Affective Gaming

Advisor:
Dr. Bruce R Land
Senior Lecturer,
School of Electrical and Computer Engineering

Team Members:
Manvitha Reddy Ponnapati
rp493@cornell.edu
Deepak Awari
dma234@cornell.edu

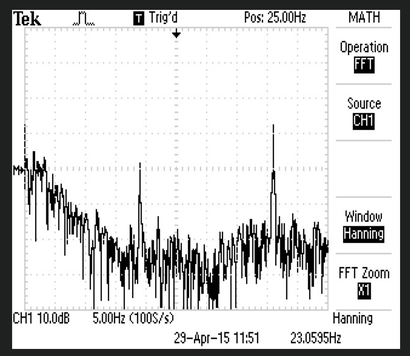
Block Diagram :

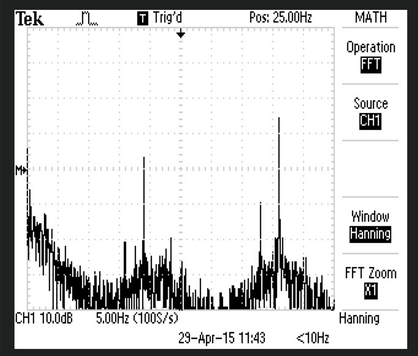
Emotion Classification using Support Vector Machine:

SVM classifier is used to classify the EEG and Skin conductance into Emotional status - Relaxed or Stressed. SVM is a supervised learning model that takes labeled data to train the model. It classifies the training data by means of hyper planes in the multi-dimension space. Parameters used for SVM classifier are enlisted below.

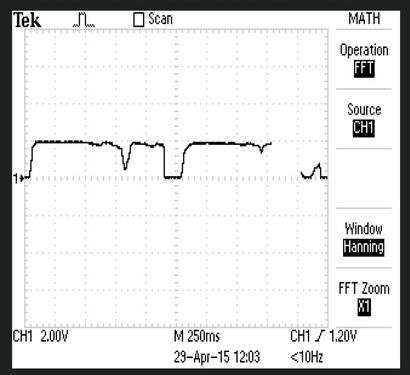
1. Delta Brainwaves
2. Alpha Brainwaves
3. Beta Brainwaves
4. 1st Derivative of Skin conductance

Electroencephalogram:

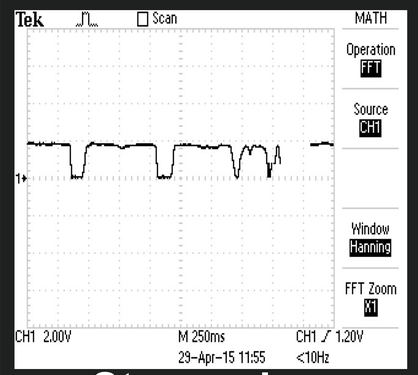




Skin Conductance:



Relaxed

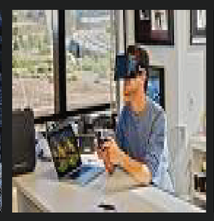


Stressed

Game Environment

Applications

Intelligent systems



Virtual Reality

Browsing

Psychology

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1. Picard, R.W. (1997) Affective computing. MIT Press, Cambridge.
2. Vladimir Vapnik, Statistical Learning Theory, 2nd Edition, Springer Science and Business Media.
3. You-Yun Lee, Shulan Hsieh, Classifying Different Emotional States by Means of EEG-Based Functional Connectivity Patterns, 2014, PLOS One