

# SER 416 Online

## Class Project

### Best Community Service

The objective of this project is to design and build a **prototype** for an interactive Web application for a community service named “Best Community Service”, provided by a non-profit organization. This organization aims at benefiting a small community by providing various kinds of services to the local community. The non-profit will charge small fees for some services to cover its costs. Other services will be offered free of charge. Additionally, the non-profit organization will rely on volunteers to provide some of the services offered to the community. It will also rely on a number of paid employees (full time and part time employees) to take care of managing the business and running the services, as well as the operational costs and other activities. The main sources of income for running the business will be donations from known and anonymous donors as well as from small fees charged for some the offered services. The organization will run from a local building, which offers large spaces for organizing social events like weddings, community meetings, and funerals. It will also offer rental service for equipment needed for the events, as well as catering services. Other in-house services include Spanish, arts and crafts, and painting classes given by volunteers. External services are also offered in terms of home care for the elderly and handicapped as well as shuttle services.

You are an expert software consultant. While the customer approached you with their “initial project description”, known as the customer “**Wants**”, it is your responsibility as an experienced software consultant to extract detailed requirements and design, and to add/modify the initial project description as needed then discuss them with the customer. This is typically known as the customer “**Needs**”. You can see the Wants as the customer’s wish list, while the Needs are the informed and validated details identified by software engineers. This will determine the software application that will be developed.

Initiation Tips:

- This is a typical high-level project description, not a final one
- Identify a clear set of high-level requirements extracted from the given description (the customer “Wants”)
- Make any necessary but reasonable assumptions needed
- Identify different user roles (personas) to help you better understand how the software will be used

- Identify and organize all detailed requirements and activities as elaborated from high-level requirements
- Propose any additional activities you deem important for the customer (customer “Needs”)

The Best Community Service contacted you as a well-know software consultant with the following mandate:

- 1- To help solidify the requirements and provide all necessary details (software requirements specification, SRS)
- 2- To provide a detailed software design for the application. The application will run online (design document)
- 3- To provide a detailed project management plan including the estimated scope, budget and schedule required to complete the project
- 4- To provide an interactive prototype of the software. The prototype will show all necessary screens of the software including home page design, and a list of services as well as a login page. Additional pages will show the details of services offered, and how users will request a service.
- 5- The prototype will only show the user-facing part of the Web application (all screens the user will interact with online). **No server-side screens are needed** (for example, no need to show how managers will run the business, or how HR person will process the payroll)
- 6- The prototype will run as a mockup, so backend data is NOT required in your prototype (for example, no files or database to store actual data is needed)
- 7- However, your project estimate **must** include the estimates of building a **complete online system** including both user-side and server-side application development estimates.
- 8- This means that you will use your experience in software engineering and software development as well as the detailed analysis and design of the prototype to gain sufficient insight into **accurately estimating** the actual costs of developing a **complete working system**.
- 9- Your deliverables will be distributed over the 7 modules and will include :
  - a. An **SRS** including a list of services and a brief description of each of them
  - b. A **design document** that include:
    - i. A high-level wireframe showing the main screens and the relationship between them
    - ii. A detailed list of screens showing their contents. No detailed visual design is needed for the screens

- iii. A use-case diagram showing user roles and the main use cases
  - iv. A list of use cases (see Alistair Cockburn). Each use case will show a sequence of one successful scenario and one alternate scenario
  - c. Project management plan, including:
    - i. Project scope statement
    - ii. Project Work Breakdown Structure and Activities
    - iii. Project Schedule and Budget
    - iv. Project risk breakdown structure and matrix
  - d. A working prototype showing the main screens of the user side. You will need to submit both the source code (HTML) as well as screenshots of all developed screens.**
- 10- The breakdown of these deliverables will be announced in each weekly module

**Important Tips: While the working prototype is due at the end of class (week 7) as your final project deliverable, you will need to start working on it from week 1.**

- **You will need to decide on and select suitable software tools to use for developing your prototype. Select tools that you are already familiar with.**
- **You will need to set up your development environment and make sure you're comfortable with it from week 1.**
- **As your design evolve, you should start working on your prototype progressively to gradually reflect your design**