TURKU AMK
TURKU UNIVERSITY OF APPLIED SCIENCES

Auto Screen Orient
PROJECT PLAN

Accepted by	Document version	Acceptance date	Signature
Rodrigo Baranda	0.1		
Sanna Määttä	0.1		

TURKU AMK
TURKU UNIVERSITY OF APPLIED SCIENCES

Version history

Version	Modified by	Change
0.1	Bibek Koirala	Initial version created
1.0	Bibek Koirala	Modified after peer review and feedback

TURKU AMK
TURKU UNIVERSITY OF APPLIED SCIENCES

Table of Contents

1. Introduction *4*
1.1 Introduction and Project Goal 4
1.2 Project Scope and Outcome 4
1.3 Project Limitations 4
2. Organization *5*
2.1 Project Group 5
2.2 Customer Information 5
3. Project Implementation Plan *6*
3.1 Schedule 6
3.2 Cost Estimate 6
3.3 Resource plan 6
3.4 Software and Hardware 6
3.5 Outcome Delivery 7
4. Project management plan *8*
4.1 Meetings and communication 8
4.2 Documentation Storage and Code Repository 8
4.3 Project Quality Goals 8
4.3.1 Requirement specification 8
4.3.2 Test plan 8
4.3.3. Code review plan 9
4.4 Project Risk Analysis 9

TURKU AMK
TURKU UNIVERSITY OF APPLIED SCIENCES

1. Introduction

1.1 Introduction and Project Goal

Customer's workstations have monitors that can be rotated to either potrait or horizontal mode. This feature is not being used often because screen orientation needs to be changed manually through operating system every time screen orientation is changed. That goal of this project is to develop a system that automatically detects and applies the screen orientation accordingly whenever the display monitor is rotated by more than 45 degrees.

1.2 Project Scope and Outcome

The scope of this project is to develop a device that can be mounted physically on the rear side of the display monitor and write script that runs as a daemon on the desktop computer.

The outcome of the project will be a device containing hardware and software components for detecting rotation and transmitting that information to the processing unit where our daemon receives the information and acts on it.

1.3 Project Limitations

The script that runs as a daemon on the desktop background which is responsible for changing the screen orientation does not need to be tested on operating systems besides Windows 10 and Ubuntu 16.0 and higher.

TURKU AMK
TURKU UNIVERSITY OF APPLIED SCIENCES

2. Organization

2.1 Project Group

Name	Role	Contact information
Rodrigo Baranda	Project manager	rodrigo.barandacastrillo@edu.turkuamk.fi +34 664 59 31 02
Bibek Koirala	Designer and Developer	bibek.koirala@edu.turkuamk.fi +358 45 121 8692

2.2 Customer Information

Company: Turku University of Applied Sciences

Customer name	Role	Contact information
Sanna Määttä	Project commissioner & manager	Sanna.matta@turkuamk.fi +358 40 355 0921 Company : kirjaamo@turkuamk.fi

3. Project Implementation Plan

3.1 Schedule

Project start date: 15.02.2019

Deadlines
Prototype : 20.03.2019
Product Release : 20.04.2019

Note that the project schedule is only a rough estimate and can change!

3.2 Cost Estimate

The costs of this project are:

Total Labour Cost = 5000 Euros
Labour Cost Breakdown :
Bibek Koirala = 2500 Euros
Rodrigo Baranda = 2500 Euros
Equipment Cost = 25 Euros

Total Cost Estimation = 5025 Euros

3.3 Resource plan

Project group's preliminary allocation to this project.

Name	Hours/week	Notes
Bibek Koirala	5	
Rodrigo Baranda	5	

3.4 Software and Hardware

Hardware
Arduino Nano
HC-05 Bluetooth Module
MPU6050 Gyroscope
Breadboard
Jumper Wires

Development Environments
Atmel Studio 7.0
PyCharm Community Edition 2016.2.3
Visual Studio Code 1.30.2

Software
Fritzing 0.9

Language
C
Python

3.5 Outcome Delivery

The device and peripherals will be delivered to customer in person and the script for desktop will be delivered electronically to the customer.

4. Project management plan

4.1 Meetings and communication

External meetings and communication:

Meetings should be held with the peer group after each sprint and with customer when felt necessary.

Internal meetings and communication:

Project members shall meet at least once a week for discussion and implementation. Besides that, it is agreed that slack is to be used as a communication channel between the project team members.

4.2 Documentation Storage and Code Repository

All code and documents are to be available on Redmine repo for collaboration between project members. Github repo is to be used as a platform for secondary storage and for providing access to all stakeholders.

Redmine Link : https://vm0758.kaj.pouta.csc.fi/projects/ptivis16_baranda_koirala/repository
Github Link : https://github.com/kanchho/autoScreenOrient

All code is pushed to redmine repo after completion of each functionality. All documents are pushed to redmine repo after drafting of initial version.

4.3 Project Quality Goals

All code is peer reviewed and tested after completion of each functionality. All documents are peer reviewed. The functionality and usability of the product is tested and verified.

4.3.1 Requirement specification

Requirement are specified in Redmine.
Link : https://vm0758.kaj.pouta.csc.fi/projects/ptivis16_baranda_koirala/issues

4.3.2 Test plan

Prototype is tested by team members in March 2019. The final product is tested by team members and some selected students from Turku University of Applied Sciences in April 2019. Testers will be given brief explanation of product before product is handed for testing. Test cases for requirements are written in Redmine.

Link : https://vm0758.kaj.pouta.csc.fi/projects/ptivis16_baranda_koirala/issues

TURKU AMK
TURKU UNIVERSITY OF APPLIED SCIENCES

4.3.3. Code review plan

All code is peer reviewed after every commit to redmine repo. Each functionality is to be commited separately.

4.4 Project Risk Analysis

Risk name and consequence	How to avoid	Plan B
Risk : Project membes may find bluetooth pairing between HC-05 bluetooth module on arduion and desktop's bluetooth module technically challenging. Consequence : Script might have to be written for each operating system. e.g : Windows, Ubuntu etc.		Pair two bluetooth devices in master-slave configuration for bluetooth transmission. This allows receiving bluetooth device to be connected to computer with TTL to USB adapter. With this setup,cross-platform script that runs in serial mode can be written.