Kinect Based Module Development

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Mentors:

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Project Idea and Work Assigned

Tasks assigned to us were:

- Installation of Kinect driver and necessary softwares
- Interfacing the Kinect sensors with Firebird V
- Designing and implementing a few basic experiments using FB V and the Kinect
- Documentation of all the above tasks

Completion Status

- We were successful in the installation of the Kinect drivers and necessary softwares for working with Kinect
- We interfaced the Kinect sensor with FB V with the help of zigbee modules
- We designed the following experiments, ranging from an easy level to advanced level applications:

Completion Status

List of Experiments designed

- Camera fundamentals
- Kinect angle adjustment
- Depth tracking on screen
- Depth tracking (FB V)
- Skeleton Tracking fundamentals
- Getting joint co-ordinates (FB V)
- Calculating joint angles (FB V)
- Gesture Recognition (FB V)
- Hand as a pointer (FB V)
- Walk and hand sweep detection (FB V)
- Voice Recognition (FB V)

Role of each member

- The task of installation and interfacing kinect to FB V was implemented by both of us.
- Once the experiment stage started we divided the task so that we could work in parallel and make more progress.

Experience of last 2 weeks in project

- In the last 2 weeks, we learnt many interesting things about the Kinect and how to work with it
- We developed C-Sharp and Windows Presentation Foundation (WPF) programming skills and learnt how to make Graphical User Interfaces
- We learnt how to use Latex for good documentation

Planning for the next 4 weeks

- Kinect-based Robotic Arm Control
- Working on OpenKinect for the Linux Platform.
- Image processing using OpenCV and designing a few experiments based on it
- Programming FB5 from Linux Platform.
- Documentation about various experiments

Thank You