Test Report

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This report is to outline the functionality of the created application and how that functionality was tested to ensure robustness when using the app that has been developed. The functionality available will first be looked at before looking at how the specific function was tested and ensured to work correctly.

The functionality of the main page is the two buttons that are contained within the page, these buttons will take you to either the current incident list or the planned roadworks list. These buttons were tested by ensuring that they were placed in an easily locatable and reachable portion of the screen, they were also tested several times to ensure that they take the user to the specific list requested.

In the list screen, functionality includes the calendar search, title search, pressing a list item to go to a new screen and pressing the back button to allow the user to return to the title screen. The calendar icon was tested to ensure it was easily noticeable as a calendar search, it was also tested to ensure if a date in the past is pressed it will not crash the app. It was also tested to ensure that if the user closes the calendar search prematurely, the app would not crash. The search icon was also tested in much the same way, by ensuring it was in an easily accessible location and that it was obvious what the function of the icon was, it was also tested by cancelling out of the search prematurely and also by inputting an invalid string, both icons passed all testing. The items within the list also have the functionality of opening a new screen when pressed, as mentioned previously. This was tested by ensuring that when a certain list item was pressed, it took the user to the correct screen with corresponding information. It was also tested to ensure that the list was easy to read and contained relevant information. The list items were further tested to ensure that they were easy to know which one was being pressed and to ensure the list was easy to navigate. The list items were also tested several times by comparing them to their respective RSS feeds to ensure that all information displayed was correct. When the list was first created, the title was given a specific colour to show the length of time that the roadworks would last, this was tested however and it was decided that it removed readability from the list so a corresponding coloured circle was placed next to the days in the list to give the user the same visual information instead. The coloured circles were also tested to ensure that users would understand the traffic light colour scheme that is used and that the users would know that the red lights correspond to longer times while the green light corresponds to shorter times for roadworks. Also in the initial list, the link to take a user to the web was added but this created a bug as the link is clickable as well as the item in the list, this would cause the app to crash, to fix this the link was moved to the map screen for the item, as there is no other clickable objects in the vicinity of the link this ensures that this bug will not happen in later iterations.

Another aspect of the application that was tested was to go between the two available lists and ensure that the lists never display incorrect information or the list fail to clear previous elements/display incorrect elements etc. As the app is also navigated by use of not only buttons but the back button on the phone, this was used extensively between each new screen to ensure that no problems or bugs arose when navigating through all available screens. The app can also be closed unexpectedly, this was done many times on each screen to ensure that it would not crash the app completely and would successfully reopen on the page the app was closed on with all relative information.

The final screen that was tested was the map screen that displays a google map that can be interacted with and a link that can be clicked to go to the corresponding page of the Traffic Scotland website. The map was tested by interacting with it and ensuring that it performed as expected, it was also tested to ensure that it was large enough to view what the map was displaying and that the coordinates on the map matched the item that was clicked from the list. The title, description and dates were also checked to ensure they contained the correct information. The link was tested by ensuring it was easily clickable and in a sensible position, it was also tested by opening the link with several browsers such as Chrome and Firefox, it was also tested on mini browsers such as Opera Mini and Dolphin Browser Mini, the link was successfully opened on all browsers tested.

As the app uses classes to store data, when the data is being displayed several checks are made to ensure that the item being called contains the information needed, this prevents a crash if the RSS feed included a misspelling or layout mistake. Before any actions such as calling intent are made, they are placed within a try and catch statement to ensure that if the action fails, the app remains open and does not crash.

The testing above was carried out to ensure that the app created works and even if the RSS feed that it relies on is created/loaded incorrectly that the app will still contain partial functionality and not crash. All the testing carried out should result in a robust app that can adapt to errors within the code without crashing entirely.