KICKOFF DOCUMENT

CONESTOGA

Connect Life and Learning

Group 7

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EMBEDDED SYSTEMS CONESTOGA COLLEGE

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Team Name
X-Bot

Team Member and Responsibilities:

Parth (Team Leader)

Manage Progress of the project and Timely submission and assigning of Tasks

Handle initialization and interfacing of sensor and camera.

Eugene (Recorder)

Meeting Scheduling, Log everything discussed and record ongoing work

Handle wireless transmission and algorithm to make the sensor data useful

Mahroof

Guide when stuck at any steps and

Handle circuit designing, 3d printing and hardware issues.

Project Overview:

For exploring unreachable areas we are building an explorer bot that can be virtually controlled and used to view the surroundings through a camera mounted on the robot.

We intend to place a gyroscope and accelerometer on the user's head or spectacles to control the bot and camera. There will two parts in this system-

First part is a controlling circuit in which we will use a gyroscope, accelerometer and the ESP8266 module to transmit the data to the robot.

The second part of the system is a robot which has dc motors servo motors, a raspberry pi camera and raspberry pi.

Project Plan Timeline-

Our Proposed TimeLine

Phase 1
Finalize the parts and order them.
Test, Interface and Initialize the components
Pcb Designing
3d Printing of Mechanical Parts

Phase 2
Get the sensor data and figure out an algorithm to control camera and motors
Figure out the transmission of sensor data wirelessly
Figure out video capture and streaming using hdmi cable

Phase 3(Additional Task: If Everything works out in time)
Transmit videos wirelessly

Meeting minutes

We talked about the project components and discussed about the block diagram, different ways to transfer data, make the circuit compact, about using Arduino MKR WIFI 1010, nodeMCU ESP8266, ESP12 wifi module, different ways to find and buy the components, procedure to order components through tool room, using a router as access point for wireless transmission, about recording everything in logbook, and working of each sensors(Gyroscope, Accelerometer,Magnetometer) and MCU which will be using project.

Looking forward to working on this cool project.