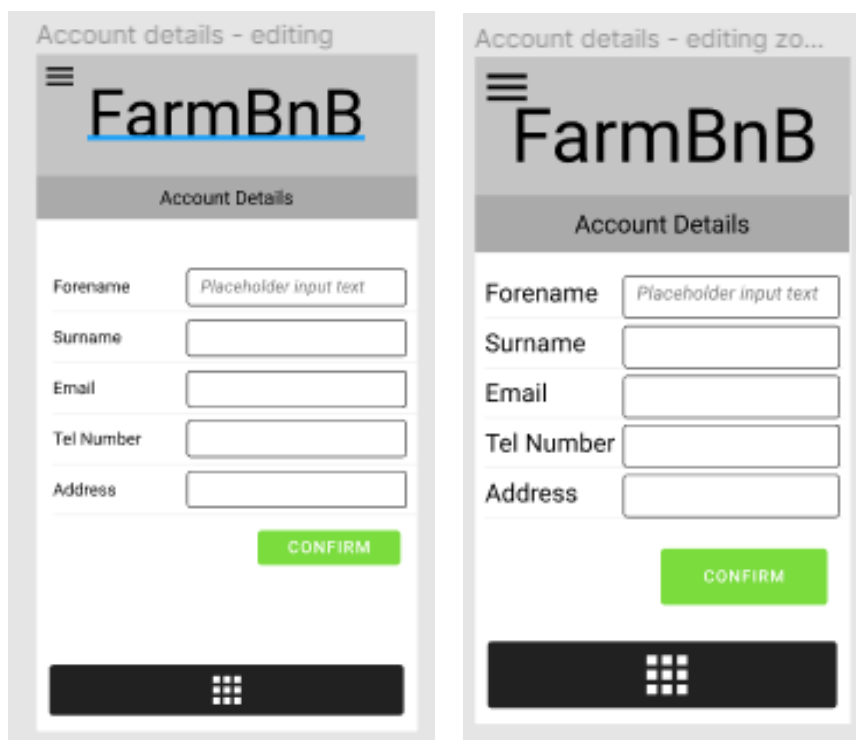
Feedback that was previously received suggested that colour should be used more sparingly to divert attention and therefore these error messages are drawn to the screen in a vibrant red colour.

The image displays four mobile app screens arranged in a 2x2 grid, illustrating the user interface for FarmBnB. Each screen has a grey header bar with the app name 'FarmBnB' in a large, bold, black font.

- Top Left Screen (Splash / login):** The title is 'Splash / login'. Below the header is a grey bar with 'Welcome...'. The main content area is white and contains a 'Username' input field, a 'Password' input field with an eye icon, a black 'LOGIN' button, and a link 'DON'T HAVE AN ACCOUNT? CREATE AN ACCOUNT'.
- Top Right Screen (Splash / login error):** The title is 'Splash / login error'. It features the same layout as the top left screen, but with a red error message 'Username or password is incorrect!' displayed below the login button.
- Bottom Left Screen (Create account):** The title is 'Create account'. Below the header is a grey bar with 'Create an account'. The main content area is white and contains four input fields: 'Username', 'Email', 'Password', and 'Confirm Password', each with an eye icon. At the bottom are two black buttons: 'BACK' and 'NEXT'.
- Bottom Right Screen (Create account error):** The title is 'Create account'. It features the same layout as the bottom left screen, but with three red error messages displayed below the input fields: 'Passwords do not match!', 'Username is invalid!', and 'Email is invalid!'.

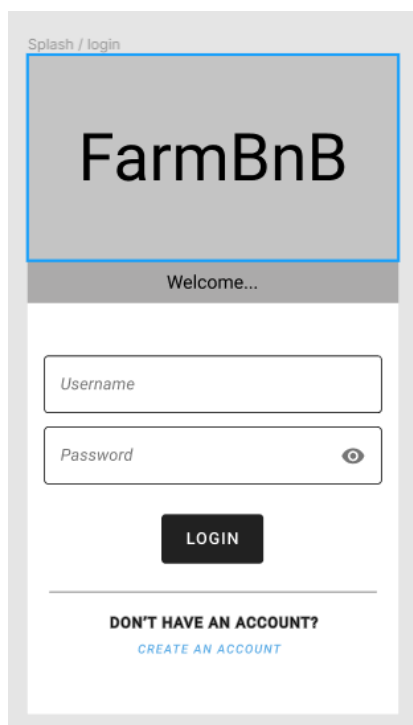
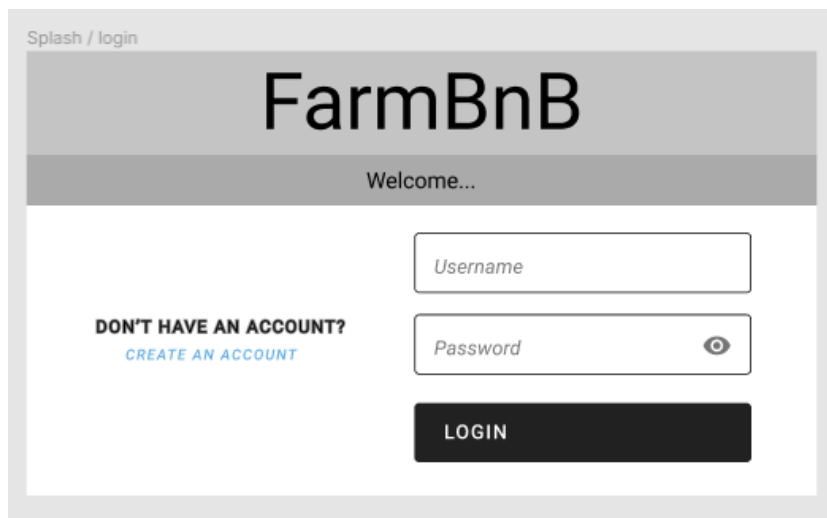


Another piece of feedback was to incorporate accessibility features within the app. However, mobile devices will natively have these features, and it is up to the software to test if whether these accessibility features are compatible with the app. Therefore, this view shows an example of what the screen will look like if the user has the device's screen zoomed in:



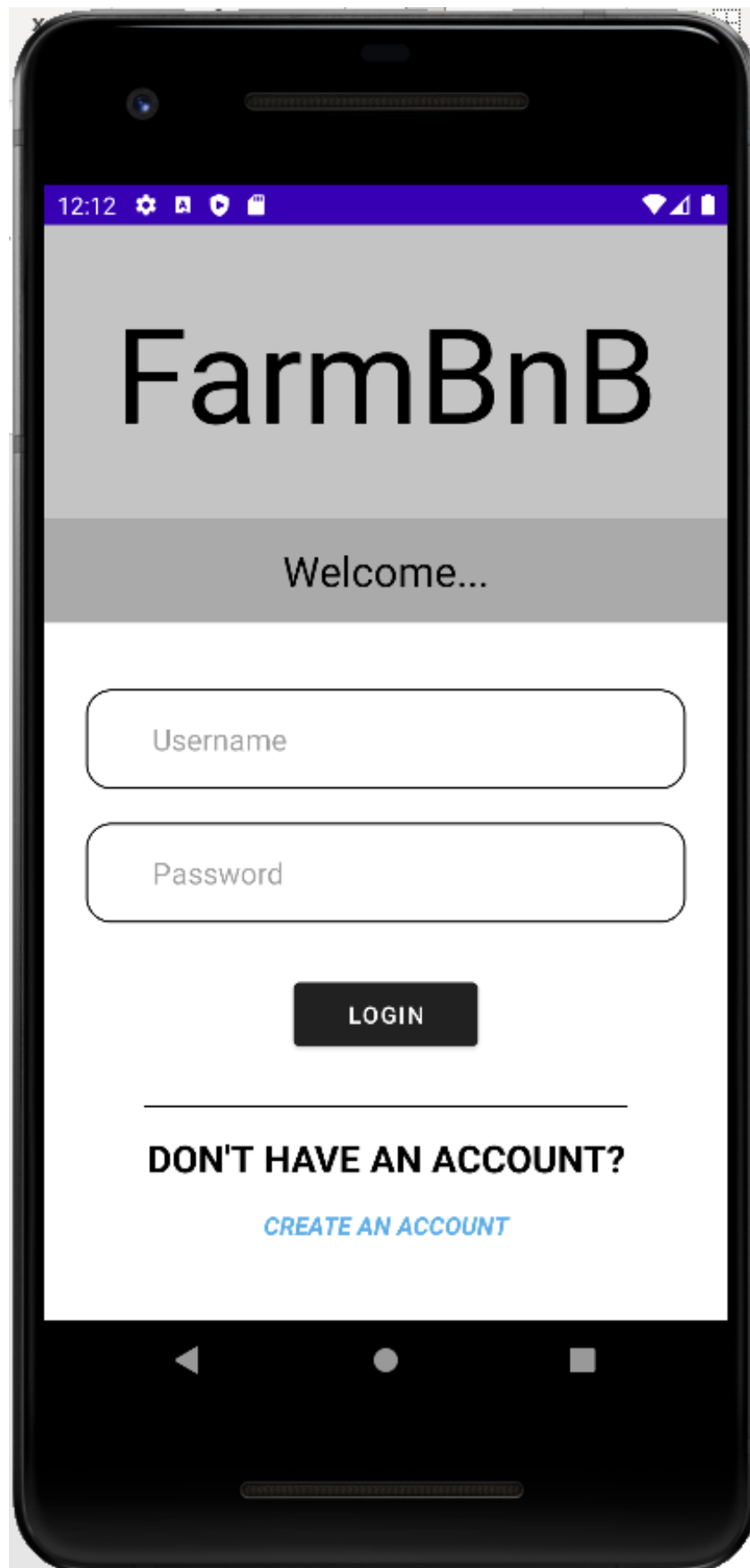
The size of the buttons has increased; the text is larger, and the input fields are also taller.

Furthermore, another improvement to the app that would improve usability is making it accessible in both landscape and portrait mode:



The above images use the sign-in page as an example, but the whole app would be implemented and tested in both vertical and horizontal view modes.

Set Exercise 5 (30 marks):



12:12



FarmBnB

Create an account

BACK

NEXT

12:13



FarmBnB

Accommodation Listings

Barn	AVAILABLE
Farmhouse 1	AVAILABLE
Farmhouse 2	AVAILABLE
Farmhouse 3	AVAILABLE
Hut	UNAVAILABLE

**SELECT A LISTING TO VIEW ADDITIONAL
INFORMATION**

12:14



FarmBnB

PROPERTY NAME PLACEHOLDER

Image Placeholder

DETAILS:

Capacity

PLACEHOLDER

Catering

PLACEHOLDER

Location

PLACEHOLDER

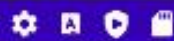
Price

PLACEHOLDER

BOOK ROOM

HOME

12:14



Name Placeholder

ACCOUNT DETAILS

MY BOOKINGS

SIGN OUT

12:15

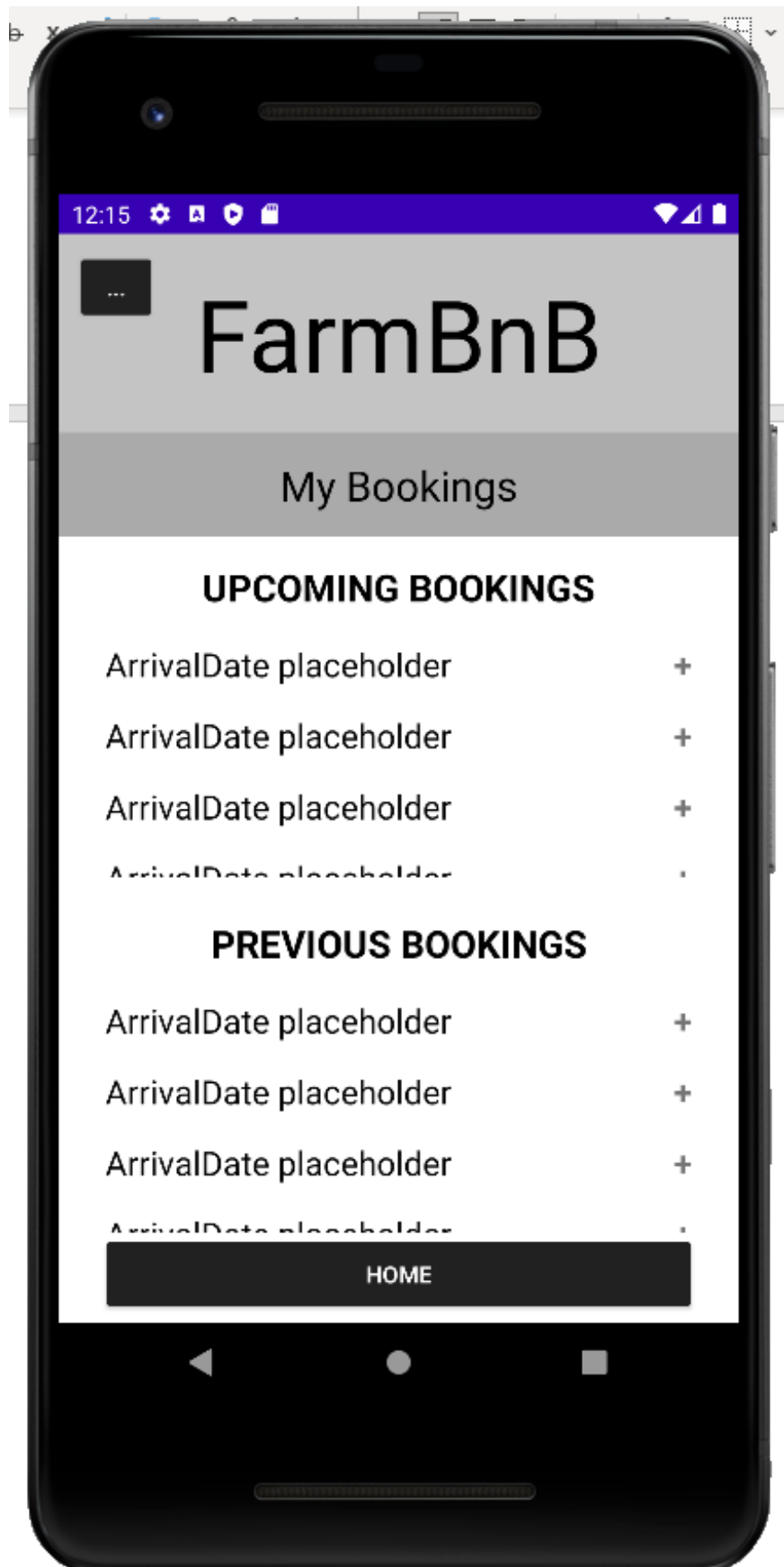


FarmBnB

My Account

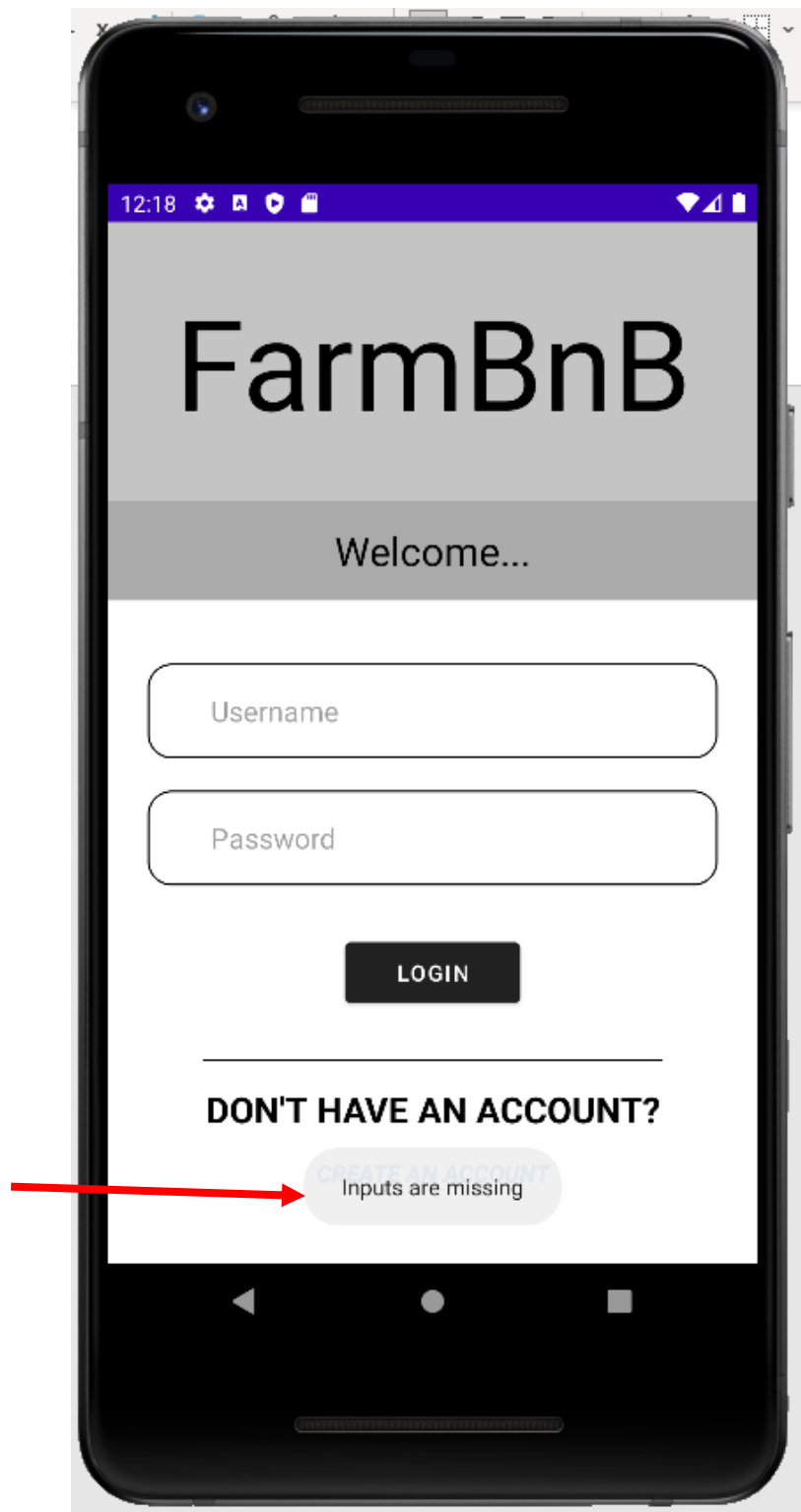
Forename	PLACEHOLDER
Surname	PLACEHOLDER
Email	PLACEHOLDER
Tel Number	PLACEHOLDER
Address	PLACEHOLDER

HOME

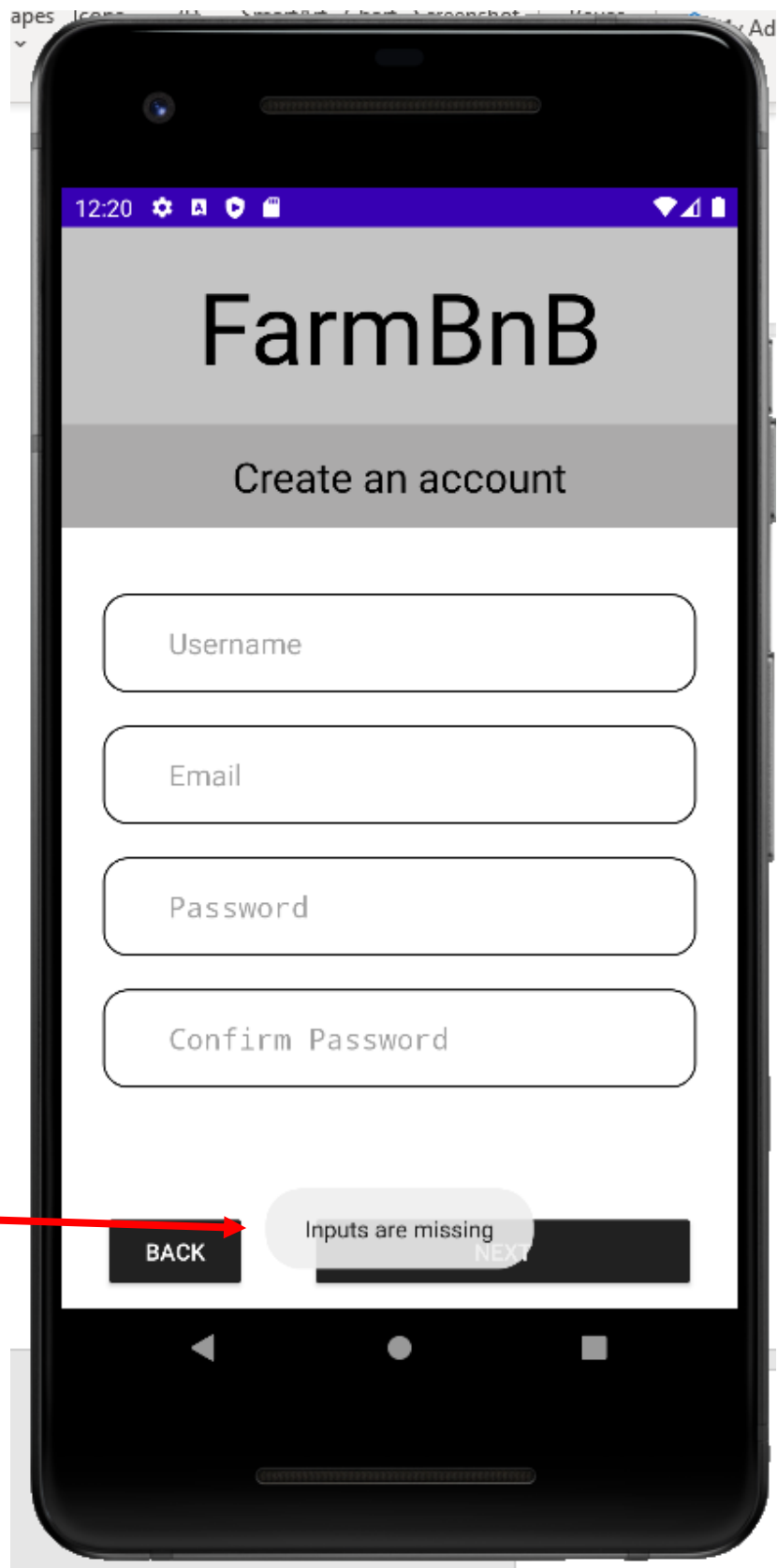


Each category of booking shown above is within its own scrollable layout

Set Exercise 6 (10 marks):



This toast is displayed when the user tries to login but both fields are empty. Upon further development of a sign in system, a toast would be displayed if the user cannot be found (inputs are incorrect).



The same toast is shown again within the account creation input view.

GitHub Classroom (same link as the one linked on page 1):

<https://github.com/Plymouth-University/comp2000-main-assignment-ORG4N>