UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

NEO TANDEM TECHNOLOGIES

Design Documentationl

Author:
Duran Cole
Michael Nunes
Molefe Molefe
Tebogo Seshibe
Timothy Snayers

Student number:
u13329414
u12104592
u12260429
u13181442
u13397134

May 29, 2015

Contents

1 Introduction

1.1 Description of Document

This document aims to show the designs used to implemented the software that is being created known as eye tracking.The document is divided into three sections.Each section describes a certain aspect about the design of the software and how the structure and the interface is combined to create the final product. The purpose of this eye-tracking software is to extend the capabilities of OGAMA.OGAMA is an open-source eye-tracking software that was created to track the movement of the eye on slideshows study designs.The extension of this media to others would greatly benefit most parties as it will be able to be used to track gaze movements not only on slideshows but also on 3D models and Video.

1.2 Section Overview

The three sections that are as follows:

- Data Design.

- Interface Design.

- Procedural Design.

These three sections each cover a very important part of design of a software application.Data design will talk mainly about the structures in place within the program and how all the data structures are linked and communicate.Interface design will describe the choices made for the look of the software while still incorporating the UX goals of the user to make the program easier to use.Procedural Design will focus on the producers that are carried out in the program.
You may note that Architectural Design is not included in this document.This is not necessary as the topics that would be covered by that section have been covered in great detail in the architectural requirements document found here:

2 Data Design

The data structures used throughout this program are C sharp classes and a external referance to the OGAMA project that will be used to process the data.The data structures all interact with each other in some way and there is no solitary class that is stand alone.Communication between the Data Objects is crucial in this program as raw and process data is dealt throughout the program and Objects communication is important to start processes.

2.1   Models class

The models classes store all the information about the media that is being used and analysed.The models interact with the heat map class and the recording class.The models will initiate the recording.The data gathered from this will then be sent to the relevant heat map class so that it can create a heatmap and then apply it to the media.The Model classes are seperated into three child classes

- 3D Model

- 2D Model

- Video Model

2.2   Heat map

The heat map object allows the creation of a heat map for a specific media type.The heat map uses the information collected from the eye tracking and then generates a heat map that is based on the media type that it is linked to.The heat map will safe the raw information that is used to create the heat map and will also be allowed to create a heat map from the raw data.

2.3   Statistics class

The statistics class uses the heat map data to create a statistical analysis on the heat map and gives the user the statistics that they need.This class also contains a reference to a specific heat map object so that it can directly access all the data that it needs.

2.4   Recorder class

This class initiates the recording.This class is called in the Models classed and thus is appart of it.This will open up the media to full screen to ensure there are no distractions.

3   Interface Design

the interface design

4   Procedural Design

This is where the Procedural design will be located.