Project: The App

Instructions

- This project is a group project.
- Register your team of up to four members in Luminus by **Friday 11 March 2022, 17:00**.
- The maximum mark for this project is 30 points for 30% of the final mark.
- Submit your proposal "`proposal.pdf`" to Luminus:

  "`Files > Projects > The App > Proposal Submissions`"

  by **Tuesday 15 March 2022, 17:00**.
- Submit the URL of your GitHub repository (`github.com/<user>/<repository>`) and the URL of the Heroku application (`<application>.herokuapp.com`) in Luminus:

  "`Survey > The App`"

  by **Friday 18 March 2022, 17:00**.
- Be ready to give an interim demonstration of a draft App to the teaching team during **Week 10** (demonstration schedule to be announced.)
- Submit your final presentation video "`video.mp3`" to Luminus:

  "`Files > Projects > The App > Final Submissions`".

  by **Friday 8 April 2022, 17:00**.

  Note that the maximum file size for a submission to Luminus is 500MB. You may consider using HandBrake to reduce the size of your video to under 500MB.
- There is no late submission.

In this project, we design and implement a Web-database three-tier application. We use the Django framework and custom SQL access (other methods such as `raw()`, Django ORM, and other APIs are not preferred) to a PostgreSQL database. The application is deployed on Heroku cloud platform as a service. The front-end is in HMTL and may use CCS and JavaScript. Other Web development frameworks and languages are not allowed (for practical reasons).

1. Project Proposal. Chose a domain of your interest related to the sharing economy. Write and submit an up to two pages description of the App that you propose to design and develop. Indicate the domain that you have chosen, describe the envisioned App and its functionalities, and indicate how you plan to obtain sufficient real or realistic data for a demonstration.

   Your app should query, search and update the database. Users should be able to create an account and to login. There is at least one built-in administrator account that gives access to an administration interface.

   For instance, a possible App could be as follows.

   Crowdfunding (we use www.kickstarter.com for examples and data): the application is a catalogue of projects looking for crowdfunding. Entrepreneurs can advertise their projects (title, description, start date, duration, keywords or categories, the amount of funding sought). Users can browse the projects and fund projects. Users can register and login. They play both roles of entrepreneurs and investors. The system tracks the current amount of funding raised, brings the project to the status of "funded" and advertises this success on a page of funded projects. Administrators can create, modify and delete all entries.

   Other possible domains for the App include carpooling, stuff sharing, animal or plant spotting, freelance job market place, crowdsourced product rating, or any variant or other domains related to the sharing economy. You can get inspiration and data from the numerous existing apps such as Taskrabbit, DoorDash, Vrbo, Getaround, Spinlister, Poshmark, YourMechanic, VIPKid, Sittercity, etc.

2. Interim Demonstration. You must have an online draft App that you can demonstrate to the teaching team.

   The draft App must implement the main elements of the interface and manage some real or realistic data in the database for the proposed domain.

3. Video Presentation. Prepare an up to ten minutes video presentation outlining the application design and implementation and presenting a complete demonstration.

   The outline should highlight the basic functionalities, the advanced SQL and other features. The code of the application should be publicly available in GitHub.

   The demonstration should show the App main functionalities from the users and administrator points of view. Make sure that you have enough data to do so.

The general marking scheme assigns 1 mark to the proposal, 5 marks to the approved interim demonstration, up to 10 marks to a basic functioning application in line with its description, up to 8 marks for appropriate usage of advanced SQL features (e.g. integrity constraints, complex queries, views, stored functions, triggers etc.), and up to 6 marks competitively awarded to the best projects and presentations.