



Nutty Mobile Application
System User Manual

Table of Contents:

[General Overview](#)

[Getting Started](#)

[Using The Mobile Application](#)

General Overview

System Overview

Nutty is an Android compatible mobile application which is created to help aid stage one computing science students at Newcastle University become more familiar with the university campus with the use of treasure hunts. The accompanying website is created to help organisers (namely the Newcastle University lecturers and staff) become more familiar with the Nutty mobile application through the various documentation as well as allowing them to create and manage various treasure hunts.

Navigating through this Manual

This user manual will consist of three main sections – General Overview, Getting Started, and Using the Mobile Application.

The General Overview section will be describing the general system and its purpose.

The Getting Started section will be describing the system's levels of access, the system's hardware and software requirements and the process involved with installing the mobile application.

Using the Mobile Application section will be describing the unique features of the mobile application.

Getting Started

The System's Levels of Access

For the mobile application, anyone can download and install Nutty. However, only users with the passwords generated by the Nutty server will be allowed access to the treasure hunts.

Users who will use the mobile application will include the Newcastle University lecturers (who wish to trial the application) and students partaking in the treasure hunts.

The System's Hardware and Software Requirements

To be able to run the Nutty mobile application, users must use a mobile device which has an Android operating system. The operating system must be of version 4.1 (Jelly Bean) or higher, the most up to date Google Play Services and also a web browser. Hardware wise, the mobile

device must have a camera, the ability to connect to the Internet (through Wi-Fi/3G/4G) and also GPS capabilities.

When using the Nutty mobile application, it is crucial for the user to grant permission to the following features - the device's location (through location services) and the device's camera.

Downloading and Installing the Nutty mobile application

To download the application, users must visit the following website, where they'll find a link to download the application.

http://homepages.cs.ncl.ac.uk/2016-17/csc2022_team06/public/

Users would need to press on the "Get Nutty" tab to access the download link. It is suggested that the user download the Nutty application (an .apk file) directly to their mobile devices by accessing the download link through the web browser on their mobile devices.

Using The Mobile Application

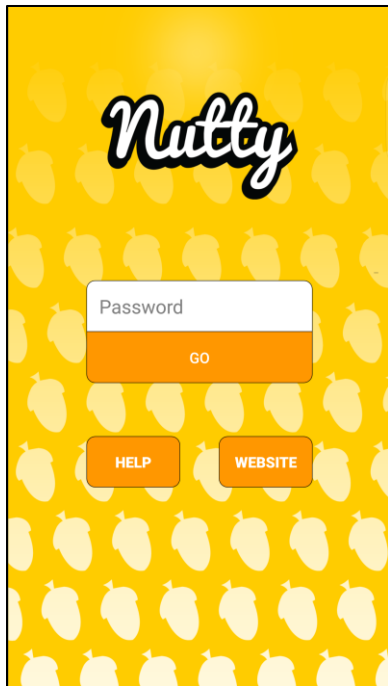


Figure 1: The welcome screen on the Nutty mobile application

Figure 1 is the welcome screen for the Nutty mobile application. There are three buttons that the user can press - the “GO” button, the “Help” button and the “Website” button. There is also a textbox where the user can enter the hunt password. If the password that has been typed in is incorrect and does not coincide with the passwords generated by the Nutty server, then the user will be refused access to the treasure hunt. The “Help” button will be explained in Figure 2.

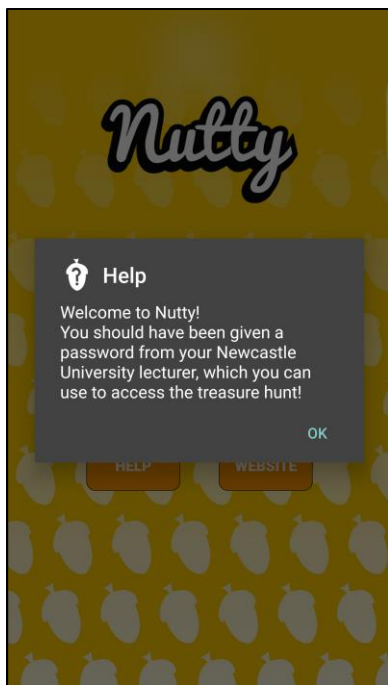


Figure 2: The help dialog on the welcome screen on the Nutty mobile application

If the user does not know how to access their particular hunt, they will be able to press the “Help” button and the button will trigger a help dialog. This dialog will direct the user on how they will be able to access the treasure hunt. Users are able to open this dialog an unlimited number of times until they provide the correct password and press the “Go” button.

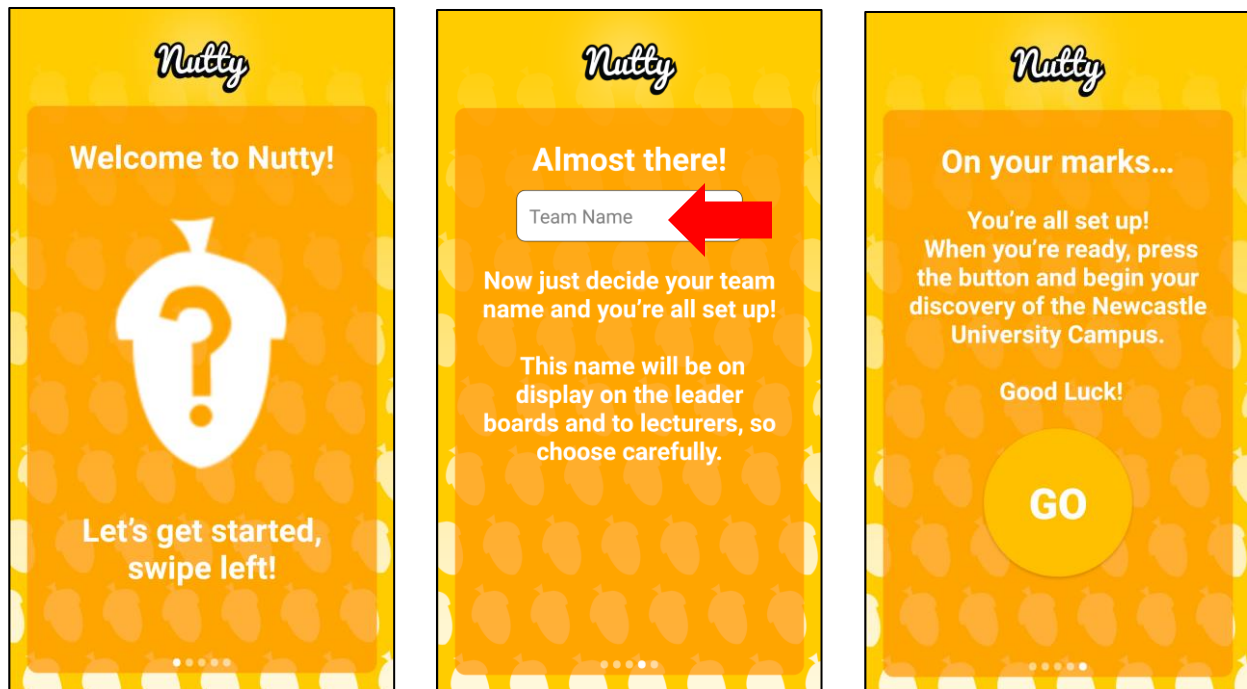


Figure 3, 4, 5: The instruction screens once the user has successfully logged in.

Once a user has successfully logged in, then the Nutty mobile application will welcome the user once more and explain the premise of the mobile application as seen in Figure 3. To navigate through all the instruction slides, the user should swipe left through all screens.

Once the users have understood the instructions and premise of the application, they will be allowed to insert a name for their team using the in-built text box as seen in Figure 4 (pointed with the arrow). As the information on the screen states, the team name which the students come up with will help them identify themselves on the leader board.

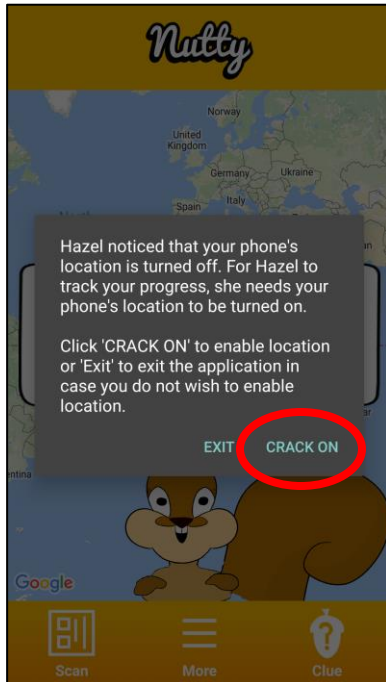


Figure 6: Once a user has successfully logged in, Hazel the Nutty mascot will alert the user if the location services is not turned on.

In Figure 6, the user will be given a warning message by the Nutty mascot, Hazel if the user's mobile device does not have the location feature turned on. The user will have two options - click "exit" or to click "crack on". It is imperative to have the location services turned on because this will ensure that the users that are on the treasure hunt will become aware of the buildings around them. By using location services, it also ensures that users cannot cheat when scanning the QR code. The QR code which is scanned must match the general vicinity of the phone's location. Therefore, we suggest the user to click the "crack on" button as circled in red.

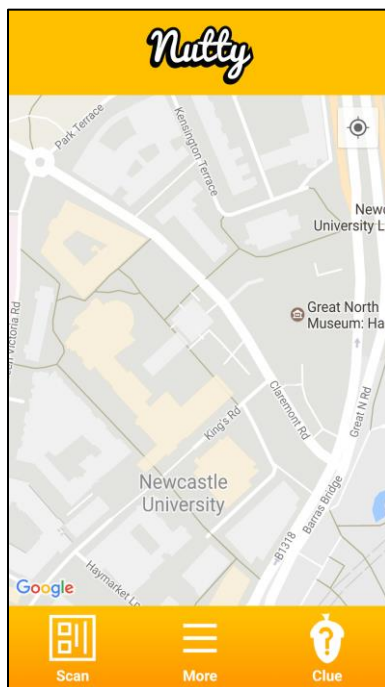


Figure 7: After a user has logged in successfully with the location services turned on, the user will be directed to the main maps screen.

As seen in Figure 8, this is the screen that the users will be greeted with once their location services are turned on. There are four main components on this screen - the map, the "scan" button, the "more" button and the "clue" button. Throughout the hunt, the user can see their location on the map and become more familiar with the buildings which surround them. The other features will be explained in the figures below.

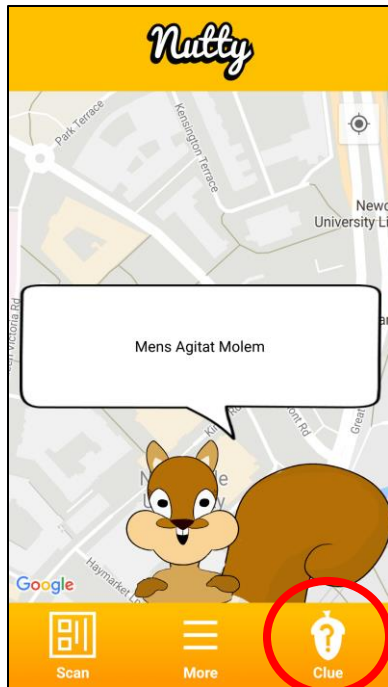


Figure 8: Hazel the mascot delivering a clue.

After the application has initialised, Hazel the Nutty mascot will appear bearing the first clue. After the user has read the clue, they can merely tap back onto the map and solve the clue. However, if the user wants to look at the clue again, they can tap on the clue button on the right-hand side and Hazel will pop up again with the clue. After the user has solved the clue, then they have unlocked the next clue.



Figure 9: The in-built QR scanner scanning a QR code.

When the user has solved the clue, and have arrived at the location, the user will be able to use the in-built QR scanner to take a picture of the QR code. The user would do so by clicking the “scan” button on the left-hand side of the screen (as seen circled in green in Figure 9). By placing the QR code within the yellow box, the scanner will be able recognise the QR code. To prevent cheating, when the QR code is scanned, the value stored in that QR code will be compared against the location of the user. If they are in the correct area, then they will progress to the screen as seen in Figure 10. If users are in the wrong location and they attempt to scan the QR code, they will receive a message as seen in Figure 11.

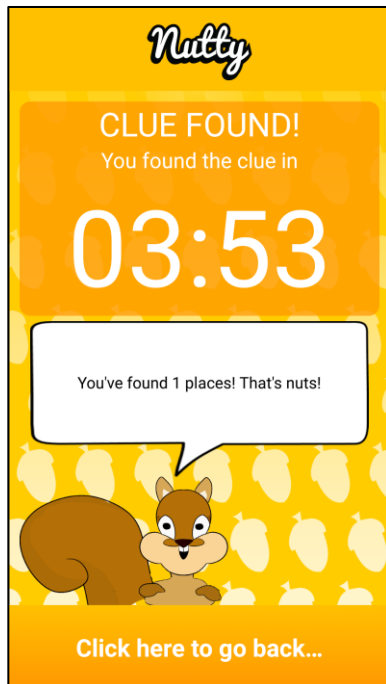


Figure 10: If a user correctly solves the clue and is at the location, then this screen will appear indicating the amount of time they took. The user can go back to the map and receive the next clue.

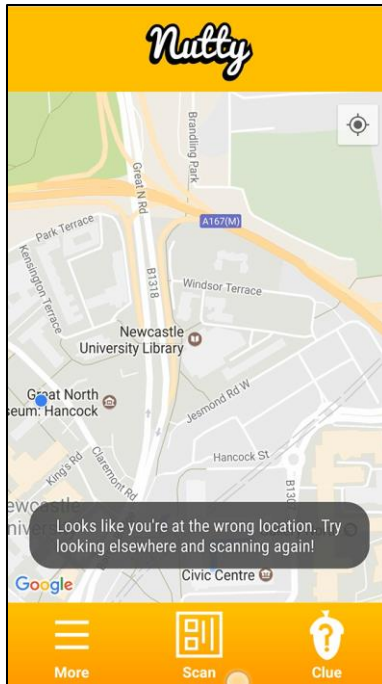


Figure 11: If a user does not arrive at the correct location, then they will have the following warning message.

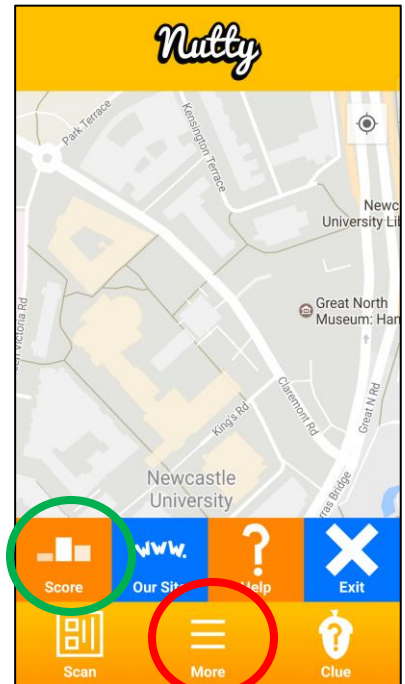
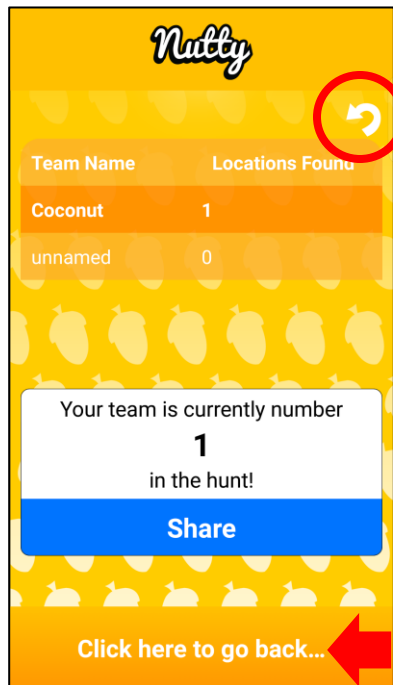


Figure 12: When the user presses the “more” button, they will be presented with a further menu.

If a user decides to press the “more” button, they will be presented with a further menu consisting of the scoreboard, the Nutty website and a help dialog. The user can press these buttons and access the different sections. The user will be able to access the further menu by pressing the more button anytime during their treasure hunt. If the user decides to visit the Nutty website during their hunt, their mobile device’s internet browser will open the website. The Nutty application will continue to run in the background and that will ensure that the timer which calculates the elapsed time between hunt locations will stay accurate.



In the case where the user wishes to check their progress in comparison to the other participating teams during the hunt, they would press the “score” button located on the left-hand corner of the “more” menu (as seen in Figure 13 circled in green). This scoreboard is useful as it has two main features. Firstly, with the refresh button (circled in red), users are able to manually keep up to date with their progress, adding to the competitive feel for the treasure hunt. Furthermore, the users will be able to share their successes during their hunt with the use of the “share” button (as seen through the red arrow) and users are able to connect to Twitter.

Figure 13: When the user presses the score button, the user is able to know their position in comparison to their peers.

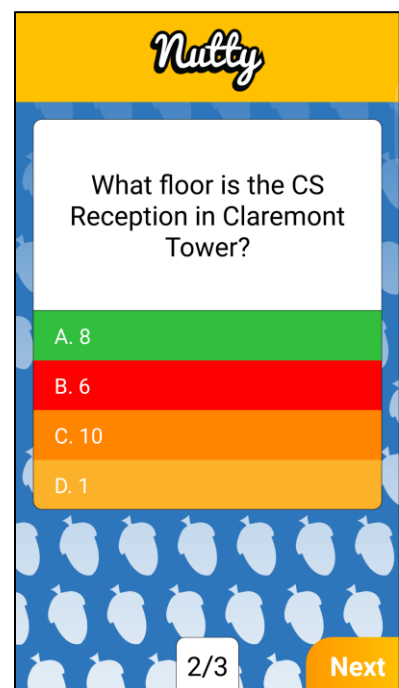
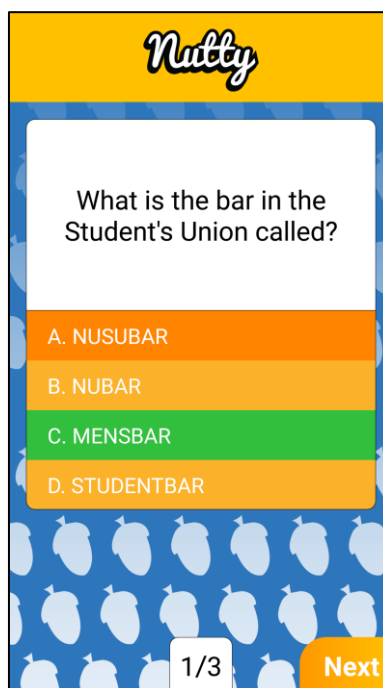
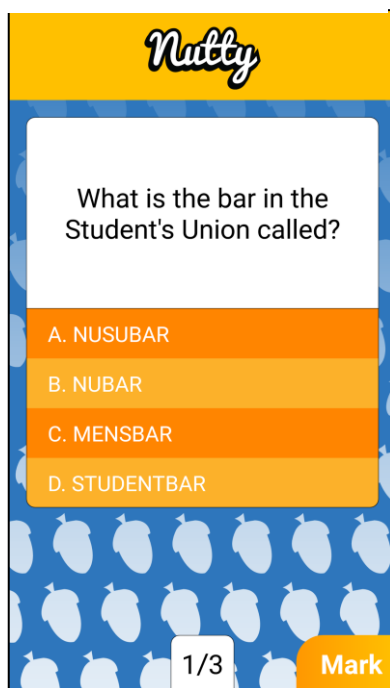
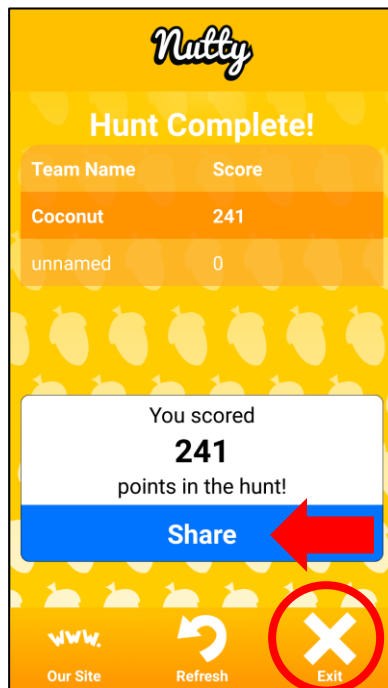


Figure 14, 15, 16: After finding all the QR codes and locations successfully, users will be directed to a quiz.

After the users have finished their treasure hunt, they will be redirected to the quiz. As seen in Figure 15, each question will have four options for the user to pick. The user can pick one of the four options and after they believe they have answered correctly, users will need to select their

answer and press the “Mark” button as circled in red. If the user has answered the question correctly, the answer will appear in green as seen in Figure 16. However, if the user selects the wrong answer, then the answer they chose will appear in red and the correct answer will be indicated and will be green as seen in Figure 17.



Once the user has finished their hunt, they will be directed to the final screen as seen in Figure 18. The screen indicates to the user their final score as well as the option to share the result (much like the scoreboard in Figure 18). The user can also refresh the scoreboard to see the scores of their peers. Once the user is finished with the hunt and is done refreshing the scores, they can press the “exit” button as circled in red in the right-hand corner of the page. Once the user presses that button, the user will be logged out of that hunt and be redirected back to the initial log-in page.

Figure 17: The final score board screen after the users have finished their hunt.