INF 43: Introduction to Software Engineering

Summer/Fall, 2017
Homework 1: Requirements Specification
Due Date(s) : Provided in class, and course website

You are about to specify requirements for ARCHIE, an application for UCI ARC, that also Improves and Enhances upon the current ARC app, hence the name ARCHIE. The system is expected to include features, ranging from ARC events to exercise and food planning, to social media capabilities. At this time it is designed and meant for students at UC Irvine, but one can imagine extending the scope or adding Future Enhancements to the initial system design.

In this assignment you learn to write a fairly complete and precise requirements specification, which is a critical step in developing a large software system. Completing this assignment will give you experience in one of the most interesting and difficult tasks of software engineering.

Your assignment is to write a software requirements document for ARCHIE. You elicited the details of the requirements during client interviews with your Teaching Assistants, who were role-playing as your customers.
Your requirements should be based solely on the information discussed in these interviews. Do not add any requirements other than what was discussed in these interviews, but you could and should think through Assumptions and Future Enhancements. You can discuss and attempt to clarify requirements with other students, but cannot simply copy theirs.

The deliverable is an electronic copy due via EEE. Please submit, **as a PDF document only,** to the dropbox for Big HW-1 Final Version (find the right dropbox). **The following policy applies**: Late assignments will receive a 25% penalty off the determined grade, if submitted in the next 24 hours, or 50% penalty for 48-hour delay. No assignments will be accepted after that.

We provide a template Word document with which you should start (see course website). Your requirements specification should contain all sections contained in this template. You must fill out those sections, but can draw additional ideas from the Appendix in the textbook, and/or by searching for "Requirements Document Template."

Scoring

The scoring criteria are outlined on the scoring sheet, which should be the first page of the document you turn in. Throughout the document we will be looking for:
- **Adherence to stated structure.** Carefully follow the structure defined above.
- **Clarity of technical writing.** You should write your document in clear, precise, English prose, avoiding jargon and wordiness. Correct spelling and correct grammar are essential. Avoid acronyms; common ones should be defined when first used. Use bulleted and numbered lists, with restraint, and not as a substitute for complete sentences and readable prose.
- **Fidelity to customer's desires.** It is important that your document be true to the requirements stated by the customer. Don't add or remove requirements without approval. When in doubt, ask the Teaching Assistant – but only for clarification purposes (no new requirements).

- **Completeness.** Your document should address all aspect of system functionality and constraints that are important to the user.
- **Consistency.** Your document will contain many detailed requirements. Careful thought is necessary to ensure that no subtle contradictions are introduced.
- **Verifiability.** State detailed requirements in a manner that facilitates determining whether they are met in the final implementation.
- **Avoiding implementation bias.** Focus on "what" not "how".
- **Modularity and separation of concerns.** Try to divide each section into subsections or paragraphs that are largely independent of each other. Ideally, each requirement or feature is discussed in its entirety in one place.