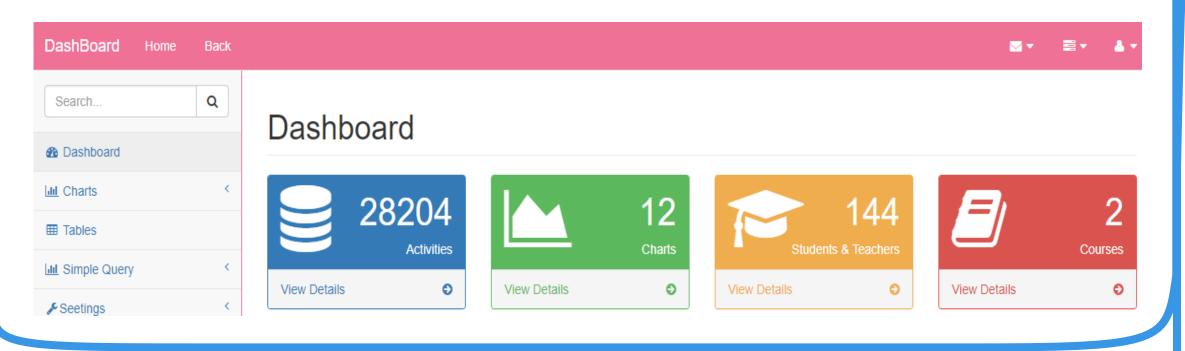


# Organised Access to Historical Student Data

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### Project Introduction

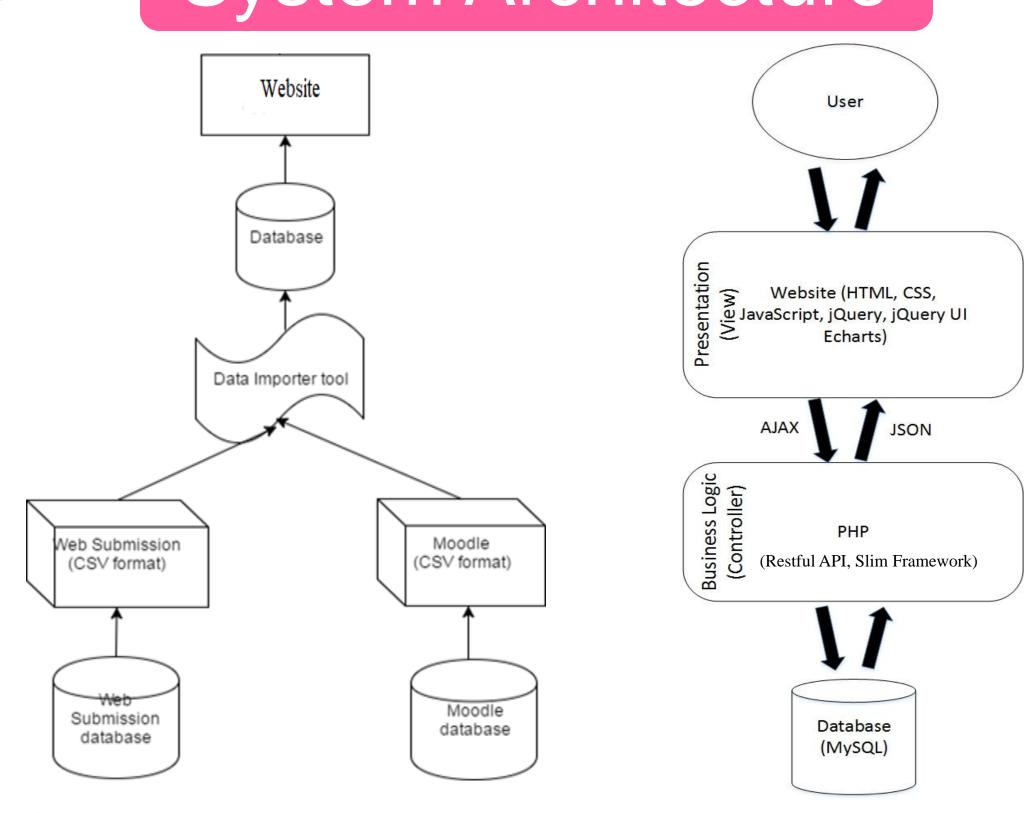
The school of computer science has collected a large amount of student data over the years in a number of different sources. This project has assisted to present those collected data in neatly visualized forms for better and easier decision making.



# Project Objective

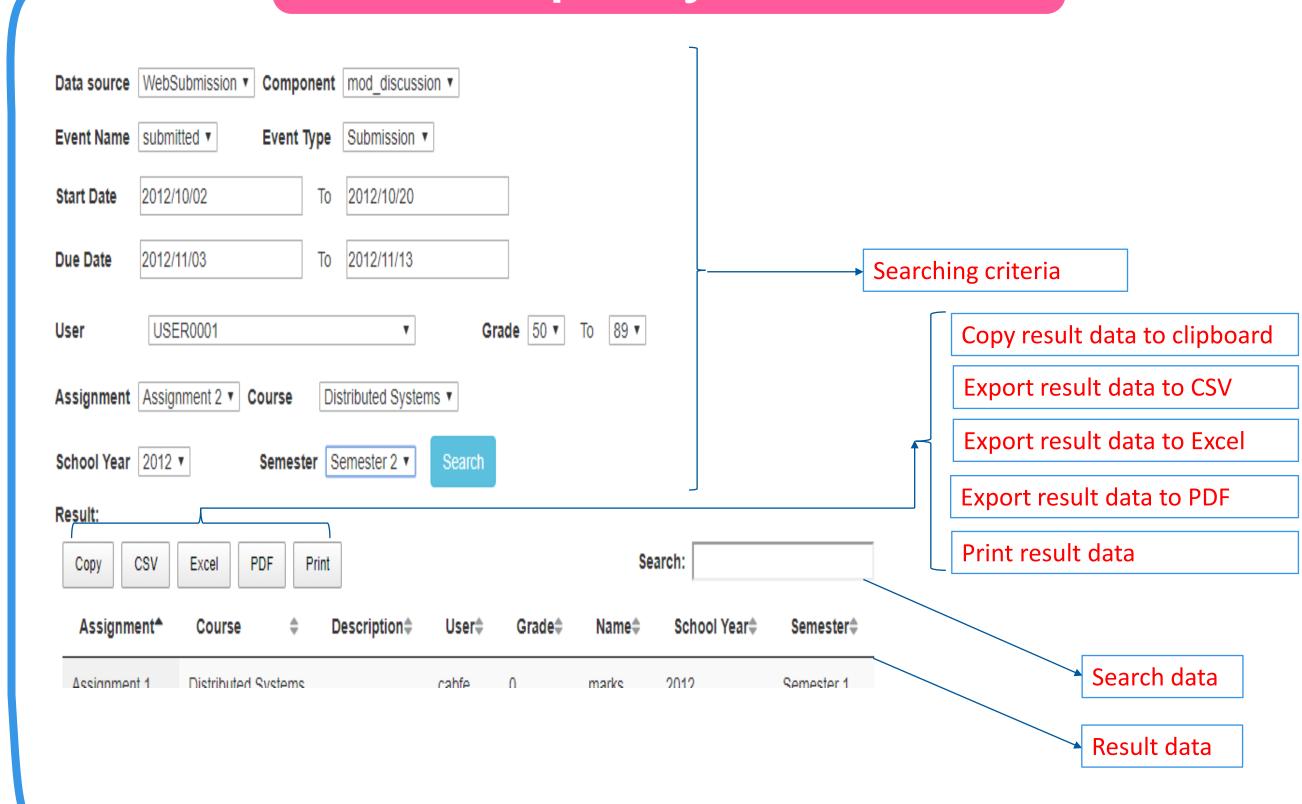
- To provide a flexible database schema linking two data sources (Moodle forum and WebSubmission system).
- To import data from file-based sources into the database.
- To visualize data by charts and make them configurable to allow users to manipulate and interact with data. Configuration options include: change presentation order, set start day and end day, set threshold, set activity, set course, year, semester and assignment.
- To analyze the relationship between the amount of students' activities and academic performances.
- To assist the staff to query, aggregate and export data with functionalities such as copying data to clipboard; printing and exporting data to Excel, CSV,

# System Architecture



#### Charts and analysis module Activities of individual student Choose course, year, semester, assignment Alphabetical order ▼ Semester start day (YYYYMMDD): 20120227 Semester end day (YYYYMMDD): 20120630 Assignment 1 start day (YYYYMMDD): 20120419 To 20121117 Clicking the bar will Assignment 1 due day (YYYYMMDD): 20120519 give details of Assignment 2 start day (YYYYMMDD): 20120526 Assignment 2 due day (YYYYMMDD): 20120606 Export data in Automatically set Activities of the class Amount of all activities Breakdown of activities Specific activity forum\_view forum The activity can be set ♠ ■ ○ Set period (for auto-complete) m\_view forum Auto-complete, choose the activity for this chart forum\_add discussion forum\_add post Submission pattern Submission pattern of the class When do students make first submissions? Are there spikes in the last 96 hours? Mark Distribution Relationship between activities and academic performances Configurable, by Marking Critical question 1: Scheme 10/ by 10% step Is there a correlation between X and Y for students? X: Assignment 2 ▼ Mark ▼ or ○ Select Event Context in period from (YYYYMMDD) 20120827 to (YYYYMMDD) 20120922 Filter Event name and Event context | Get answer 圆下圆 ① 上 Number Of Submissions Of Each Student Pearson Correlation Coefficient=0.943016212 — Automatically calculated User Amount of events Mark Link users of two > U0049 31

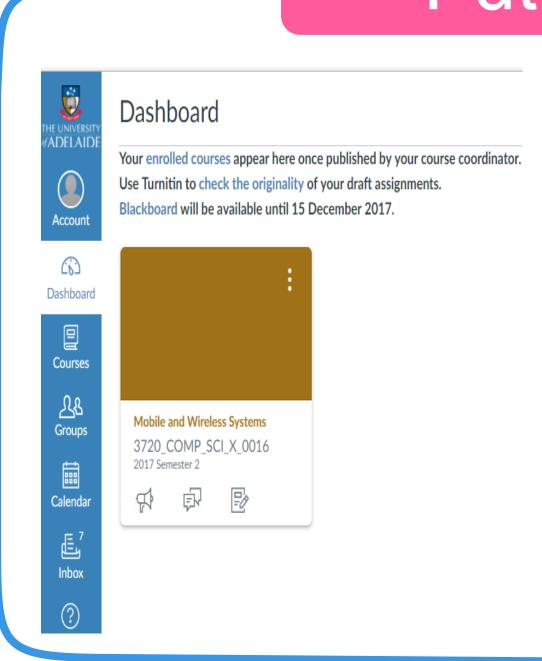
### Data query module



### Advantages

- Analyze complicated data in visualized forms.
- Provide data of individual student as well as the class.
- Query, aggregate, extract and export data in several formats such as excel, pdf, csv or printing.
- Combine data of several data sources.
- Link data of many data sources.

### Future work



- Modify the schema to work with new data sources (Canvas).
- Add new data sources (e.g. student GPA) for further cross data analysis.
- Provide charts (across semesters) of the same course for trend analysis and comparison.

### Acknowledgement

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