

Auto Screen Orienteer PROJECT PLAN

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

Version history

Version	Modified by	Change
0.1	Bibek Koirala	Initial version created

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1. Introduction

1.1 Introduction and Project Goal

Customer's workstations have monitors that can be rotated to either portrait 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 changes the screen orientation whenever the display monitor is rotated about 90 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 a software application that runs on the background on 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 another software receives the information and acts on it.

1.3 Project Limitations

The software that runs 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.

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:

Standard Labour Cost For Trainee – 50 Eur/hr

Total Labour Cost = 5000 Euros

Labour Cost Breakdown :

Bibek Koirala – 50 hours = $50 * 50 = 2500$ Euros

Rodrigo Baranda – 50 hours = $50 * 50 = 2500$ Euros

Equipment Cost = 50 Euros

Total Cost Estimation = 5050 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 software 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 must 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 Git.

Link : <https://github.com/kanchho/autoScreenOrient>

All code is pushed to remote repository after completion of each functionality. All documents are pushed to master 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 specifications will be done by Bibek Koirala.

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.

4.3.3. Code review plan

All code is peer reviewed after every commit to git remote repo. Each functionality is to be committed separately.

4.4 Project Risk Analysis

Risk name and consequence	How to avoid	Plan B
<p>Risk : Bluetooth pairing between Arduino and computer is unfamiliar to project members.</p> <p>Consequence : Software might have to be developed for each operating system type e.g : Windows, Ubuntu etc.</p>		<p>Use master-slave configuration for bluetooth transmission using two bluetooth devices. Then, connect one of them to computer using USB to TTL converter. With this, software can be used in serial mode on different operating systems.</p>