Algorythm.py

Contain Mother\_class which takes input\_data from gadget and sends it to main\_func. Also takes scenario in which our user are located now. Support\_low\_func will handle scenario cases.

Main\_func.py

Our heart analysis algorithm, it will work on data and scenario and tell us if user in danger.

* Calc\_ts\_measures
* """Calculates the time-series measurements.  
  Uses calculated measures stored in the working\_data{} dict to calculate  
  the time-series measurements of the heart rate signal.  
  Stores results in the measures{} dict object.  
  """
* Calc\_fd\_measures
* """Calculates the frequency-domain measurements.  
  Uses calculated measures stored in the working\_data{} dict to calculate  
  the frequency-domain measurements of the heart rate signal.  
  Stores results in the measures{} dict object.  
  """
* Process
* """Processed the passed heart rate data. Returns measures{} dict containing results.  
  Keyword arguments:  
  hrdata -- 1-dimensional numpy array or list containing heart rate data  
  sample\_rate -- the sample rate of the heart rate data  
  windowsize -- the window size to use, in seconds (calculated as windowsize \* sample\_rate)  
  """
* Check\_peaks
* """Determines the best fit for peak detection variations run by fit\_peaks()."""
* Fit\_peaks
* """Runs variations in peak detection given a noisy heart rate signal  
  Keyword arguments:  
  hrdata - 1-dimensional numpy array or list containing the heart rate data  
  rol\_mean -- 1-dimensional numpy array containing the rolling mean of the heart rate signal  
  sample\_rate -- the sample rate of the data set  
  """
* Detect\_peaks
* """Detects heartrate peaks in the given dataset.  
  Keyword arguments:  
  hr data -- 1-dimensional numpy array or list containing the heart rate data  
  rol\_mean -- 1-dimensional numpy array containing the rolling mean of the heart rate signal  
  ma\_perc -- the percentage with which to raise the rolling mean,  
  used for fitting detection solutions to data  
  sample\_rate -- the sample rate of the data set  
  """

Arctic\_scenario, desert- , forest- , mountains- , .py

This modules will contain main\_func.py and listing of diseases and traumas which are possible in this region. After processing all data, and telling us results, it will send them to another part of project.