REQUIREMENTS SPECIFICATION

This document describes both the functional and non-functional requirements of the Crowd-tidbits mobile application.

Functional requirements

The functional requirements define the aspects of the system that are required for proper functioning thereof, as well as the expected base functions that the application will be expected to perform.

System features

System features describe the speciﬁc set of characteristics that a system needs to have to achieve the overall functionality of the system. The system must allow users to use the application online and provide full functionality of “tidbit” capture, upload and retrieval, as well as the GPS location of the user. Required features include but are not limited to:

* Geolocation sensor usage
* Tidbit capture
* Tidbit upload
* Plot Tidbits on map
* Internet connectivity
* Integration with server

Requirement Priority

Requirement Priority describes the level of importance of each requirement on the system. Ranging from low, which are nice to have but are not vital for the functioning of the system, to high, which the system will be unable to work without.

– Low: Not vital to the functioning of the system.

– Medium: Standard system feature, required for the functioning of the system.

– High: Critical feature, system cannot work without it.

Requirements

Each requirement has a requirement number, name, priority, description, motivation and dependency. The description describes what the requirement is, motivation explains the reason why the requirement is there and dependency indicates which other requirements need to be met before the current requirement can be realized.

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| **Req # 1** | |
| **Name** | User login |
| **Priority** | High |
| **Description** | User with valid account should log in with their username and password to access the system. |
| **Motivation** | This requirement ensures access control on the system. It only allows those with valid credentials to make use of system. |
| **Dependency** | 2, 8 |

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| **Req # 2** | |
| **Name** | User registration |
| **Priority** | High |
| **Description** | Users should register before they can access the application. User can only register once on the first time use of the system. |
| **Motivation** | The system allows anyone who downloads the app to register with the system. |
| **Dependency** | 8 |

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| **Req # 3** | |
| **Name** | Crowd-tidbits collection |
| **Priority** | High |
| **Description** | The user should be able to type in a tidbit, select its priority, and upload it. |
| **Motivation** | This is to allow other registered users on the system to see what is happening around them. |
| **Dependency** | 1,4, 5,6 |

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| **Req # 4** | |
| **Name** | GPS location |
| **Priority** | High |
| **Description** | The user’s device needs to have GPS module installed and functioning, if the GPS is off the user needs to activate it. |
| **Motivation** | The GPS functionality is required to enable the application to capture the geolocation of every Tidbit uploaded. |
| **Dependency** |  |

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| **Req # 5** | |
| **Name** | Online use |
| **Priority** | High |
| **Description** | The online use to upload the collected tidbits. |
| **Motivation** | This requirement ensures connection between application and the server. |
| **Dependency** |  |

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| **Req # 6** | |
| **Name** | Automated syncing |
| **Priority** | Medium |
| **Description** | The upload should run faultlessly in the background, and it shouldn’t rely on the user’s interaction with the device |
| **Motivation** | This is important to ensure that user error is eliminated during the uploading process and to enhance the accuracy and speed of submissions. |
| **Dependency** | Req 3, 5 |

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| **Req # 7** | |
| **Name** | Targeted device |
| **Priority** | High |
| **Description** | The targeted android operating system that the application can run on. |
| **Motivation** | This is to ensure that the application can run on a device that can fully support its functionality. |
| **Dependency** |  |

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| **Req # 8** | |
| **Name** | Hashing |
| **Priority** | Medium |
| **Description** | All collected passwords are hashed. |
| **Motivation** | This ensures that user passwords are kept secure, and are not transmitted in plain text |
| **Dependency** |  |
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| **Req # 9** | |
| **Name** | Display map |
| **Priority** | High |
| **Description** | Display a map containing posts as interactive pins |
| **Motivation** | The user is able to view posts on a map. Ease of access is created by showing posts as interactive pins |
| **Dependency** | 3 |

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| **Req # 10** | |
| **Name** | Vicinity Map |
| **Priority** | High |
| **Description** | Plot all nearby Tidbits on a map, so that the user can view the locations of the posts as well as their content |
| **Motivation** | The user is able to view posts created in their immediate vicinity. Reduces network overhead. |
| **Dependency** | Req 9 |

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| **Req # 11** | |
| **Name** | Map Update |
| **Priority** | Medium |
| **Description** | Update the map with posts as the user moves the map around on the screen |
| **Motivation** | The user can view posts in locations other than where he currently is, without the overhead of retrieving all posts |
| **Dependency** | Req 9 |

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| **Req # 12** | |
| **Name** | Choose radius |
| **Priority** | Low |
| **Description** | Let the user choose the distance within which posts should be retrieved |
| **Motivation** | Reduce network overhead by showing only the posts the user wants to see |
| **Dependency** | 9, 10 |

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| **Req # 13** | |
| **Name** | Choose priority |
| **Priority** | Low |
| **Description** | Let the user choose the priority of Tidbits that they want to see |
| **Motivation** | Decrease network overhead and user experience |
| **Dependency** | 9, 10, 11 |