**Expansion of Requirements from User Stories**

**Definitions**

*Functional requirements*: These are statements of services the system should provide, how the system should react to particular inputs, and how the system should behave in particular situations. In some cases, the functional requirements may also explicitly state what the system should not do.

*Non-functional requirements*: These are constraints on the services or functions offered by the system. They include timing constraints, constraints on the development process, and constraints imposed by standards. Non-functional requirements often apply to the system as a whole rather than individual system features or services.

*User requirements*: These are statements, in a natural language plus diagrams, of what services the system is expected to provide to system users and the constraints under which it must operate. The user requirements may vary from broad statements of the system features required to detailed, precise descriptions of the system functionality. Basically high level abstract requirements.

*System requirements*: These are more detailed descriptions of the software system“s functions, services, and operational constraints. The system requirements document (sometimes called a functional specification) should define exactly what is to be implemented. It may be part of the contract between the system buyer and the software developer. One user requirement may generate several system requirements.

**Requirements**

13. As a user, I want the reminder feature to honor silent mode and notification settings on the mobile device, so that I am not inconvenienced by additional settings.

Functional user requirement:

13. Software must honor device silent mode setting.

Non-functional user requirement:

13.1 Easy to use: There should be no mention of this feature in the app.

13.2 Easy to use: There should be no functionality to altar this behavior.

Functional system requirements:

13.3 The software will register notifications with the device and allow the operating system to properly handle the functionality.

13.4 If necessary, all reminder functions will check device settings and will not generate a reminder if the device is set to not notify.

14. As a user, I want to be able to completely disable all reminder features, regardless of phone

notification settings on the mobile device, so that I am not bothered by unnecessary reminders

when I am confident about my schedule.

Functional user requirement:

14. The software shall allows disabling notification settings.

Non-functional user requirement:

14.1 Easy to use: The setting will be prominent within a settings menu as one of few settings. Toggling the setting should be simple.

14.2 Speed: The setting should take effect within 2 seconds of the user making their setting selection.

Functional system requirements:

14.3 When the notification reminder setting is set to disabled, no reminder functions will be activated. Each reminder function will check for the setting to determine whether a reminder may occur.

14.4 In the settings view, toggling (both on and off) occurs by pressing the disable reminders setting. The setting will visibly indicate the current setting with a toggle box, check box, or textual explanation.

14.5 When a setting selection is made, the settings view should still be displayed but the visual indicator of the particular setting should be updated.

15. As a user, I want the app to recalculate the shortest path to the next destination in my schedule with the push of a ‘recalculate’ button, in the event that I veer from the original route and require new directions.

Functional user requirement:

15. The software shall recalculate the path to the next destination when a „recalculate“ button is pressed.

Non-functional user requirement:

15.1 Ease to use: The feature will require no training. Users in 99% of cases must be able to use the feature on their first attempt.

15.2 Speed: The recalculation should be completed within 10 seconds of the recalculate button being pressed.

Functional system requirements:

15.3 When the recalculate button is pressed, a function call will use the Google Maps API to refresh the map.

15.4 The button shall be fairly prominent (take up at least 5% of available screen space) without crowding out the map from being usefully visible (the button shall take up no more than 20% of available screen space)