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EPR402 Project Progress Meeting #4
Eng 1-13-17

- Next main task is budget – not really applicable to my project
- Focus should be on implementing system
- Any ML approach is data-driven, need good data into system so Mr. Grobler recommends classical geometry of hand for gesture input model as opposed to pure ML
- Data augmentation = making more samples with manipulation to create invariance in dataset and creating a “synthetic” dataset
- 3D rendering approach with texturing and intensity to generate new samples – synthetic dataset
- Use existing libraries to get system working and able to demo - then replace with first principles components one at a time
- OpenGL – start working on rendering of cube in environment
- Necessary physics + gravity in scene reconstruction of environment
- No specific requirement for a first principles dataset for ML model in my project. But make sure works in demo conditions with own data + input. Put findings of differently trained models in report.
- ML can be used to detect the hand and to recognize gestures – two separate subcomponents
- Might have to split two subsystems with different approaches
- Gesture recognition can be classical comparison or ML approach
- Precision of motion important for gesture control – ML model might not work so well as it vaguely detects a gesture with trends and not exactly like a classical approach
- Figure out how pose recognition works - mathematics
- AWS and GCP training probably not necessary – Mac will be fine