CS139 Web Development Technologies
Coursework Assignment

Introduction

A significant part of a web development module should probably be about web development. To this end, you will be developing a web application as your coursework for this module. It may seem like a daunting task but you'll be able to use ideas from the labs and I'm going to give you credit for exceeding the specification too.

Important Dates

Coursework Issued: Thursday 11th February 2016
Tabula Submission: 9am Friday 18th March 2016
Marking Day: 9am-3pm Friday 18th March 2016

The Task

Next year you will be moving out of your luxurious on-campus accommodation into shared houses. This introduces the issue of shared responsibility for household bills like gas, electricity and internet. Keeping track of who owes money to whom can be a difficult task without some sort of tool.

You will be developing BillSplitter! (Please feel free to come up with your own awesome application names).

The basic functionality for this application is below.
- User Registration
  - Minimum to include: name, email, password
- User authentication mechanism
  - Minimum to include: email, password (including secure password storage)
- Adding a bill
  - Minimum to include: name, amount
- Splitting the bill between relevant parties
- Settling payment between parties
- Displaying the status of bills
  - Minimum to include: pending/paid, balances
- Notification of a new bill, and monies owed

In addition to implementing the basic specification above, 20% of the final mark will be awarded for implementing additional features.

Some ideas are listed below:
- Email notification control
- Person to person bill splitting (e.g. a dinner split between a subset of the house)
- Proportional bill splitting

You may have other ideas, which will also earn credit. Build the best application that you can.

Deliverables

You are expected to deliver and demonstrate your application to a marker in the final week of term. You should provide all files in a zip file to be uploaded to Tabula, by 09:00 on Friday 18th March.

A complete application should:
- Implement the functionality of the basic specification above.
- Have a consistent styling.
- Consider usability and accessibility to disabled users.
- Consider security issues.
- Make use of JavaScript and AJAX to enhance the user experience.
- Implement additional features to attain the additional 20%.

You will then be asked to demonstrate your solution to a marker and allow them to interact with your application on Friday 13th March between 9am and 3pm.

Support

There is some time set aside in Lab 9 for coursework help, but you may wish to contact the tutors earlier rather than later.

Allowable Frameworks

The following libraries and css/ui frameworks may be used for the project.
- Twitter Bootstrap
- Zurb Foundation
- Google Fonts
- jQuery and jQuery UI
- Reset CSS

No other frameworks or libraries are permitted.

Marking

Your coursework will be marked at the marking day in the final week of term. One of the tutors or myself will sit down and give you the opportunity to demonstrate how your application meets the specification and any features that you've added beyond it.

The marking criteria is as follows:

20% - Appropriate markup
15% - Design and usability
35% - Functionality and implementation quality
20% - Security
20% - Additional functionality

We are excited to see how you solve the problem and the solutions you come up with.