**Software Requirement Specification**

**Team Collaboration System For Mobility Water Monitoring**

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**Document History**

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| **Document Name** | **Detail** | **Status** | **Date** | **View able** | **Reviewer& Responsible** |
| **TCS-SRS\_0.1.docx** | **0.1**   * Introduction * Purpose * User Characteristics * Operational Environment   Acronym and Definitions | Draft | 10/4/14 | SW | PC, WT |
| **TCS-SRS\_0.2.docx** | * Functional Requirement * User Requirement Specification   System Requirement Specification | Draft | 8/4/14 | SW | PC, WT |
| **TCS-SRS\_0.3.docx** | • Specific Requirement  • Use Case  • Use Case Description | Draft | 27/4/14 | SW | PC, WT |
| **TCS-SRS\_0.4.docx** | •Software Requirement Specification  •Activity Diagram | Draft | 28/4/14 | SW | PC, WT |
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**1. Introduction**

**1.1 Purpose**

The purpose of a software requirement specification (SRS) is to describe the functional and non-functional requirements of the Smart Traffic Management System. The requirements in the SRS are involved with the stakeholders and the users of the system. The software requirement specification provides developers and users to understand each other in term of the structural details of the system. The system will be designed followed this SRS.

**1.2 Project Overview**

Team collaboration system for mobility water monitoring application is developed for the chemical analysis of the water quality which makes it easy for collectors working as a team. The system will be divided into three parts. The first part is a mobile application for collector which is the existing system produced by I-ANALY-S-T. The collector can collect samples of the water sources and can send the measuring result to the web service. The second part is a mobile application for the center to see of the test results of each survey area. The third part is a web application for the administrator to create a team project to identify the water source location. The application can see the team members and their responsibility the each of projects and also the test results.

**1.3 Objective**

Team collaboration system for mobility water monitoring run on android operation system and web application, this application is support English language. Which is main objective of this project is to create the central system support team collaboration which helps project teams’ management. The system able to identify the collector’s responsibility, share the test result for evaluation and also trace back the test result from research center. These lead to reducing the of working as a team.

**1.5 Intended Audience and Reading Suggestions**

This Software Requirement Specification documentation is intended to be used for anyone that relate with team collaboration system for mobility water monitoring. The documentation will benefit to those who develop the system and those who use the system followed:

**Development team**

* The requirement specification can be use to define the scope of the application and help everyone to have the same understanding.
* Help to verify and validate whether the development team follow the requirement specification defined in this documentation or not.
* Help guiding team to right direction or the way that application should do.
* Help achieving the highest quality of the product.
* Useful to be used as a reference for discussion about the system.

**Customer**

* Ensure that the development team will understand requirements, achieve the requirement, and satisfy the customer needs.
* Help customer understand the quality, scope, and limitation of the system defined in the document.

1.6 Project Scope

Team collaboration system for mobility water monitoring is the idea to increase the value of the water monitoring process to have more efficiency. The system can share the information of the team members which is controlled by the team leader. The team leader can create a location and assigns the responsibility of the team members in each point on the map. Therefore, the collector is unnecessary to ask the team leader about his responsibility in the project. The application can help the team leader to trace all of the collectors to prove that they actually do the water sampling. The system can make further convenience of the connection between team leader and team members. The prompt message can be sent to each other in a bidirectional way, if the team leader needs his team member to recollect the water sampling. In this project, the developers determine to create team collaboration system on both web application and mobile application and also extended functions of the existing mobile software to have further completion for team collaboration.

**1.7 Acronyms and Acronyms**

TCS = Team collaboration system for mobility water monitoring

PMP = Project Management Plan

SDD = Software Design Document

SRS = Software Requirment Specification

PC = Peerapong Chompootepa

WT = Worrasete Tansurat

URS = User Requirement Specification

SRS = Software Requirement Specification

UC = Use Case

AD = Activity Diagram

**Definitions**

**Feature :** Transformation of input parameters to output parameters based on a specified algorithm. It describes the functionality of a product in the language of the product. Used for requirements analysis, design, coding, testing or maintenance. [IEEE90]

**IEEE:**  Institute for Electrical and Electronics Engineers. Biggest global interest group for engineers of different branches and for computer scientists. [IEEE90]

**Requirement:** A condition or capability needed by a user to solve a problem or achieve an objective. A condition or capability that must be met or possessed by a system or system component to satisfy a contract, standard, specification, or other formally imposed document. A documented representation of a condition or capability as in definition. [IEEE90]

**Specification:** Precise description of an activity or work product which serves as basis or input for further activities or work product. A specification can comprise requirements to a product and how they will be solved. Different parts of a specification (e.g., what is to be done, how it will be done)must not be mixed. [IEEE90]

**UML:** Unified Modeling Languages. Standardized notation for modeling design descriptions, architectures or scenarios. Not depending on a specific method. Issued and maintained by the object Management Group(OMG). [IEEE90]

**Use case:** (1)Concept to describe a system based on usage of system resources by its environment. Characterized by an objective-set of interactions within and at the borders of that system. (2)Notation from UML for describing a scenario (Usage approach, operational scenario)from the perspective of this user. [IEEE90]

**Software:** "Computer programs, procedures, and association and data pertaining to operation of a computer system." [IEEE90]

1.8 User Characteristics

The system divided users into 3 groups. Information and characteristics of each group are listed below.

**Administrator**

* + Authentication system on web application
  + Project management
  + Map location management
  + Result Presentation
  + Messaging System

**Team leader**

* + Authentication system on web application
  + Authentication system on mobile application
  + Project management
  + Map location management
  + Result Presentation
  + Messaging System

Collector

* + Authentication system on mobile application
  + Messaging System
  + Extension of existing application