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School of Computing, Engineering and Built Environment

Mobile Platform Development

MHI326841-21-B

Coursework

Traffic Scotland - Mobile Application

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# **GitHub Link**



The following repository contains the android project source files and a video demonstration of the application.

Link: <https://github.com/MapperTaurus/Todorov_Ivan_S1822426>

# **Test Strategy**

| **ID** | **Test** | **Expected Result** | **Actual Result** | **Status** |
| --- | --- | --- | --- | --- |
| 1. | Build and Start-up | The application should be able to be compiled and run through a compatible emulator. | The build of the application was successful and the start-up time was reasonable. | ✔ |
| 2. | Performance and stability | The application should be interactable and stable when testing on the emulator. | Overall the application is running well on the emulator for an extended period of time with few exceptions. Sometimes the application crashes when performing faster scrolls or selections which may be due to the testing device and not the application itself. | /✓/ |
| 3. | Custom Icon Display | The application should appear with its set custom icon rather than the default Android icon. | The application is displayed among the other applications in the phone with the Traffic Scotland logo. | ✔ |
| 4. | Select “All Roadworks” | Redirect to a list with the roadworks, directly from the Traffic Scotland RSS. | The application takes a few seconds to display the results and parses them into appropriate data structure. | ✔ |
| 5. | Select “Planned Roadworks” | Redirect to a list with the planned roadworks, directly from the Traffic Scotland RSS. | Performs as expected. | ✔ |
| 6. | List browsing | Scroll through the list of entries (roadworks) | Performs as expected, even after extensive scroll, the list with entries does not stop and all of roadworks are ordered as in the original RSS | ✔ |
| 7. | Dates identification | The start and end dates of roadworks should be indicated in an accent colour, to improve visibility. | Works as intended, the dates are coloured in blue, giving them a clear distinction from the rest of the text contents. | ✔ |
| 8. | Description styling | The description of each roadwork should be displayed in grey colour instead of black. | Works as expected, the description does not attract that much attention because of its colour. | ✔ |
| 9. | Select a date | When selecting the calendar icon a date widget should appear | The date widget appears and the user is able to pick a date. | ✔ |
| 10. | Sort results based on the date | Display only the roadworks for the particular date that the user has selected. | The list with roadworks is updated almost immediately after the user has selected the date from the widget along with the proper results. | ✔ |
| 11. | Select “Go back/ Main menu” button | Redirect the user to the main menu after selecting the “home/house” icon. | Works as expected, with fast transition. | ✔ |
| 12. | Select the search field | After selecting the search field, the section should be focused and an interactable (phone) keyboard should appear from the bottom. | The field is highlighted when selected and the keyboard appears without problems. | ✔ |
| 13. | Search feature (part of description) | Search for results based on a word that is present in their description. | After typing “50mph” the application displays all roadworks that contain that word in their description, as expected. | ✔ |
| 14. | Search feature (road number) | Search for roadworks based on road number. | After typing “m80” the application displays all roadworks with the “M80” road number. The results are not case sensitive even though the “m” was written in lowercase. | ✔ |
| 15. | Search feature (road/destination title) | Search for roadworks based on the provided location. | After typing “Shawhead” the application displays all of the roadworks that occur on the roads to Shawhead, as intended. | ✔ |
| 16. | Search feature (results that do not exist) | Searching for roadworks that are not present in the original RSS stream should not display any results. | After typing “abc” in the search field there are not any results and the list becomes blank, as it should be. | ✔ |
| 17. | Select roadwork | The application should show the exact location of the selected roadwork using the Google Maps API. | Works as intended, the map takes a few seconds to load upon selection and then it is displayed with the appropriate marker for the roadwork. | ✔ |
| 18. | No Internet connection (main application function) | The application should be able to function even without Internet connection, but it will display only the last cached results. | Works as intended, the list of roadworks is not updated in real time, but the results are accurate based on the last time there was an Internet connection. | ✔ |
| 19. | No Internet connection (secondary application functions) | All other application functionalities should be able to work even without Internet connection. | The search field, the date selection widget and all navigation buttons work as intended without Internet connection. | ✔ |
| 20. | No Internet connection (Google Maps) | The application should be able to provide accurate coordinates based on the last time the device had an Internet connection. | The application uses the last cached results from the Maps API and displays the results, if there are not any and this is the first time booting the application the map stays blank. | ✔ |
| 21. | Lost Internet connection (while the application is running) | The application should be able to operate with its full functionality once opened, even if the device loses Internet connection. | Works as expected, there is not any difference once the application has loaded all of its resources it does not require Internet connection. | ✔ |
| 22. | RTL Layout Support compatibility | The visual elements should use “start” and “end” margins/paddings when positioning instead of “left” and “right”. | The application is capable of being transformed to a right-to-left layout to support languages that use right-to-left (RTL) UIs and reading direction, such as Arabic and Hebrew. | ✔ |
| 23. | Accessibility Testing | All ImageButtons and graphics need to have content description to improve application usability, particularly for users with disabilities. | All integrated accessibility features work as intended and each graphics has its textual representation. | ✔ |
| 24. | Landscape Mode Testing | Perform all of the previous tests this time using the landscape mode of the device and examine the same results. | The application performs the same way no matter if it runs in portrait or landscape mode, there are not any compromises or visual discrepancies. | ✔ |