Project Management Plan

For

Smart TV Converter

Version 1.0 draft 1

Prepared by :

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| --- |
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<organization>

<date created>

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# Overview

## Project Purpose, Objectives, and Success Criteria

This product is designed to convert your high definition TV into a modern smart TV. This will happen through connecting our product to your TV and experience the android smart environment that will enable you to download apps from the Google play store. You will be able to control this product using your smart phone, your voice and some hand gestures.

This will satisfy the need to purchase a cheaper smart TV without throwing your old ones away, as you might actually save 70% of the money needed to buy a new smart TV.

Also, if a TV company offers us to produce our product to be built in with their TVs as a replacement for expensive SmartTVs, that would be a huge step and great success

## Project Deliverables

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Deliverable** | **Recipients** | **Delivery Date** | **Delivery Method** | **Comments** |
| Having an up and running development kit with its customized operating system | Team Leader, integrators | 14/2/2014 |  |  |
| All drivers of the attached hardware are working properly | Team Leader, integrators | 11/3/2014 |  |  |
| Smart tv features working correctly | Team Leader, integrators | 25/3/2014 |  |  |
| Mobile application act as remote control | Team Leader, integrators | 1/5/2014 |  |  |
| Having the smart system working with voice recognition | Team Leader, integrators | 1/6/2014 |  |  |
| Having the smart system working with gesture recognition | Team Leader, integrators | 1/6/2014 |  |  |
| Handling input stream from tv | Team Leader, integrators | 15/6/2014 |  |  |
| Recording from tv work properly | Team Leader, integrators | 20/6/2014 |  |  |
| Project closed out | Team Leader, Subcontractor | 30/6/2014 |  |  |

## 

## Assumptions, Dependencies, and Constraints

AS-1: Technology interoperability won’t hinder the project’s progress.

DE-1.1: The project team will deliver work as scheduled.

DE-1.2: Basic applications will be implemented smoothly enabling us to finish on time.

CO-1.1: Working with android mini pc with android version 4.0 .

CO-1.2: Medium Graphics capabilities of android mini pc;

AS-2: The needed resources will be available throughout the project.

DE-2.1: Having a Mini PC Google TV Player and the camera to be available.

DE-2.2: Having a television with an HDMI port or an LCD with an HDMI port to work with.

CO-2.1: Medium resolution of the camera resulting in limited hand recognition

AS-3: Changes to the project scope will follow a predefined change control system.

DE-3.1: Being able to deliver the project on time.

CO-3.1: Project is susceptible to sudden changes due to insufficient time bounds.

AS-4: Wireless network available.

DE-4.1: YouTube is working.

DE-4.2: Social Media websites are working.

CO-4.1: Restricted to home Wifi network speed

AS-5: The project is built using Open Source software.

DE-5.1: There will be no legal issues so we are free to sell the product.

CO-5.1: Technical issues solutions are all individual efforts.

CO-5.1: Software support is based on individual efforts

AS-6: Consumer own a smartphone and capable of downloading the remote application.

DE-6.1: The user will be able to remotely control the product.

CO-6.1: The capabilities of the smart phone is restricted to the consumers smart phone capabilities

AS-7: There is an available image of the android version on the Mini PC Google TV player that can be modified.

DE-7.1: The possibility of attaching extra accessories to be able to add extra features to the product.

CO-7.1: The drivers are limited to the drivers installed on the kit.

## References

|  |  |
| --- | --- |
| **Document Name** | **Document Code** |
| Project Charter | 131112-034-PTP-PTPP-INT34-SV-JETS-3-ProjectCharter-001-000 |

## Definitions and Acronyms

|  |  |
| --- | --- |
| Abbreviation | Definition |
| OS | Operating System |
| HDMI | High Definition Multimedia Interface |
| SVN | Subversion |
| SDK | Software Development Kit |
| IDE | Integrated Development Environment |
| API | Application Program Interface |
| CV | (computer vision) |
| USB | Universal serial bus |
| BLL | Business Logic Layer |
| GUI | Graphical User Interface |

## Evolution of the Plan

In case of updates new information will be disseminated first in the project charter then will be updated in the project plan. The plan will be reviewed every time the product requirements specification or certain other major project artifacts are updated, or when project constraints or resources change like facing any H/W compatibilities issues, Android is not compatible with the Mini-PC, Bluetooth will be used instead of WIFI or purchasing new H/W, Changing the used SDK for Gestures and voice recognition. Periodic project reviews will be done after specified milestones:

* Getting the board and installing customized android version from cyanogenmod
* Replacing the default apps, players and browsers of android that are not convenient for a TV by other customized apps (i.e.: XBMC)
* Mobile App controller for connection to the TV, if WIFI is not available therefore Bluetooth is used and H/W issues will be opened
* Handling Voice and Hand commands from user to the TV, its accuracy will depend on the used SDK

Then, updating the plan as needed following each review.

# Project Organization

## External Interfaces

* Customers
* Contractor
* Miniand (manufacturer of mini-pc kit)
* Advertising campaigns
* Smart Tv Application Developers

## Internal Structure

|  |  |  |
| --- | --- | --- |
| Role | Number | Name |
| Project manger | 1 | Eng.Mohesen Dayb |
| Technical lead | 1 | Eng.Sherif Mousa |
| Software Engineers | 4 | Farida Mohamed  Lubna helaly  Yassmeen Mahmoud  Zeinab Mohamed |

## Roles and Responsibilities

|  |  |
| --- | --- |
| Role | Responsibility |
| Project Manager | -Monitor project process.  - evaluate team members. |
| Technical Lead | - Support technical issues  - Assign tasks for team members.  - Report and review the team  - Evaluate team members. |
| Software Engineer | * System analyst * System designer * System implementation * Design GUI * Test project phases |
| Suppliers RikoMagic Chinese company | Selling its products |
| Project testers | make sure the product is ready for release |

# Managerial Process Plans

## Start-Up Plans

### Estimation Plan

We will be using Agile Scrum method for estimation

Project size: Huge

Project duration:

Start from the first start of January 2014 till the end of June 2014.

Estimated effort:

Man days:

3 hours per day from each software engineer

5 hours per week from the team leader

### Staffing Plan

* **Internal candidate**

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Project Role | Availability | Skill sets |
| Eng. Mohsen Diab | Project Manager |  |  |
| Farida Mohamed Abd ElRazik | Software Engineer | Everyday | Java, Android, Image Processing |
| Lubna Hassan Helaly | Software Engineer | Everyday |
| Yassmeen Mahmoud Sayed | Software Engineer | Everyday |
| Zeinab Mohamed | Software Engineer | Everyday |

* **External candidate**

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Project Role | Availability | Job Classification |
| Eng. Sherif Mousa | Team Leader | Every Saturday | Embedded Software Engineer and an ITI certified graduate |

### Staff Training Plan

Number of people to be trained: 4

Training needed:

* Embedded Android development
* Image Processing
* Android
* Java

Training Method:

Android and Java will be provided as courses through the nine month program in ITI. The other courses will be self-study.

### Resource Acquisition Plan

* Development resources
* Software tools:
* Languages: C, Java, Android
* IDE: Eclipse
* Environment: Linux environment
* Hardware tools:
* Mini PC kit
* Bluetooth adaptor
* Camera
* A TV with an HDMI port
* HDMI cable
* USB power cable
* Smartphone
* A case for the final kit
* Network connectivity needed is a wireless internet connection
* Operating Systems:
* Windows
* Linux
* Android 4.1
* Test resources

A TV that is connected to the kit

* Product resources

Operating system: Android 4.1

Memory: 1 GB RAM, 8 GB Storage

Processor: CortexA9,Up to 1.6GHZ

### Project Commitments

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Commitment** | **Made By** | **Made To** | **Due Date** | **Comments** |
| Documentation | Software Engineers | JETS | periodically | Project charter, Project plan, Vision and scope document |
| Tasks | Software Engineers | Team Leader | periodically |  |
| Project Deliverables | Software Engineers | ITI | As mentioned in section 1.2 |  |
| Deliver product | Project Staff | Customer | June 2014 |  |
| Performance report | Team Leader | Project Manager | periodically |  |

## Work Plan

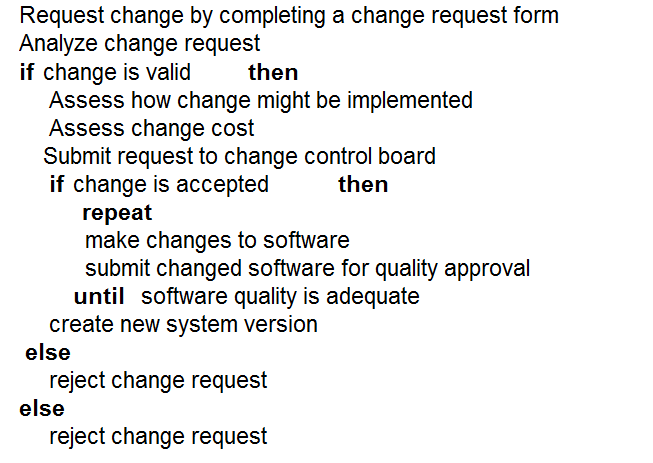
The three major layers in the project are:

## Control Plan

### Data Control Plan

|  |  |  |  |
| --- | --- | --- | --- |
| Types of data | Mechanism for Collection, retrieval, and Archiving | Security Measures | Format Description |
| Project Code | Through version control programs and an online host for reachability(e.g. SVN , tortoise HG,Mercurial) | No changing within those programs without entering a password | Java standard coding and commenting guidelines |
| Project Documentation | Google docs, Dropbox | Only people invited to the shared folder can see the docs | From received templates |
| Meeting Minutes | Gmail, Dropbox | Only people invited to the shared folder can see the docs | MOM template |
| Change Requests | Gmail , Dropbox | Only people invited to the shared folder can see the docs | CR template |
| Self-Study Material | Dropbox | Only people invited to the shared folder can see the docs | N/A |
| Project business documents | Dropbox , Google doc | Only people invited to the shared folder can see the docs | From received templates |

### Requirements Control Plan



Changes in requirements will affect project schedule and deliverables. So upon changing any requirement some steps should be made:

1. Update the Project Management Plan
2. Re estimate the project size , needed duration and efforts
3. Re schedule project deliverables deadlines to reflect the changes.
4. Incorporate the tasks and effort to perform the requirements control steps into the project’s work breakdown structure and schedule.

### Schedule Control Plan

When actual performance deviates from planned or required performance some actions should be taken:

1. Re-estimation of the time durations required for the milestones
2. Fitting in the newly added tasks or redistribution of the tasks over the available period if there are tasks to be excluded
3. Modifying the plan documents to represent the actual performance
4. Modifying the scope and designs documents to represent the actual deliverables

### Communication, Tracking, and Reporting Plan

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Type of Communication** | **Communication Schedule** | **Typical Communication Mechanism** | **Who Initiates** | **Recipient** |
| Status Report | After every task | team meeting | Project Manager | Project Team |
| Schedule and Effort Tracking Report | weekly | email | Project Manager | Program Manager |
| Project Review | monthly | face to face | Project Manager | Project Team |
| Risk Mitigation Status | as mitigation actions are completed | email | responsible team member | Project Manager |
| Requirement Changes | as changes are approved | email and change control tool | CCB Chair | affected Project Participants |
| Supplier Management Review | at project life cycle gates | videoconference | Program Manager | Project Manager, Program Manager, Subcontract Manager |

## Risk Management Plan

1. Risk identification:

Identify project, product and business risks

1. Risk analysis:

Assess the likelihood and consequences of these risks

1. Risk planning:

Draw up plans to avoid or minimise the effects of the risk

1. Risk monitoring:

Monitor the risks throughout the project

The risk management activities have limited time due to the tight time constraints for project deliverables in comparison to the project size.

## Project Close-Out Plan

Actions necessary to ensure an orderly closeout of the project are:

1. Preparation of a final report and presentation for the project discussion
2. Archiving of project materials
3. Customer acceptance testing
4. Finalizing project documentation to include lessons learned and analysis of project objectives achieved.

# Technical Process Plans

## Process Model

This project will use the scrum agile process model. It will go through:

Phase 1: initiate project

* Get HW and SW resources
* Prepare SW tools

Phase2: development 1 (integrations and tests)

* Install customized version of android os 4.2 on kit
* Test play store - Apps (YouTube - Skype)
* Make our android launcher.

(2 iterations)

Phase3: development 2 (integrations and tests)

* Replace the default apps and browsers

To be convenient with TV interface.

( 2 iterations)

Phase 4: development 3 (integrates and test)

* Mobile app (develop and design).

(2 iterations)

Phase 5: development 4 : recognition voice and hand jester recognition

* Implement voice commands
* Implement jester recognition.

Phase6: Release

* Check customer acceptance

And feedback after each development phase either ‘Yes’ or ‘No’. If Yes: final release, and if No: iterate to phase 2.

## Methods, Tools, and Techniques

* Development resources
* Software tools:
* Languages: C, Java, Android
* IDE: Eclipse
* Environment: Linux environment
* Hardware tools:
* Mini PC kit
* Bluetooth adaptor
* Camera
* A TV with an HDMI port
* HDMI cable
* USB power cable
* Smartphone
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* Test resources

A TV that is connected to the kit

* Product resources

Operating system: Android 4.1

Memory: 1 GB RAM, 8 GB Storage

Processor: CortexA9,Up to 1.6GHZ

## Quality Assurance Plan

Quality Assurance for this project will include at least one audit of all current draft deliverables

and selected work products in each stage of development by all the team members and the supervisors which will take roughly one day after each stage.

The reviews will assure that the established system development and project management processes and procedures are being followed effectively, and exposures and risks to the current Project Plan are identified nd

addressed. Each deliverable and/or selected work product will be audited to make judgments as to the quality and validity of the deliverable or work product. The assessment will include any verification or validation activities performed since the last In-Stage Assessment. The reviewer will document the results of the assessment using the In-Stage Assessment Report. An issue will be logged if there is a problem without a visible plan for resolution. Once a list of issues has been compiled, it will be reviewed with the project manager to see if any new or additional information might mitigate or eliminate any of them. Remaining issues must be addressed with an action plan from the project manager. Issues from an In-Stage Assessment near the end of a stage might become "qualifications" to the current stage exit.

## Documentation Plan

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Document | Template or Standard | Created By | Reviewed By | Target Date | Distribution |
| Project Charter | Template | Team Members | JETS and Technical lead | 7/1/2014 | Describe Project Entities |
| Project Plan | Template | Team Members | JETS and Technical lead | 22/1/2014 | project management plan |
| Vision and Scope | template | Team Members | JETS and Technical lead | 30/1/2014 |  |

## 

Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Date | Reason for Changes | Version |
| <author> |  | initial draft | 1.0 draft 1 |
|  |  |  |  |