QR Quest Test Plan

Black Box Testing (Requirements Testing):

**Test that the application adheres to the requirements listed in the specification.**

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| **Test** | **Purpose Of Test** | **Typical/**  **Boundary / Erroneous** | **Expected Result** | **Actual Result**  **(Pass / Fail)** |
| **1** | Login screen transfers users to the correct page | Registered user / guest account / unregistered user | Main menu / main menu / registration screen |  |
| **2** | Registration menu allows user to create new account | Unregistered user /  guest account / registered user | Pass/ Pass / Fail |  |
| **3** | Users can create new treasure hunts (Quests) | Registered user / N/A / unregistered user | Pass / Fail |  |
| **4** | Users can add clues to Quests | Registered user / N/A / unregistered user | Pass / Fail |  |
| **5** | Each clue is mapped to a working QR Code | N/A | Pass |  |
| **6** | QR Codes only accepted within certain distance from location | 10m / 15m / 20m | Pass / Pass/ Fail |  |
| **7** | Users can edit their existing Quests | User’s Quest / N/A / Quest created by other user | Pass / Fail |  |
| **8** | Users can edit existing clues within their Quests | User’s Quest / N/A / Quest created by other user | Pass / Fail |  |
| **9** | Users can partake in their own Quests as well as other user’s Quests | User’s Quest / N/A / Quest created by other user | Pass / Pass |  |
| **10** | Quests can be saved and edited later on | N/A | Pass |  |
| **11** | Users can search for a Quest by name | Existing Quest / Draft Quest / Non existing Quest | Pass / Fail / Fail |  |
| **12** | Users location is shown on the map | User is outside / User is inside / User has no GPS Signal | Pass / Pass / Shows last known location |  |
| **13** | QR Codes are validated properly | Valid QR Code / N/A / Invalid QR Code | Pass / Fail |  |
| **14** | Clues are displayed to the user in order and only once the previous clue has been solved | N/A | Pass |  |
| **15** | Users can update their account details | Registered user / Guest account / Non registered User | Pass / Fail / Fail |  |
| **16** | Users can log out of their account / change accounts | User is logged in / Not logged in | Pass / Fail |  |
| **17** | Users can change the colour scheme of the app | N/A | Pass |  |
| **18** | Users can change the font size | N/A | Pass |  |
| **19** | Users can turn off notifications for the app | N/A | Pass |  |
| **20** | Creators of Quests receive alerts when players finish the game | N/A | Pass |  |
| **21** | QR Codes for clues are sent via email to the user |  | Pass |  |

Validation Testing:

**Test that data is being validated correctly.**

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| **Test** | **Purpose Of Test** | **Typical/**  **Boundary / Erroneous** | **Expected Result** | **Actual Result**  **(Pass / Fail)** |
| **1** | Test that username is validated at login screen | Valid username / invalid username | Pass / Fail |  |
| **2** | Test that password is validated at login screen | Valid password / invalid password | Pass / Fail |  |
| **3** | Test that scanned QR codes are validated for correctness | Valid QR Code / Invalid QR Code | Pass / Fail |  |
| **4** | Test that scanned QR Codes are validated for range | Range 10m / Range 15m / Range 20m | Pass / Pass / Fail |  |
| **5** | Test that user location is validated for clue completion | Within range / On edge of range / Outside of range | Pass / Pass / Fail |  |

Integration Testing:

**Test that data is being correctly saved into database tables, linking tables and text files.**

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| **Test** | **Purpose Of Test** | **Test data** | **Expected Result** | **Actual Result**  **(Pass / Fail)** |
| **1** | Test that when a user is created it is added to the User table with all fields satisfied |  | User is added to table with unique ID. |  |
| **2** | Test that when a Quest is created it is added to the Quests table |  | New Quest is added to table with related clues and creator. |  |
| **3** | Test that when a clue is added to a Quest it is added to the Clue table. |  | Clue is added to table with related QuestID. |  |
| **4** | Test that when a clue is edited it is updated in the Clue table |  | Clue information is updated when changes are saved but no the ID. |  |
| **5** | Test that when a user’s information is changed it is updated in the User table |  | User info is updated bar the unique ID which does not change. |  |
| **6** | Test that when a QR Code is generated it is stored in the Clue table |  | Generated QR Codes are stored in the clue table uniquely. |  |
| **7** | Test that Quest passwords are only stored if they exist. |  | If a password is set for a Quest then it should be stored in the Quest table, otherwise it should be NULL and not required. |  |

Interface Testing:

**Test that menu choices go to the correct section, test that buttons work etc.**

**Main navigation:**

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| **Test** | **Purpose Of Test** | **Test data** | **Expected Result** | **Actual Result**  **(Pass / Fail)** |
| **1** | Test registration button | Unregistered user | User is sent registration request |  |
| **2** | Test login button | Registered user | User is sent to main menu |  |
| **3** | Test help button | N/A | User is sent FAQ link |  |
| **4** | Test settings button | N/A | User sent to settings menu |  |
| **5** | Test sign out button | N/A | User is logged out and sent to login screen |  |
| **6** | Test save changes button | Font size changed | Changes are saved and user is sent to main menu |  |
| **7** | Test cancel button | Font size changed | Changes are discarded and user is sent to main menu |  |
| **8** | Test play button | N/A | User is sent to Quest list |  |
| **9** | Test complete quest | User completes Quest | User is sent to main menu |  |
| **10** | Test create quest button | N/A | User is sent to created quest list |  |
| **11** | Test edit quest button | User created quest selected | User is sent to quest editor |  |
| **12** | Test create new quest button | N/A | New quest is created and user is sent to quest editor |  |
| **13** | Test return button | N/A | User returned to main menu |  |

**Quest editor navigation:**

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| **Test** | **Purpose Of Test** | **Test data** | **Expected Result** | **Actual Result**  **(Pass / Fail)** |
| **1** | Test add clue |  | New clue is added, quest form is updated |  |
| **2** | Test edit clue |  | Opens clue editor |  |
| **3** | Test set clue location |  | Clue location is set on map |  |
| **4** | Test add QR Code |  | QR Code is generated for clue |  |
| **5** | Test send QR Code |  | QR code image for printing is sent to user via email |  |

**Quest player navigation:**

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| **Test** | **Purpose Of Test** | **Test data** | **Expected Result** | **Actual Result**  **(Pass / Fail)** |
| **1** | Test map view button |  | User is taken to maps view with location displayed on screen |  |
| **2** | Test return button | From map view | User is taken back to main play screen |  |
| **3** | Test scanner button |  | User is taken to QR code scanning screen |  |
| **4** | Test scan navigation | Valid QR Code | User clues are progressed and taken back to main play screen |  |
| **5** | Test scan navigation | Invalid QR Code | Message is displayed and user is taken back to main play screen with same active clue |  |
| **6** | Test exit button |  | User is prompted to save progress |  |
| **7** | Test save progress button |  | User progress is saved and user is taken back to main menu |  |
| **8** | Test do not save progress button |  | User progress is discarded and user is taken back to main menu |  |