**Objective:**

Peer Perspective is an educational system that uses an eye tracker to guide students as they learn mathematical concepts. PEP starts out as a program that gives users the opportunity to practice and analyze problems while having the eye tracker track the movement of their eyes. As more students complete these modules, the system is able produce visual cues from the patterns the students solved the problem. PEP will use the visual cues to guide students through a sample problem to ensure they understand the proper procedure. Every new concept will be saved into a database, to ensure future students have an easier time. By the time the students should be able to learn what they previously did wrong and what needs to be done to improve.

**End Users:**

A Student: The application will primarily be driven by these users. They are the ones who are learning the mathematical concepts and will be practicing and analyzing the problems.

A Instructor: These users will be using it to measure how students are progressing and how they are learning.

**Use Cases:**

User searches a mathematical concept.

Actors: Student

Precondition:

User needs a student account

Trigger action:

The user is presented with a slide with the explanation of the concept.

User uses the training module.

Actors: Student

Precondition:

User needs a student account

User has searched for a mathematical concept.

Trigger action:

The user is presented with a training slide with various forms of the mathematical concept which is tested.

User uses the testing module

Actors: Student

Precondition:

User needs a student account

User has searched for a mathematical concept

Trigger action:

The user is presented with testing questions.

User uses the review module

Actors: Student/Instructor

Precondition:

User needs student/instructor account

User has already done testing/training module

**Workflow:**

User searches for a mathematical concept.

User selects training module.

Program presents training problems.

Program checks the answers.

User searches for a mathematical concept.

User selects testing module.

Program presents testing problems.

Program uses eye tracker to track eye movement.

User selects review module.

List of problems user has done appears.

User selects a problem.

Program gives a sample problem with visual cues to guide user.

**Features:**

User searches a mathematical concept

Program has to work as a search engine for the users.

Modules should be unavailable until a concept has been searched.

User selects training/testing module

A select set of questions should be given that test the user’s comprehension level.

User selects review module

List of problems previously completed problems should be visible.

Functional Components:

Searching for the concept using one

Having an algorithm that determines where the users are looking on the screen.

Having an algorithm that uses multiple users’ visual data to establish patterns for correct answers and using that to form visual cues.

Non Functional Components:

Users must be able to review completed problems anytime.

Users should only have to write the name of the mathematical concept they want to study.

