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**duBoard System Requirements Document**

**STUDENT**

* Graphs of grades of each class / Graph Summary

Decide on how graphs are ordered

* + - Bar graph:
      * Categories
        + X- axis: Category
        + Y-axis: Percentage of Grade

This category graph will display the average score in each category for a particular class for current student user.

* Fields to Query:

|  |  |  |
| --- | --- | --- |
| **Select** | **From** | **Where** |
| Category Title as Category | Category | idClass |
| Average Category Score as AvgScore | Student\_Has\_Assignment | idUser |
|  | Assignment |  |

* + - * Tests
        + X-Axis: Test identification
        + Y-Axis: Score of tests(percentage)

The test bar graph will have the scores percentage gained by the student in y-axis for a specific test that is represented along x-axis. This graph will show how the student is doing in various tests in the class. The bar graph for representing the test will be colored in blue. This graph would be located inside the page where different classes are located. Test will be ordered chronologically.

* Fields to Query:

|  |  |  |
| --- | --- | --- |
| **Select** | **From** | **Where** |
| Score | Category | Category Type T |
| AssignmentTitle | Student\_Has\_Assignment | idUser |
|  | Assignment | idClass |

* + - Overview
      * + X-Axis: Classes
        + Y-Axis: Percentage of Grade

The class bar graph will have the percentage of grade gained by the student in y-axis for every class which will be represented along x-axis. This graph will show how the student is doing in various classes by showing their grades in percentage. This graph would be located in the student’s main page which is the webpage that shows up after a student logins in.

* Fields to Query

|  |  |  |
| --- | --- | --- |
| **Select** | **From** | **Where** |
| Subject | Class | idUser |
| Class\_Number | Student\_has\_Assignment | Current\_Date |
| Class\_Percentage | Assignment |  |
|  | Category |  |
|  | Student\_has\_Class |  |
|  | Semester |  |

* + - Line graph
      * HW
        + X-Axis: Hw ID #
        + Y-Axis: Score of HW

The homework line graph will have the scores gained by the student in y-axis for a specific homework that is represented along x-axis. This graph will show how the student is doing in their homework assignment. The line graph for representing the test will be colored in green. This graph would be located inside the page where different classes are located. The graph will also give information on the total weight of each homework and show how much was attained by the student in each homework in percentage.

* Fields to query

|  |  |  |
| --- | --- | --- |
| **Select** | **From** | **Where** |
| Score | Category | Category Type H |
| AssignmentTitle | Student\_Has\_Assignment | idUser |
|  | Assignment | idClass |

* + - Pie chart
      * Pie chart for each class
        + Percentages of the weights of each category out of total points

Fixed for each class

The pie chart will have the percentage of the weights of each category out of the total points. This chart is going to be fixed for each class. Different categories will be represented by different colors. There will be systematic assignment of colors (hierarchy) for each category which will be assigned based on which category is being used first by the professor. This graph would be located inside each class page. This chart will be helpful for students as they will be able to see a visual representation of categories that they think has most importance.

* Fields to query

|  |  |  |
| --- | --- | --- |
| **Select** | **From** | **Where** |
| Category Title as Category | Category | idClass |
| Category Weight |  |  |
| Category Type |  |  |

* Progress Bar
  + Progress of the amount of points that have been distributed to scores out of total point in course
  + Divided into segments, assignment category in each, color-coded
    - Modeled after iTunes device capacity
    - Each divided segment will have a dark shaded color that will indicate the amount of progress done
    - Each divided segment will also have a light shaded colored in the same bar that will indicate what is left in the class.

The progress bar will indicate the amount of progress made in individual class. It is going to be located in each individual class page. The dark colored categories will be in the left hand side of the progress bar and the light colored categories which represent the remaining percentage of work left will be in the right hand side of the progress bar. The progress bar will show the percentage or the points for each category.

Requires extra field in category table for estimated amount of assignments

* Fields to query – might be more than one stored procedure

|  |  |  |
| --- | --- | --- |
| **Select** | **From** | **Where** |
| Category Title as Category | Category | idClass |
| Category Weight | Student\_Has\_Assignment | idUser |
| Estimated number of assignments | Assignment |  |
| Number of assignments graded |  |  |
| Average grade in category |  |  |

* Navigation
  + Dynamic navigation
    - Dropdown menus

Navigation is helpful as it helps students to navigate around the page. The clickable icon/buttons will have dropdown feature which will have sub-features so that students can choose which features they want to go and look at.

* Timeline
  + Display average score each week on timeline
  + Pull data at end of each week
  + Line chart
  + Only takes into account graded assignments
  + Similar to overview query, but for only one class, called once for each data point
  + Uses a week start and end date

|  |  |  |
| --- | --- | --- |
| **Select** | **From** | **Where** |
| Class\_Percentage | Class | idUser |
|  | Student\_has\_Assignment | Current\_Date |
|  | Assignment | idClass |
|  | Category |  |
|  | Semester |  |
|  |  |  |

* What if analysis
  + Be able to determine grade on next assignment in a particular category (test, homework, project)

This what-if feature will be located under the student’s sub class page.

* Login
  + Login page with authentication using student account – The login for every student is going to be in the homepage which will ask for the id and password of the student and if matched in the database, navigate to the particular student’s main page.
* Extra features:
  + Automatic calculate GPA
  + GPA Calculator- Manual entry of courses, credits, grades

**TEACHER**

* Graphs
  + Teachers will be able to choose to see the min, max, mean, and median of how the class has done on every assignment in a category. This graphical view will show the percentage attained by the student in that category which could be exam, homework’s and quizzes. All information will be presented in a text form as a percentage and teachers will be able to see one at a time as a bar graph.
* Navigation
  + Dynamic navigation

Navigation is helpful as it helps students to navigate around the page. The clickable icon/buttons will have dropdown feature which will have sub-features so that students can choose which features they want to go and look at.

* Roster of students
  + Teachers will be able view class roster. Teachers will be able to sort the class roster by grade, first name, or last name. This will be a table

|  |  |  |
| --- | --- | --- |
| **Select** | **From** | **Where** |
| Class\_Percentage | Class | idClass |
| Student\_FirstName | Student\_has\_Assignment | idUser |
| Student\_LastName | Assignment |  |
|  | Category |  |
|  | Student\_has\_Class |  |
|  | Semester |  |

* Editing permissions of teacher
* Teachers will be able to do the following:
  + Add/Remove
    - Students
    - Courses
    - Assignments/Tests/Projects
    - Categories
* Manual/eLearn – we will use our own database (has to be one or the other) and the eLearn database
  + Teachers will have the option for every class to manually enter in all of the grades for each student for each assignment or to have data pulled from eLearn. Once a teacher has chosen one or the other while creating their class, they are not allowed to switch. To use the other data source, teacher must delete the class, re-create the class and choose the other option. By choosing manual entry of data, the class will have all of the functions listed in this document.
* Login
  + Login page with authentication using teacher account