CSC1002 Assignment 2 Design Document

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**1 Program Structure**

* 1. *Components*
* Graphic User Interface (Bokeh)
* Offline Data Set
* Online Database
  1. *Work Flow*

1.2.1 Fetch data in interest from the online database when user input is detected

1.2.2 Update offline data set accordingly

1.2.3 Show GUI

**2 Global Variable**

2.1 ***title\_input, dept\_input, refresh, btnGroupTitle, btnGroupDept, optionGroup,***

***paragraph***

[Bokeh gadgets]

Essenial GUI components that allows display and user interactions

2.2 ***colors, gpa, years***

[list]

Saves possible choices for colors, gpa, and years

2.3 ***STAdata***

[dict]

Saves GPA data retrieved from online data base

To provide source of stack GPA figure display

**3 Functions**

3.1 connectSQLServer(), fetchRows(***command***)

Fetches data rows from online database with SQL ***command***

3.2 updateCourseData(***rows***)

Replaces source data for course info table with given data ***rows***

3.3 refreshByButton(***new***), btnGroupLetters.on\_click(refreshByButton)

Detects ***btnGroupLetters*** activation

Updates source data for course info ***table*** according to the selected initial letter

3.4 refreshByFilter(), refresh.on\_click(refreshByFilter)

Detects ***refresh*** button activation

Updates source data for course info ***table*** according to the input text filter

3.5 updateStatistics(***attr, old, new***), deptSelect.on\_change(***attr***, updateStatistics)

Detects ***deptSelect*** menu value change

Updates ***STAdata*** for stack bar plot ***p***