Rock-Paper-Scissors

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Description: In the era of smartphones, gaming has become a normal routine for people to play. People tend to play games whenever they have free time. Rock, Paper and Scissor is of the most classic games to have ever existed. Everyone from children to adults to old people can play this game and no learning is required to understand the game. This game can be played anywhere be it in local trains, while taking a break from a studies, traveling in a flight *etc*. We are creating an iOS app for Rock, Paper and Scissor in which two players can play this classic game on their iPhone by using the bluetooth connectivity. This app would also have a tournament mode. For this app, the images for rock, paper, and scissor would be trained and the classifier will be stored on the server and on the phone for offline use. The player would be rewarded by coins by his/her step count which we would get using the pedometer. This would encourage the player to stay healthy as well. While playing the game, the player would take the photo of his wrist, fist formation and our model would detect what was selected. Based on the selection of both the players, the winner would be announced. It would be a best of 5 game.

Design contains: *YES Opting into MOD*

1. The machine learning model should be 95% accurate enough to distinguish between rock, paper and scissor by taking image from camera of the user's hand through video. A countdown will be used to capture the hand in the video frames.
2. Data will be transferred between both the devices using bluetooth (or HTTP module). Each player will be able to see their tournament position.
3. Authentication methods for players will be used that includes identification of the player through their hand.
4. A person receives 1 coin for each step he walks everyday. Coins can be gambled while playing in a tournament.
5. Create a max 8 player tournament mode for players.

Elements of Labs:

1. Bluetooth (or HTTP module)
2. ML
3. UI Building
4. CoreMotion
5. May be Image/Video Processing