**Quality Plan**

Image result for instant edge logo

**The Enterprise Transformation Platform**

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

|  |  |
| --- | --- |
| Document Reference: | ISS\_IE\_QP\_2.0 |
| Client: | **I**nstant **E**dge |
| Project: | **I**nstant **E**dge- Manage Operations Module |
| Document Title: | Quality Plan |
| Version | 2.0 |
| Date | 5/12/2016 |
| Author | Vrinda Gupta |

Approver Rameswari Mohanty

**Amendment History:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Version | File Reference | Date | Brief description of amendments and affected pages, paragraph | Author | Reviewer |
| 1.0 | ISS/IE/QP.1/1.0 | 06/09/2016 | Initial version | Vrinda Gupta | Rameswari Mohanty |
| 1.1 | ISS/IE/QP.1/1.0 | 5/12/2016 | Updated the plan as per the available resources. | Vrinda Gupta | Vignesh Selvaraju |
| 2.0 | ISS/IE/QP.1/2.0 | 5/12/2016 | Change in Scope | Vrinda Gupta | Zhao Pengcheng |

**Team Members:**

|  |  |  |
| --- | --- | --- |
| **Name** | **Group** | **Matriculation No.** |
| Rameswari Mohanty | SE24/4FT | A0148532E |
| Vrinda Gupta | SE24/4FT | A0148518X |
| Vignesh Selvaraju | SE24/4FT | A0148576N |
| Zhao Pengcheng | SE24/4FT | A0148528W |

**Table of Content:**

[1. Introduction 5](#_Toc468120859)

[1.1 Purpose 6](#_Toc468120860)

[1.2 Audience 6](#_Toc468120861)

[1.3 Organization 6](#_Toc468120862)

[1.4 References 6](#_Toc468120863)

[2. Project Organization 6](#_Toc468120864)

[3. Liaison with Client 9](#_Toc468120865)

[4. Documentation Organization 9](#_Toc468120866)

[5. Work Plan and Deliverables 11](#_Toc468120867)

[5.1 Work Plan 11](#_Toc468120868)

[5.2 Deliverables 12](#_Toc468120869)

[6. Planning and Progress Control 14](#_Toc468120870)

[6.1 Project Planning 14](#_Toc468120871)

[6.2 Project Control 14](#_Toc468120872)

[7. Quality Controls 15](#_Toc468120875)

[7.1 Schedule of Reviews 15](#_Toc468120876)

[7.2 Software Testing 15](#_Toc468120878)

[7.3 Acceptance procedures 16](#_Toc468120879)

[7.3.1 Client Deliverable Documents 16](#_Toc468120880)

[7.3.2 Internal Project Documents 16](#_Toc468120881)

[7.3.3 Software 16](#_Toc468120882)

[8. STANDARDS, METHODS AND TOOLS 17](#_Toc468120883)

[9. USER CONTROL 18](#_Toc468120884)

[9.1 User Requirements Specification 18](#_Toc468120885)

[9.2 Prototyping 18](#_Toc468120886)

[9.3 System Specification 18](#_Toc468120887)

[9.4 Enhancement Specification 18](#_Toc468120888)

[9.5 User Trial Plan 18](#_Toc468120889)

[9.6 User’s Manual 18](#_Toc468120890)

[9.7 Developer Trail Plan 18](#_Toc468120891)

[9.8 Developer’s Manual 19](#_Toc468120892)

[9.9 Acceptance of the Software 19](#_Toc468120893)

[10. CHANGE CONTROL 19](#_Toc468120894)

[10.1 Control of Requirements 19](#_Toc468120895)

[10.2 Documentation Control 19](#_Toc468120896)

[10.2.1 Reference Numbers 19](#_Toc468120897)

[10.2.2 Approval Procedures 19](#_Toc468120898)

[10.2.3 First Version 20](#_Toc468120899)

[10.2.4 Updated Versions 20](#_Toc468120900)

[10.2.5 Filing 20](#_Toc468120901)

[10.3 Software Configuration Management 20](#_Toc468120902)

[10.3.1 Observation Reports 20](#_Toc468120903)

[10.3.2 Change Authority 20](#_Toc468120904)

[10.3.3 Record of Changes 20](#_Toc468120905)

[10.3.4 Testing of Changes 21](#_Toc468120906)

* + 1. [Software Configuration 21](#_Toc468120907)

# **Introduction**

Enterprise IT organizations, their systems integrators and software vendors have been reasonably good in the past more than 15 years to help business organizations integrate their disparate commercial processes into a (more) holistic whole – while at the same time neglecting own (management) decision support processes and systems.

Instant Edge provides a transformation platform that addresses this problem space by helping executives, line- and project managers, team leads, members, and employees – essentially any stakeholder of a business transformation initiative to drastically improve motivation of actors within the corporation, enable better decision making, avoid failed transformations and dramatically improve quality of delivery – achieving the desired real business partnering status with on par business interactions.

The Instant Edge Platform is structured with following business process areas:

1. Ensure Benefits delivery
2. Manage Changes
3. Manage Programs and Projects
4. **Manage Operations**
5. Manage Organizations

Instant Edge requires the development of Manage Operations Process Area. This involves the development of following Key components:

1. Manage Service Portfolio
2. Manage Incident
3. Manage Mobile Integration
   1. **Purpose**

The purpose of this document is to provide a Quality Plan for the work to complete this project to develop the Manage Operations Module of Instant Edge Platform.

* 1. **Audience**

The intended readers of this Quality Plan are the project team to:

1. Provide them with a plan for the activities that they need to perform.
2. Specify the deliverables they need to produce.
3. Indicate the required effort and timescales.

# **Project Organization**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Role** | **Acronym** | **Person in Charge** | **Organization** |
| 1 | User Representative | UR | Mathias Behne | Instant Edge |
| 2 | Project Manager | PM | Rameswari Mohanty | ISS |
| 3 | Quality Manager | QM | Vrinda Gupta | ISS |
| 4 | Configuration Manager | CM | Selvaraju Vignesh | ISS |
| 5 | Software Architect | TA | Zhao Pengcheng | ISS |
| 6 | Technical Lead | TL | Zhao Pengcheng | ISS |
| 7 | Business Analyst | BA | Rameswari Mohanty | ISS |
| 8 | Software Developer | DP | Zhao Pengcheng , Selvaraju Vignesh , Rameswari Mohanty , Vrinda Gupta, | ISS |
| 9 | Software Tester | WP | Zhao Pengcheng , Selvaraju Vignesh , Vrinda Gupta | ISS |

The overall roles and responsibilities for the required deliverables are described in the following subsections:

**User Representative (UR):**

* Provides interface between the project team and the sponsor.
* Focal points of contact for the ISS team
* Approves project deliverables from client side
* Provide project requirements to Team
* Provide sign off to module requirements

## 

**Project Manager (PM):**

* The day-to-day management of the project and has specific accountability for managing the project within the approved constraints of scope, quality, and time, to deliver the specified requirements and deliverables as agreed with the Client and ISS.
* Monitoring the progress of the project and takes appropriate action when required.
* Acting as the main point of contact for Client with the project
* Acting as the change authority for requirement and software change requests.
* Setting up and conducting User Acceptance meeting
* Conducting progress meetings
* The production of Project Plan
* End of Project Report
* Progress Reports

## 

**Quality Manager (QM):**

* Developing and managing QA procedures for the project and ensuring that they are followed by the project team
* Quality Assurance matters
* Works with CM to set up project filing system
* Planning, prioritization of all the test-related tasks
* Providing Test Strategies, Test Plans, Conducts Peer Review sessions and Test sessions
* The production of Quality Plan
* Maintain and Update Risk register, Issue Log
* Acceptance Test Plan
* System Test Plan

**Technical Leader (TL):**

* Prototyping Design and Development;
* Review architectural design and database design;
* Review high level and detail design;
* Assist Project Manager in Project Management activities

**Software Architect (SA):**

* Leads the development of software work product
* Works with TA to decide between technical alternatives
* For the overall delivery of the technical deliverables
* UCMS
* UCRR

**Business Analyst (BA):**

* Eliciting requirements
* Documents and analyses functional requirements for user by the team
* Getting sign off on User Requirements Specifications
* Works with Quality Manger on System and Acceptance testing
* User Requirements Specification
* Acceptance test report

**Developer:**

* Backend software development activities
* Working with SA to develop the prototype and work products
* Works with SA and BA on User Interface Design
* Desktop application development activities
* Working with SA to develop the prototype and work products
* Works with SA and BA on User Interface Design
* Assist in producing the quality plan, user requirements specification document and the project plan
* Perform the prototyping to determine the detailed software requirements
* Assist in producing the system specification document
* Undertake the software coding
* Plan and perform system testing of the d software
* Assist in producing Acceptance and System test plan
* Support user acceptance
* Produce the User Guide
* produce weekly time reports
* Attend progress meetings
* Maintain the project filing system.

**Testers:**

* System Testing
* Assist the users during acceptance testing

# **Liaison with Client**

The points of liaison between Client representatives and their respective counterparts within the software project team are as given in the following table.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Project Team** | | | **Client** | |
| **Responsibility** | **Name** | **Deputy** | **Name** | **Deputy** |
| Project Management | Rameswari Mohanty | - | Mathias Behne | - |
| Project Liaison | Rameswari Mohanty | Vrinda Gupta | Mathias Behne | Sebastian Voss |
| Technical Matters | Zhao Pengcheng | Selvaraju Vignesh | Mathias Behne | - |
|
| Quality | Vrinda Gupta | - | Mathias Behne | - |
| Business Analyst | Rameswari Mohanty | Selvaraju Vignesh | Mathias Behne | - |

Figure 3.1: **Project/Client Liaison**

# **Documentation Organization**

Files are kept in form of soft copies and hard copies. Soft copies are shared by team member on Dropbox and NAS (Network Attached Storage) team project folder while hard copies will only be handed over to the lecturers. Files will be maintained up-to-date according to the procedures defined in section 10.2. Two basic types of files will be maintained:

1. management files and
2. technical files.

The format and layout of the plans, specifications and user documentation will follow the same conventions as this quality plan.

Figure 4.1: **Management Files**

|  |  |  |
| --- | --- | --- |
| **File Category** | **File Reference** | **File Description** |
| Project Communication | MOM<DATE>  ISS/IE/PB  ISS/IE/SB  ISS/IE/TL  ISS/IE/WD  PROG\_REP\_SE24FT4\_<DATE>  ISS/IE/RTM  ISS/IE/RT  ISS/IE/SM  ISS/IE/TC | Meeting Minutes(internal)  Product Backlog  Sprint Backlog  Task List  Work Distribution  Progress Reports  Requirement Traceability Matrix  Review Tracker  Skill Matrix  Test Cases |
| Quality | ISS/IE/QP  ISS/IE/RR  ISS/IE/CM | QA Plan  Risk Management Plan  Configuration Management Plan |
| Project Plan | ISS/IE/PP  ISS/IE/EE  ISS/IE/FP | Project Plan  Effort Estimation  Function Point |

Figure 4.2: **Technical Files**

|  |  |  |
| --- | --- | --- |
| **File Category** | **File Reference** | **File Description** |
| Technical Specifications | ISS/IE/URS  ISS/IE/UCMS  ISS/IE/PSR  ISS/IE/HLD  ISS/IE/DMR  ISS/IE/RMD  ISS/IE/UTP | User Requirements Specification  Use Case Model Survey  Prototyping Study Report  High Level Design  Design Model Report  Requirement Model Report  Unit Test Plan |

# 

# **Work Plan and Deliverables**

The following subsections summarize the work program to be carried out by the project and the deliverables that will be produced.

## **5.1 Work Plan**

This project is using agile model to deliver. Sprint 0 is about doing feature identification and planning. Quality plan is created during this increment to ensure increment 1 and increment 2 are delivered with high quality. During end of each increment, there is a quality audit to check the completion. While increment 0 define all the use case, analysis and design, increment 1 and 2 include basic feature development, advanced feature development, testing and implementation. This quality plan will be modified in internal review only. But the project plan will be revised according to our customer. The work plan is described in details in Project Plan (ISS/IE/PP.1) Section 4.2 and Work Division (ISS\_IE\_WD)

|  |  |  |
| --- | --- | --- |
| S/No | Phase | Tasks |
| 1 | SPRINT 0 and SPRINT 1 | Task 1: Project Briefing  Task 2: Project Planning  Task 3: Project Initiation  Task 4: Requirement Gathering and Analysis  Task 5: Story and Function Point Estimation  Task 6: Analysis Modeling (for each Sprint)  Task 7: Detailed Design Modeling (for each Sprint)  Task 8: Implementation (for each Sprint)  Task 9: Unit Testing (for each Sprint)  Task 10: User Acceptance Testing (for each Sprint)  Task 11: Quality Audit Meeting  Task 12: Project Presentation |
| 2 | SPRINT 2 and SPRINT 3 | Task 13: Requirement Gathering and Analysis  Task 14: Story and Function Point Estimation  Task 15: Analysis Modeling (for each Sprint)  Task 16: Detailed Design Modeling (for each Sprint)  Task 17: Implementation (for each Sprint)  Task 18: Unit Testing (for each Sprint)  Task 19: System Testing (for each Sprint)  Task 20: User Acceptance Testing (for each Sprint)  Task 22: System Testing for whole System  Task 25: Quality Audit Meeting  Task 26: Project Presentation |
|  | SPRINT 4 and SPRINT 5 | Task 27: Requirement Gathering and Analysis  Task 28: Story and Function Point Estimation  Task 29: Analysis Modeling (for each Sprint)  Task 30: Detailed Design Modeling (for each Sprint)  Task 31: Implementation (for each Sprint)  Task 32: System Testing (for each Sprint)  Task 33: User Acceptance Testing (for each Sprint)  Task 34: Produce User Manual (for each Sprint)  Task 35: System Testing for whole System  Task 36: Acceptance Testing for whole System  Task 35: Project Closure  Task 38: Quality Audit Meeting  Task 39: Project Presentation |

## **5.2 Deliverables**

Deliverables will fall into one of the two categories detailed below:

1. system deliverables and

2. management deliverables.

Figures 5.1 and 5.2 define the deliverables and acceptance procedures for all end products.

Figure 5.1**: System Deliverables**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Deliverable** | **Reference** | **Acceptance Procedures** |
| 1 | User Requirements Spec. | ISS/IE/URS | See section 7.3.1. |
| 2 | Use Case Model Survey | ISS/IE/UCMS | See section 7.3.1 |
| 3 | Prototyping Study Report (UI and Technical) | ISS/IE/PSR | See section 7.3.1. |
| 4 | High Level Design | ISS/IE/HLD | See section 7.3.1. |
| 5 | Use Case Realization Report(Analysis) | ISS/IE/UCRR(A) | See section 7.3.1. |
| 6 | Use Case Realization Report(Design) | ISS/IE/UCRR(D) | See section 7.3.1. |
| 7 | Design Specification | ISS/IE/DS | See section 7.3.1. |
| 8 | User Guide  Developer Guide | ISS/IE/UG | See section 7.3.1. |
| 9 | Software Configuration Management Documentation | ISS/IE/CM | See section 7.3.2. |
| 10 | Source and Executable Code | ISS/IE/SRC | See section 7.3.3. |

Figure 5.2**: Management Deliverables**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Deliverable** | **Reference** | **Acceptance Procedures** |
| 1 | Project Plan | ISS/IE/PP | See section 7.3.1. |
| 2 | QA Plan | ISS/IE/QP | See section 7.3.2. |
| 3 | System Test Plan | ISS/IE/TP | See section 7.3.2. |
| 4 | User Trial Plan | ISS/IE/TC | See section 7.3.1. |
| 5 | Developer Trial Plan | ISS/IE/TC | See section 7.3.1. |

# 

# **Planning and Progress Control**

This section describes the methods that will be used by the project to plan the development of the system, delegate planned work tasks to project team members, and monitor and control progress against the plan.

## 

## **6.1 Project Planning**

The overall plan for the work to be done on the project is described in the Project Plan (reference ISS/IE/PP.1). More detailed plans will also be produced for significant technical areas of the project (management deliverables 2 through 4 in Figure 5.2). Briefly, these detailed plans address:

1. quality assurance (this document);
2. system testing; and
3. developer trail.
4. user trail

## **Project Control**

## To monitor and control progress against the project plan, the following methods will be used:

## Time Sheet has been created for all team members to record the project progress.

1. Each team members will record time spent on each subtask in Time Sheet and at the end of each month, totals for the month and cumulative totals to date will be calculated and entered on to the form. The sheets will be filed at ISS/IE/TS;
2. Scrum meetings are held everyday where team members report the status of the tasks assigned to them as well as report the issues if any. These meetings help to resolve the queries and in turn it will help the development team meet the project milestone. Bi-weekly status report along with the Action items for next week are recorded by PM. At the end of the day a retrospective meeting is held to consolidate the task completed and update the work division document, which is shared with the team in the form of Work Distribution filled at ISS/IE/WD
3. Team members will update the planned leaves or absence in the time sheet and keep it up to date because it will be referred before planning the work assignment at the beginning of each month.
4. At the beginning of each scrum, estimates to complete each task mentioned in the planned section of the previous month’s project report, will be calculated. At the end of month, actual effort spent of the task will be recorded in the progress report by referring the efforts logged against time sheet. These efforts will be compared with WBS and will be used to assess whether the milestones specified in the project plan can be met or whether they need to be revised.

**6.3 Delegation of Work**

The task assignments for the project team are defined in the project plan and the quality plan. In case of any unavoidable circumstances if additional task assignments or task shuffling are required, then they will be formally using Work Distribution ISS/IE/WD

# **Quality Controls**

To control the quality of the deliverables produced by the project, a program of reviews will be carried out on the deliverable documents, and testing will be applied to the software. The reviews and testing procedures will result in the formal acceptance of each deliverable. These quality controls are described in the following subsections.

## 

## **7.1 Schedule of Reviews**

## The document reviews to be carried out are shown in Figure 7.1 below. The actions which result from each review will be recorded in document review tracker (filed at ISS/IE/RT) with open status and will be assigned to an owner. The owner will work upon the change and update the document review tracker accordingly so as the document version.

## 

## **7.2 Software Testing**

To exercise quality control over the software produced the following testing procedures will be carried out:

1. system testing.
2. acceptance testing by Developer trial.
3. acceptance testing by User trial.

A system test plan will be produced to define the testing approach and give detailed testing instructions to define how the developers and users will test the system. A developer and user trial plan will also be produced.

## 

## **7.3 Acceptance procedures**

The acceptance procedures are described in Test Plan. Ref. ISS/IS/TP.

### 7.3.1 Client Deliverable Documents

A draft version of the document will be internally reviewed by PM, and changes specified by the review will be made. Client Representative will be issued with the reviewed document. A meeting will then be held with Client Representative to explain the document and determine any required changes. A final version of the document will then be issued incorporating these changes.

## 

### 7.3.2 Internal Project Documents

A draft version of the document will be internally reviewed by PM. The changes specified by the review will be made, and a final version will be produced. PM will then be issued with the document.

Figure 7.1**: Schedule of Reviews**

|  |  |  |
| --- | --- | --- |
| **Document** | **Reference** | **Reviewer(s)** |
| Project Plan | ISS/IE/PP.1 | Vrinda Gupta |
| Quality Plan | ISS/IE/QP.1 | Rameswari Mohanty |
| User Requirements Spec. | ISS/IE/URS.1 | Zhao Pengcheng |
| Risk Register | ISS/IE/RR.1 | Rameswari Mohanty |
| Use Case Model Survey | ISS/IE/UCMS.2 | Vignesh Selvaraju |
| Prototype Study Report | ISS/IE/PSR.1 | Vrinda Gupta |
| Design Specification | ISS/IE/HLD.1 | Zhao Pengcheng |

### 7.3.3 Software

The PM will arrange the User Trial and ensure that appropriate user staffs are available to conduct the test. The PM will also agree with the user, the duration of the trial and the method by which the users should report errors, observations and suggestions. These will be documented in a User Trial Plan. The PM will take sign off from the dedicated freelancer developer/organization on the interfacing of their application with Developer center and this will be documented in Developer Trial Plan. At the end of the trial, a meeting will be held at which the users and the project team will review the reports from the trial (errors, observations and suggestions), and agree the changes to be made to the software. When the final changes have been successfully completed to the satisfaction of the users, Client Representative will be invited to accept the software.

# **STANDARDS, METHODS AND TOOLS**

The work plan section of the project plan defines the work to be carried out under each task. Application specific coding guidelines are provided by Instant Edge (Application Specific Coding Guidelines), where necessary and appropriate, pre-specified procedures for technical activities are mentioned. For activities which no procedure specified, it is assumed that project team members will use their own judgment to choose appropriate methods. The procedures that will be applied are specified in Figures 8.1 and 8.2 below.

Figure 8.1**: General Project Procedures**

|  |  |  |
| --- | --- | --- |
| **Activity** | **Procedure** | **File Reference** |
| Filing System | Project Filing Procedure | ISS/IE /PF.2/1 |
| Document Control | See section 10.2 of Quality Plan | ISS/IE /PF.1/1 |
| Requirement Control | See section 10.1 of Quality Plan | ISS/IE /PF.1/1 |
| Document Format, Style, Layout and Conventions | See section 4 of Quality Plan | ISS/IE /PF.1/1 |

Figure 8.2**: Software Development Procedures**

|  |  |  |
| --- | --- | --- |
| **Activity** | **Procedure** | **File Reference** |
| Prototyping | JAVA – NetBeans IDE 8.1  User Interface (UI) – JSF Pages And Managed Beans  Service Layer (EJB) – Interface and Implementation Classes  Database Layer – Entities and Pojo | N/A |
|  |
| Software Coding | JAVA – NetBeans IDE 8.1  User Interface (UI) – JSF Pages And Managed Beans  Service Layer (EJB) – Interface and Implementation Classes  Database Layer – Entities and Pojo | N/A |
|  |
| Software Configuration Management | See section 10.3 of Quality Plan | ISS/IE/QP.1/1 |

# **USER CONTROL**

To ensure that effective liaison occurs with Client Representative, the following procedures will be applied.

## **9.1 User Requirements Specification**

The project will have a dedicated Business Analyst and he will undertake requirements analysis by liaising closely with Client Representative to identify the user requirements. An initial user requirements specification will then be issued to Client Representative to determine any required additional requirements. A final version of the document will be issued incorporating the changes. To signify final acceptance, Client Representative will be required to sign in the space provided at the front of the document. After the user requirement specification has been accepted by Client Representative, a series of prototypes will be produced.

## **Prototyping**

The detailed requirements for the software to be developed, will be determined by creating a series of screen prototypes using Bootstrap UI under WINDOWS. Thick client prototype along with Single sign on feature will also be demonstrated to the Client Representative to determine the acceptability of screen layouts, report formats and methods of operation (menus, function keys, etc.). As a result of each prototype demonstration, agreed changes will be included in the next prototype. Hence, each prototype builds on the functionality of the previous until it is agreed with Client Representative that the latest prototype represents the full detailed requirements for the software to be developed.

## **System Specification**

Client Representative will be issued with the second draft of the document. A meeting will then be held with Client Representative to explain the document and determine any required changes. A final version of the document will then be issued incorporating these changes. To signify final acceptance, Client Representative will be required to sign in the space provided at the front of the document. After the system specification has been accepted by User any changes required to the detailed software requirement will need to be processed by the change control procedure described in section 10.1.

## **Enhancement Specification**

As described above for the System Specification.

## **User Trial Plan**

As described above for the System Specification.

## **User’s Manual**

As described above for the System Specification.

## **Developer Trail Plan**

As described above for the System Specification.

## **Developer’s Manual**

As described above for the System Specification.

## 

## **Acceptance of the Software**

User acceptance of the software will be achieved by a User Trial and Developer Trail as described in Section 7.3.3. Project manager will take sign off from the dedicated freelancer developer/organization on the interfacing of their application with Developer center. During the trial, the users will be able to use the system in their everyday work and feedback any problems with the system that they discover. At the end of the trial, a meeting will be held at which the users and the project team will agree any changes that need to be made to the software. When the final changes have been successfully completed to the satisfaction of the users, Client Representative will be invited to accept the software.

# **Change Control**

The procedures that will be used to control changes to requirements, project documents and software are described in the following subsections.

## **Control of Requirements**

Change control procedures will only apply after the system specification has been signed off by Client Representative. Any change request after this time will be processed using the following procedure:

* A change control request will be submitted by Client Representative in the form of an internal memorandum;
* Project Manager will evaluate the technical and timescale impacts on the project;
* Project Manager and Software Architect will jointly decide whether to action the change request; and
* if they decide to action the request, then their approval will be confirmed in an internal memorandum from Project Manager, copied to Software Architect.

## **Documentation Control**

For all the system and management deliverable documents defined in Figures 5.1 and 5.2, the following document control procedures will be applied:

## **10.2.1 Reference Numbers**

All project deliverable documents must have a reference number. These numbers will be allocated according to the rules laid down in the Project Filing Procedure (filed at ISS/IE /PF.2/2).

### 10.2.2 Approval Procedures

The title page and the approval record must be completed by both an Approver and an Authorizer prior to the release of any new version of any project deliverable document.

### 10.2.3 First Version

When a document is first produced it is entered into the project filing system by entering its name into the file contents form of the appropriate sub-file. For example, ISS/IE/MP.2 will be entered as the second item in the contents form for the sub-file ISS/IS/MP.2 - the sub-file for project plans. At this stage, the document will have a title page which shows the document at version 1.

### 10.2.4 Updated Versions

When a document is amended, the version number of the document will be changed. For example, if the current version number is 1 and the change is minor, then document version number will be changed to 1.1. But if the change is major, then version number will be incremented by 1 i.e. version 2. The title page will show the new version number and date of amendment. Revision history will be added before the contents page to highlight the changes made to the document.

### 10.2.5 Filing

A copy of each document should be physically filed in the appropriate sub-file - this includes ALL issued versions of each document.

## 

## **Software Configuration Management**

Throughout the coding and testing of the software, configuration management procedures will not be used. However, when the software has received formal acceptance from Project Manager, Version 1.0 will be issued and the following procedures will be used:

### 10.3.1 Observation Reports

Reports of errors or problems incurred by users while using the system, or suggestions for enhancements will be recorded using an issue tracker. These will be filed at ISS/IE /IT.1 and copied to Project Manager.

### 10.3.2 Change Authority

Project Manager will review each observation report and will have the authority to decide whether to task Software Architect to implement the change. The approval of the change by Project Manager will be indicated by an internal, copied to Software Architect.

### 10.3.3 Record of Changes

Each change will be recorded in the Changes Log, filed at ISS/IE /TC.2. The log will specify the modules that were changed and present listing of the changed modules. The lines of code that were changed in each module will be highlighted.

### 10.3.4 Testing of Changes

The testing and verification of the changes made to the software will be recorded in the Testing Log, filed at ISS/IE /TC.1. This log will list the testing activities that were carried out for each change, verify that all tests were successful, and provide references to the project files (typically work files) that contain the details of the tests and test results.

### 10.3.5 Software Configuration

A Configuration Log will be kept of all versions of the software that are issued in terms of the program modules that comprise each version and the hardware configuration. This will also make reference to hard copy listings that will be taken of the modules and the magnetic media (eg magnetic tapes) that contain all aspects of each issued version. The log will be filed at ISS/IE/TC.4.