VIRTUAL PIANO

Capstone Project Report

Fourth Mentor Evaluation

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Constraints and Assumptions

1. Camera should be mounted properly.
2. The camera should be mounted in such a way such that it focusses on each segment properly.
3. The camera should be calibrated before the system starts.
4. The piano should be set up in bright lighting conditions.
5. The size of the piano will depend on the coverage area of camera.
6. The system should fulfil all the basic requirements needed for the project.
7. This piano cannot be used to play complete songs because the piano is being played with the help of finger detection which is done using a camera and while playing a song it is necessary to move our fingers from one piano segment to other piano segment but the constraint in this piano is that when we move our fingers from one segment to other segment, the segments between these two segments are also detected by the camera and thus the tones corresponding to the segments in between is also played.

Standards used for the proposed Solution

Industry 4.0: Industry 4.0 is a name given to the current trend of automation and data exchange in manufacturing technologies. It includes cyber-physical systems, the Internet of things, cloud computing and cognitive computing. Industry 4.0 is commonly referred as the fourth industrial revolution. Industry 4.0 fosters what has been called a "smart factory". Within modular structured smart factories, cyber-physical systems monitor physical processes, create a virtual copy of the physical world and make decentralized decisions. Over the Internet of Things, cyber-physical systems communicate and cooperate with each other and with humans in real-time both internally and across organizational services offered and used by participants of the value chain.

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