Specifications Document

Team 2 - CS374 - Fall 2014

In this document, we describe the specifications for our Schedule Conflict Calculator application.

Table of Contents

Requirements	Describes requirements of our product
Use Cases and Scenarios	Describes user interaction with our product
Data Flow	Describes the interaction of modules within our product
Glossary	Glossary of terms

1 Requirements

Our Schedule Conflict Calculator Web application will function as an extension to other academic administration technologies. Given a set of inputs related to moving a course from one time block to another, the application determines the number of student scheduling conflicts that would arise in some number of move scenarios. The application handles a number of different move scenarios, allowing the user to decide which scenario to test.

2 Use Cases and Scenarios

The user is allowed multiple scenarios for calculating schedule conflicts. For example, sometimes the user has a single section-change description in mind and would like to see scheduling conflicts. In other instances, a user might know that they need to move a section to another time and/or room, yet would like to know which room out of a set of possible candidates has the least number of conflicts.

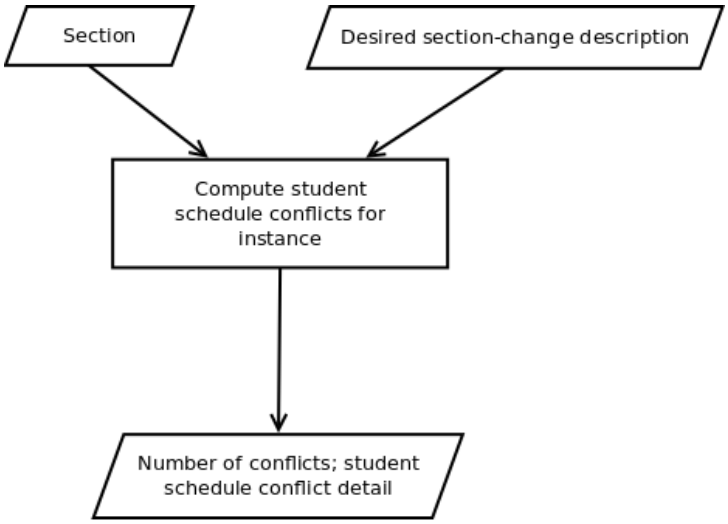

Figure 1: Describes a simple scenario for finding conflicts given a single section-change description

In the simple case, we consider a single section-change description supplied with a desired input section. Output will consist of the number of conflicts as well as a detailed look at individual conflicts. Other input parameters might be needed to provide a more customized operation tailored to user needs.

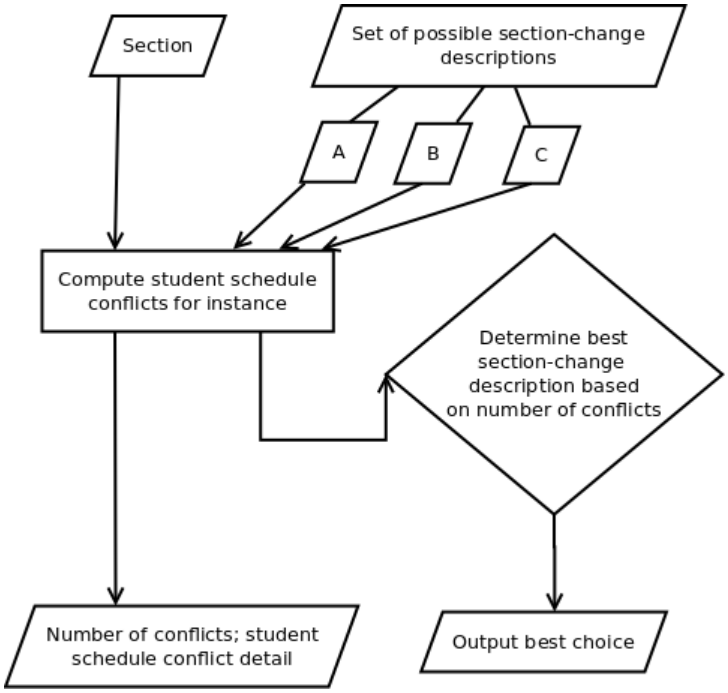

Figure 2: Describes a more complex scenario for finding conflicts given multiple section-change descriptions

Other scenarios are needed for more complex operations. A user might wish to provide a set of section-change descriptions to apply to the input course in order to find the best change time. This set of descriptions may encompass multiple rooms and buildings and also take into consideration moving courses within the set of

section-change descriptions.

3 Data Flow

This section describes the interaction of various modules within our application. We map the flow of data through the different modules of the application, demonstrating how it is used and transformed.

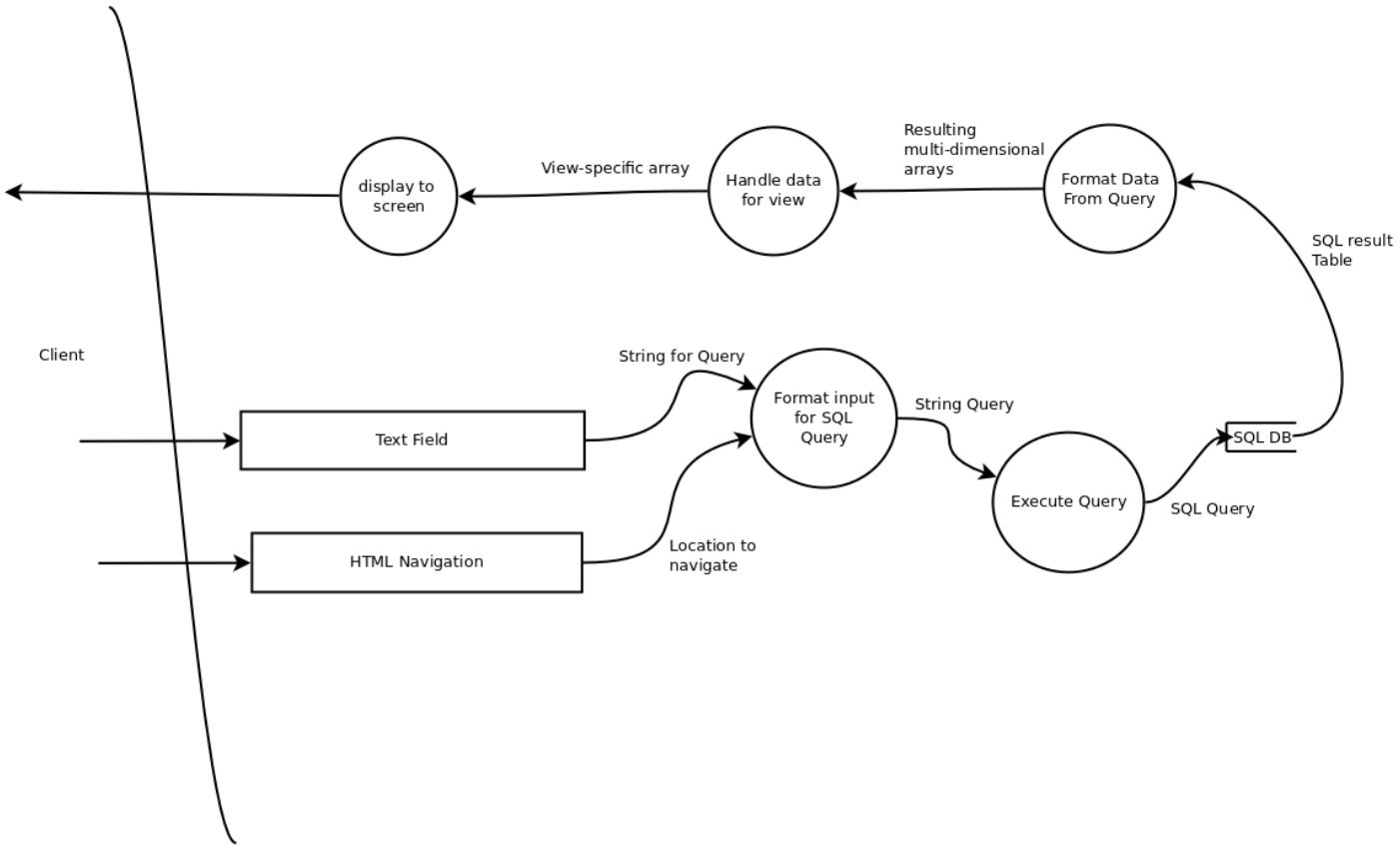

Figure 3: Data flow diagram for main application operation

4 Glossary

building A collection of rooms

course A general description of a class of sections

locked-section A section within a section-change description that cannot be moved

professor An instructor of a course; there is one professor per section

office-hours A time block associated with a professor; a potential conflict item to consider

room The meeting place of a section

section An instantiation of a course

section-change description A tuple that specifies a desired change to a section's time and location

student A participant in a section

unlocked-section A section within a section-change description that may be moved potentially