**Non-functional requirement**

1. **Compatibility**

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| **Requirement#:NF: 1** | **Requirement Type**: Compatibility | **Use Case:#NONE** |
| **Description:** The system should be able to be used in the version of the Android system of 3.x or above. | | |
| **Rationale:** Some early versions of Android system might not support some functions of the system. | | |
| **Source:** User | | |
| **Fit Criterion:** 3.x or above of Android system can access or use the system successfully. | | |
| **Dependencies:** None | | |
| **Rank of importance:** Essential | | |
| **Supporting Materials:** None | | |
| **History: Created by Baibing Liu 15/09/2017,Modified by Caixing Su 15/09/2017** | | |

1. **Efficiency**

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| **Requirement#:NF: 2** | **Requirement Type**: Efficiency | **Use Case:#NONE** |
| **Description:** The system is easy to use and operate. | | |
| **Rationale:** Simplifying the design of structure, interface and buttons. | | |
| **Source:** User | | |
| **Fit Criterion:** Through using simple structure, interface and buttons, reducing the respond time and calculating time. | | |
| **Dependencies:** None | | |
| **Rank of importance:** Essential | | |
| **Supporting Materials:** None | | |
| **History: Created by Baibing Liu 15/09/2017** | | |

1. **Fault tolerance**

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| **Requirement#:NF: 3** | **Requirement Type**: Fault tolerance | **Use Case:#NONE** |
| **Description:** The system can deal with some running time errors. | | |
| **Rationale:** At the time of occurring errors, the system should continue running or stop. | | |
| **Source:** User | | |
| **Fit Criterion:** Based on different type of errors, the system should be able to handle the errors. When errors occurring, the system should go back to the security blocks or response the error messages. | | |
| **Dependencies:** None | | |
| **Rank of importance:** Essential | | |
| **Supporting Materials:** None | | |
| **History: Created by Baibing Liu 15/09/2017** | | |

1. **Privacy**

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| **Requirement#:NF: 4.1** | **Requirement Type**: Privacy | **Use Case:#NONE** |
| **Description:** The system should protect users’ privacy information like location. | | |
| **Rationale:** The system should not leak the privacy information of user. | | |
| **Source:** User | | |
| **Fit Criterion:** The user do not find the system leak their privacy information. | | |
| **Dependencies:** None | | |
| **Rank of importance:** Essential | | |
| **Supporting Materials:** None | | |
| **History: Created by Baibing Liu 15/09/2017, Modified by Caixing Su 15/09/2017** | | |

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| **Requirement#:NF: 4.2** | **Requirement Type**: Privacy | **Use Case:#NONE** |
| **Description:** The system should not store users’ privacy information like location. | | |
| **Rationale:** There are no needs for the system to store the user’s privacy information. | | |
| **Source:** User | | |
| **Fit Criterion:** The user does not find the system store their privacy information. | | |
| **Dependencies:** None | | |
| **Rank of importance:** Essential | | |
| **Supporting Materials:** None | | |
| **History: Created by Baibing Liu 15/09/2017,** | | |

1. **Reliability**

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| **Requirement#:NF: 5** | **Requirement Type**: Reliability | **Use Case:#NONE** |
| **Description:** The system should be able to be used 7\*24 hours. | | |
| **Rationale:** The system should provide a 24/7 service. | | |
| **Source:** User | | |
| **Fit Criterion:** The system should be able to be used anytime. | | |
| **Dependencies:** None | | |
| **Rank of importance:** Essential | | |
| **Supporting Materials:** None | | |
| **History: Created by Baibing Liu 15/09/2017, Modified by Caixing Su 15/09/2017** | | |

1. **Accuracy**

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| **Requirement#:NF: 6.1** | **Requirement Type**: Accuracy | **Use Case:#NONE** |
| **Description:** The system should receive and produce correct route information | | |
| **Rationale:** The system should be able to find the correct way during navigation. | | |
| **Source:** User | | |
| **Fit Criterion:** The system should display a correct way or route. | | |
| **Dependencies:** None | | |
| **Rank of importance:** Essential | | |
| **Supporting Materials:** None | | |
| **History: Created by Baibing Liu 15/09/2017, Modified by Caixing Su 15/09/2017** | | |

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| **Requirement#:NF: 6.2** | **Requirement Type**: Accuracy | **Use Case:#NONE** |
| **Description:** The system should limit the distance error within 3 meter. | | |
| **Rationale:** The system should not have a large distance error during navigation | | |
| **Source:** User | | |
| **Fit Criterion:** The distance error of this system should no more than 3 meters. | | |
| **Dependencies:** None | | |
| **Rank of importance:** Essential | | |
| **Supporting Materials:** None | | |
| **History: Created by Caixing Su 15/09/2017** | | |

1. **Performance**

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| **Requirement#:NF: 7** | **Requirement Type**: Performance | **Use Case:#NONE** |
| **Description:** The system should perform well in running, testing and data operating. | | |
| **Rationale:** This requirement divided into running performance and testing performance. | | |
| **Source:** User | | |
| **Fit Criterion:**   1. The response time of every action should be in 10 seconds. 2. The time of interface exchange should be in 3 seconds. | | |
| **Dependencies:** None | | |
| **Rank of importance:** Essential | | |
| **Supporting Materials:** None | | |
| **History: Created by Baibing Liu 15/09/2017** | | |

1. **Stability**

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| **Requirement#:NF: 8** | **Requirement Type**: Stability | **Use Case:#NONE** |
| **Description:** This requirement is related to security level in the program. | | |
| **Rationale:** The system ensures the normal operation of program. | | |
| **Source:** User | | |
| **Fit Criterion:** This system should have less running time error inside. | | |
| **Dependencies:** None | | |
| **Rank of importance:** Essential | | |
| **Supporting Materials:** None | | |
| **History: Created by Baibing Liu 15/09/2017,Modified by Caixing Su 15/09/2017** | | |

1. **Testability**

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| **Requirement#:NF: 9** | **Requirement Type**: Testability | **Use Case:#NONE** |
| **Description:** The system should be tested easily. | | |
| **Rationale:** When facing the problems, they should be easy to fix. | | |
| **Source:** User | | |
| **Fit Criterion:** The system should and could be test easily. | | |
| **Dependencies:** None | | |
| **Rank of importance:** Essential | | |
| **Supporting Materials:** None | | |
| **History: Created by Baibing Liu 15/09/2017** | | |