Feasibility Report

Tobii Eye Tracking Software

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***Project Overview:***

This project has a goal of streaming data from multiple Tobii Eye Trackers. It will store data in a database and stream the data to an outside computer and display it in a GUI application. We will be improving on the eye tracking project from last semester by sharing the data with the external computer. We will also be parsing the data stream to allow for easy filtering by the end user.

***Benefits:***

- Why is this important?

It helps teachers to measure and analyze engagement of the students in their classroom.

- What is the value this project brings?

It can help both the students and the teachers in improving the quality of the teaching and learning that goes on in the classroom.

- What is the problem it solves?

It helps teachers to better maintain students’ attention during lectures.

This project is important for teachers that use online classrooms. It will allow for the teacher to be able to monitor students’ awareness while partaking in lectures. With the data provided to the teacher, they will be able to solve the problem of online users not paying attention to online lectures. It will also allow for the teachers to improve the lectures so that the students will want to pay attention.

***Preliminary Requirements Analysis:***

1. Teacher-Side Application / Server-Side
   1. Connection control
      1. Must be able to connect or disconnect from clients
      2. Could have automatic connections.
   2. Display output
      1. Must be able to filter the concurrent streams of data from each clients to a display
      2. Be able to use different filter-presets or a custom filter from the teacher.
2. Student-Side / Client-side
   1. Must be able to connect to server and communicate which client it is, whether that is by IP or name of student.
3. Database to store each client
   1. Must be able to log each client’s streamed information.

***Scope***

The eye tracking software will be reliable

Interpret the data from the software on a per student bases

The data will be stored in a database to be accessed later for records of how well student participate

The data will be analysed in a way to measure student attention

There will be a display for the teacher to see what students are engaged

The factors that measure engagement will be able to be modified by the teacher to suit their needs

***Deliverables***

1. A teacher/server-side interface to control the incoming stream from the clients. Options to connect with clients over the local network and the connection with the database. Choose between preset filters and custom ones.
2. A student/client-side interface to easily connect with the control server. Input fields such as name, class, etc to differentiate between students.
3. A database to store all of the incoming data from students.

EyeWorks is a similar software to what our project is striving to achieve. The EyeWorks software tracks fixations, pupil movements, and more. It will provide a heat map to see what users were focusing on during the tracking session.

***Risk Analysis***

Resource: There might be a lack of eye trackers to use and test with. We plan to create a sudeo eye tracker so that we don’t have to rely on finding a time to few that the department has.

Limited Knowledge: Some of the members might have limited to no experience with the frameworks or languages that will be used. This might cause progress to slow.