Parental Controller for Android
Quality Assurance Plan

Version 2.1

Revision History

Date	Version	Description	Author
08/01/2012	1.0	Initial Edition	H.M.G.C.Karunarathne
09/02/2012	1.5	Modify and prepare the plan	H.M.G.C.Karunarathne
26/03/2012	2.1	Modify for final	H.M.G.C.Karunarathne

Table of Contents

Quality Assurance Plan

1. Introduction

Quality Assurance Plan provides an overview of the entire document. It includes the purpose, scope, definitions, acronyms, abbreviations, references, and overview of this Quality Assurance Plan.

1.1 Purpose

The purpose of this document is to provide a single point of reference on the topic of quality for Parental Controller for Android app. This document does not contain details review and evaluation techniques, criteria, metrics etc.

1.2 Scope

Quality Assurance Plan applies to Parental Controller for Android app developed. This document describes issues related to quality assurance. Target audience of this document is as follows:

- Project evaluator

  Who is responsible for evaluation of the whole project procedure and monitors the project's progress.
- Developer (myself)

  Who is responsible for maintain and implement the system through project time period

1.3 Definitions, Acronyms, and Abbreviations

Parentdroid – The application which is control by an adult person. Administrator of the system
Childroid – person who is under control
SRS – Software Requirement Specification

RUP – Rational Unified Process

1.4 References

- RUP examples : http://www.ts.mah.se/RUP/RationalUnifiedProcess/process/modguide/md_srs.htm
- RUP SRS template
- Parental Controller for Android – Feasibility Report
- Parental Controller for Android – Project Vision Report
- Parental Controller for Android – Project Schedule
- Parental Controller for Android – Software Development Case
- Parental Controller for Android – Software Requirement Specification for Parentdroid
- Parental Controller for Android – Software Requirement Specification for Childroid

1.5 Overview

The purpose of this document to describes how to assure highest quality of software app during the development process. The section Quality Objectives describes product quality requirements. The section Management describes the organizational structure of quality assurance department, responsibilities and communication between team members in order to facilitate quality assurance. Documentation gives the list of documents which are designed to check the product's conformity to quality standards.
Standards and Guidelines describe Standards and Guidelines which will be used in product development process.
Metrics defines the metrics that will be measured at certain control points during product development and that will allow to control the development process. Review and Audit Plan describes in detail schedule, resources engaged, methods and processes that will be used for project Review and Audit. Evaluation and Test describes product evaluation plan, and covers the techniques, criteria, metrics, and procedures of evaluation, which include walkthroughs, inspections, and reviews. Problem Resolution and Corrective Action describes the principles of reporting, analysis, and problem solving during the project. Tools, Techniques, and Methodologies describe Tools, Techniques, and Methodologies used in the project.

Configuration Management defines all Configuration and Change Control Management (CCM) activities that need to be performed on the course of project and product lifecycle. It provides the details on the schedule of activities, responsibilities assigned, and resources required, including staff, tools, and computers. Supplier Controls gives some background on accounting information that will be given to the client during the project.

Quality Records describes the process of quality issues tracking. Risk Management and Risk Management Plan gives the information on how to manage risks associated with the project. This section defines risk management tasks that will be carried out, describes the responsibilities assigned and all additional resources required for the effective risk management.

2. Quality Objectives

Parental Controller for Parentdroid app must comply with the functional requirements and non-functional requirements describes in Software Requirement Specification for Parentdroid. Also Parental Controller for Childroid app must comply with the functional requirements and non-functional requirements describes in Software Requirement Specification for Childroid. Project's conformity of SRS will be checked though the mid-evaluation of the project and final evaluation of the project by project evaluator. As developer, myself verification of all of the tests will be monitored and ensure the final product is in a satisfactory quality. At the end of project, it must be accepted by project evaluator to satisfactory passed the project.

3. Management

3.1 Organization

Role	Responsibility
Project Evaluator	▪ Responsible for evaluation of project planning and project assessment at its milestones over the project course ▪ Evaluating test coverage, test results and test effectiveness
Developer	▪ Responsible for developing and testing components, in accordance with the project adopted standards, for integration of two apps which are Parentdroid and Childroid ▪ Responsible for developing and testing the test components and corresponding subsystems. ▪ Responsible for test execution, including test set-up and test run, evaluation of test run and error recovery, defect logging and test results recording. ▪ Establishes the overall structure of product architecture: decomposition of the overall structure, modules/component grouping, and interfaces between these ▪ Responsible for planning, design, implementation, and evaluation of the tests, including: • Developing the test plan and test component • Implementing the test procedures • Evaluating test coverage, test results, and test effectiveness

3.2 Tasks and Responsibilities

To gain the expected quality of the Android app, following actions must be done:

- Developer must do software testing according to a implemented test cases and documented those records in weekly reports.
- Acceptance testing must be done with two milestones and must be accepted by project evaluator:
  - Mid-evaluation : evaluator should seek for the weekly testing, give an assessment on current position of the project and brainstorm for further enhancements
  - Final evaluation : evaluate the project whether it is in the level of satisfaction

4. Documentation

4.1.1 Software Requirements Specification (SRS)

Software Requirements Specification (SRS) comprises complete software requirements for the whole system and its parts. It describes the major functionalities and non-functional requirements of the Parental Controller for Android app. It has two major modules as Parentdroid and Childroid. This SRS is mainly focus on Parentdroid application. The limitations and constrains of system building. This document will be the guide line for the project development process.

4.1.2 Software Development Case

Software Development Case is a comprehensive, complete document which is lists the artifacts that are part of the process, along with guidance on the tools used to create them. This collects the details of RUP disciplines verses choosing of artifacts and reports. It gives a collection of the artifacts and reports, generated throughout the project.

4.1.3 Software Architecture Document

Software Architecture Document provides a comprehensive architectural overview of the system, using a number of different architectural views to depict different aspects of the system. It is intended to capture and convey the significant architectural decisions which have been made on the system.

4.1.4 User Documentation

There are two types of user documentation:

- **Online-Help User Guide**
  To access the online user guide, internet facility should be facilitated. Main purposes of this guides are train the user, answer to the frequently ask questions, over view for install and use and report for bugs and ask for further information from developers.
- **Local User Guide**
  With respect to online version, this version would be train the user, answer to the frequently ask questions, over view for install and use.

4.1.5 Weekly report

Weekly Report will evaluate and a summary organizes and presents the test results and key units of measurement for review.

5. Standards and Guidelines

Product development is performed on the basis of the following standards and guidelines:

- Development Case
  This document gives the guidelines for lists the artifacts that are part of the process, along with guidance on the tools used to create them.

- Android API

http://developer.android.com/guide/index.html
This developers guide will be provide basic standard to build the app and guide lines to follow for particular implementation.

6. Metrics

To provide control over the development process and quality assurance the following metrics are used:

Metric	Purpose	Sample measures/perspectives
Progress Iteration planning	Iteration planning Completeness	Source lines of code
Quality	Iteration planning Rework indicator Release criterion	Number of errors Defect discovery rate Defect density
Maturity	Test coverage/adequacy Robustness for use	Test hours/failure and type of failure

7. Review and Audit Plan

7.1.1 Review and Audit Tasks

- **Software specification review**: For track the requirement, SRS documentation will be the review resource. It is performed at about the initial part of the elaboration phase.
- **Architecture Review**: This is performed at the end of the elaboration phase and it will mainly concern with Software Architecture Documentation.
- **Code Review**: Developer is responsible for code reviewing and adds comments for code review.

7.1.2 Organization and Responsibilities

- **Requirements Review**
  Developer (myself) should follow the Software Requirement Specification and report the results by weekly report. Also developer is responsible for updating and making corrections of Requirement.
- **Architecture Review**

Developer (myself) is responsible for creation of the Architecture review and also for revision history keeping. Also Developer is responsible for change the documentation according to updating of the Software Architecture and making corrections of Requirement review.

- **Code Review**
  Developer (myself) is responsible for creation of initial review and keep updating weekly and for adding comments to code review.

7.1.3 Problem Resolution and Corrective Action

- **Requirements Review**
  Developer (myself) should create the initial review version according to Software Requirement Specification. This document must be revised by project evaluator and add some points or correct Requirements review, using track changes mode.

- **Architecture Review**
  Developer (myself) responsible for revise the Architecture Document and initialize the review version. Those reports should be revising and proof by project evaluator.

8. Evaluation and Test

Not applicable

9. Problem Resolution and Corrective Action

Not applicable

10. Tools, Techniques, and Methodologies

10.1.1 Tools

- Android Emulator
- Eclipse debugging tools

10.1.2 Techniques

- **Black Box Testing**
  Black-box tools deal with functional description which are mentioned in SRS. Test cases are based on the knowledge on how the test target processes the request.

- **Peer-to-peer Testing**
  Peer-to-peer testing involves the use of unstructured or previously unplanned activities. This testing method provides the proofs of both two applications are synchronized together and work properly.

10.1.3 Methodology

RUP methodology is used.
Rational Unified Process (RUP) is a software engineering process. It provides a disciplined approach to assigning tasks and responsibilities within development organization. Its goal is to ensure the production of high-quality software that meets the needs of its end users within predictable schedule and given time period.

11. Configuration Management

During the project implementation Source Control System is used. All project artifacts like documentation, source code, etc. are kept in the single Source Control System. The daily backup of the data from Source Control System is done. The person responsible for daily data backup is the appointed Implementer.

Apache subversion is used as a Source control system.

Reference: http://subversion.apache.org/

12. Supplier and Subcontractor Controls

Not applicable.

13. Quality Records

All defects found during the testing phase are processed and documented into Risk Analysis Document (Internal document).
Record users comments in online-help guide

14. Training

Training activity will provide by online-help guide and local guide. User can have video tutorial for train himself if the time limitation not affected.

15. Risk Management

A risk list is created and supported during the whole project and documented (internal document). Risk report may be present appropriately in mid-evaluation or final evaluation.