



DATA MODELLING AND DATABASES Project Specification

Project Part 1: CrowdStarter

The main goal of this project is to design and implement an online crowd funding website. The platform should run in a common web-container (i.e. Apache Tomcat) and use a relational database (i.e. MySQL, MariaDB...) to store and retrieve data. You are free to choose the tools and the programming language to design and implement your project. However, you should pay attention to our recommendations below!

Your crowd funding platform should allow the users to browse and search for projects, as well as provide different funding options for each of these projects. Users should be able to create new accounts as well as log into existing accounts. While being logged in users can fund multiple projects, see an overview of all their funded projects and also add comments to every project.

Projects are created by users and are categorized based on their category and the city where the project team is located. Each project has a funding goal, a fund collection period and several funding amounts that each offer different rewards. A user can support the project by choosing the amount he is willing to pay. Additionally, a project can have stretch goals. If reached, stretch goals provide supporting users bonus rewards. When viewing a specific project, the details of this project, like the title, description, funding information and optionally images and videos should be presented.

These are the requirements of the project:

- Visitors should be able to register as new users. Existing users should be able to login using their username and password. Each user has a profile page, where he can see all the projects he has supported so far.
- Each user should be able to create new projects. A project has a title, a description, a city, a funding goal, a funding period (start time and end time) and is assigned to a category (technology, games, comics...). Each project has several funding amounts that grant different rewards. Each project has one or several stretch goals that provide bonuses. Adding images and videos to a project is an optional feature.
- All visitors (even unregistered) should be able to view projects and search for them. Each view contains a list of projects. For each project a link that leads to the project detail page need to be provided.
- The following views should be available:
 - All projects
 - Popular projects (i.e. the projects with the highest number of fundings).
 - Most funded project (i.e. the projects with the highest funding sum).
 - Ending soon projects (i.e. the next projects to complete their funding period).

- The following search methods should be available to the users:
 - Search by (partial) name of the project.
 - Search by category.
 - Search by city.
- Selecting a specific project should display all available information about the later. In particular, the funding progress, the remaining funding time, the available funding amounts (incl. rewards) and the comments have to be visible to the user.
- A project can be funded by selecting a funding amount from the project page. Only registered users can fund a project. Once a user has funded a project, the project funding progress needs to be updated and the project will appear as supported on the users profile page.
- There is *no* requirement to enter and manage payment information (i.e. dummy credit card information). A click on the funding amount is considered enough to fund a project.
- There is *no* requirement for an administration console where administrators are able to modify categories or manage users.

Please Note:

- The implementation of this project is optional for all participants of the lecture. There will be no grade and no “testat”. Nonetheless, it is highly recommended to realize the project in order to understand the fundamental concepts and techniques of databases.
- It is recommended to implemented the project in groups of 3 students.
- The project’s source code must be delivered by April 14th 2013. Each group will be requested to give a 15-minute presentation of the project.
- As a first milestone, make an ER model of your schema and present it to your teaching assistant.
- All commercially used databases (MySQL, DB2, Oracle, and PostgreSQL) are allowed to implement the project. Any high-level programming language is allowed (Java, C#, PHP). However, we strongly recommend to use Java as it will make Part 2 of the project much easier. To simplify the development of the project, a skeleton web application has been implemented in Java. The skeleton web application uses Eclipse for Java EE, Tomcat and suggests MySQL as the DBMS. You may use this example source code as starting point of your project.
- It is *not* allowed to use object-relational mapping techniques such as Hibernate, Ruby on Rails, etc. You should implement all SQL queries yourself and be ready to present them.
- It is *not* allowed to use javascript to sort tables or results.