Title: Beat segmentation in ECG signals

Group Members:

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Problem Statement:

Individual heart beats have to be segmented in the ECG signals using three main technologies:

a) Pan-Tompkins algorithm, b) Wavelet based methods and c) Linear Regression based method.

A hybrid method has to be developed by combining the results of these three, based on how better one algorithm is from the others.

Objectives:

The data for the ECG beats is of a huge importance for the doctors. There is a long continuous ECG signal that has to be examined by the doctor and each beat has to be individually checked by the same. Thus, there are a large number of beats to be examined. Moverover, the morphology of these beats is also quite complex for it to be examined. The anomalies in the beats have to be figured out and based on these anomalies, the doctor can decide how healthy the heart of the person he is examining is! This takes a lot of time for the doctor to do so. Our project will basically automate the whole process, and will be very useful for the doctors. It will not only reduce effort but also time. Moreover, making our model reach the required accuracy is the main objective of this project. The results should be accurate so as to actually aid the doctors.