General Outline:

Simulator

GraphManager

Graph

Graph

Graph

…

controls

feeds data to

Classes:

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| **Simulator**  Data Members:   * TBD   Methods:   * TBD |
| **GraphManager**  Data Members:   * graphs – List<Graph> (*Idea*: give each graph a unique ID for easy identification) * figure – matplotlib.figure.Figure, the canvas on which subplots are drawn * willSave – Boolean indicating whether save mode is turned on * saveDestination – File location that should be saved to periodically * updateFrequency – Float indicating how often (in seconds) new data should be queried for   Methods:   * AddGraph(title, xlabel, ylabel, color, pan, target)   + Makes a new Graph objects with the given arguments and add the Graph to graphs * DeleteGraph(g)   + g is a reference to the graph to be deleted. * Update(newData)   + newData is a tuple containing lists of data points to be passed along to the appropriate Graph. An entry that is None indicated there is no new data to be plotted for the corresponding Graph. (*Idea*: instead of a tuple use \*args or \*\*kwargs) * Render()   + Instructs each of the Graphs to render their new plot on the screen * SetTarget(newTargets)   + newTargets in a tuple containing target values to be passed on to the appropriate Graph. * SetAnalysis(f)   + f is a function that does some type of analysis on a set of data. This function is passed to the appropriate Graph, whose responsibility it is to display analysis information on its subplot. |
| **Graph**  Data Members:   * pan – Integer indicating the width of the pan window in seconds; set to -1 if not panning * axis – matplotlib.axes.Axes, the axis on which information is displayed * df – pandas.DataFrame, where data is stored in a way that is easily plotted * target – Float indicating the target value   Methods:   * appendData(newData)   + newData is a list of values to be appended to df * draw()   + Makes the Graph redraw itself using whatever data is in df and target * addAnalysis(f)   + f is a function that does analysis on df. It is the responsibility of the graph to display this analysis information |