PROJECT PROPOSAL

EYE PROSTHESIS THAT RESPONDS TO NEAR OBJECTS

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Section: 01

1) **Objective:** The aim of this project is to develop an eye prosthesis model that can move according to the objects coming near it, while learning to use FPGA (basys 3 was used in the project) and to learn the VHDL language.

2) **Materials:**

- Basys3 FPGA Development Board
- TCRT5000 Infrared Sensor (4 pieces)
- SG90 RC Mini Servo Motor (2 pieces)
- Breadboard
- cardboard (for model)
- Materials for creating an eye model (play dough, cables etc.)
- wire spring (to keep the eye in the default position)

3) **Description of the Project:** The project consists of an eye model freely connected to the main body with wire spring, which can move to 4 sides in line with the instructions of the Infrared Sensors with 2 servo motors (1 connected vertically and 1 horizontally). Distance Sensors lined up around the eye model will detect objects that come close to them and send the incoming data to basys3, and basys3 will control the angles that the servo motors will rotate according to this data. This will create the impression that the eye model is looking at the near object.