CS 370 Projects[1]

A major component of the course is a software development project. The objective is to develop a software product for a client who intends to use it in regular production. At the beginning of the course, you will form project teams with 4 to 5 members. During the semester, the project team will work together through the full development cycle, from **an initial feasibility (requirement analysis) study** to **delivering a functioning product**, and will make **a series of presentations and reports** of the work to the client.

- Work on the projects is divided into several parts, each of which ends in a milestone. At each milestone, the team submits a written report.
- After the final milestones, the team also makes a presentation to the client and the course team.

General Information about the Projects

Choosing a Project

A client can be any person or organization except yourself. Some potential projects and clients will be suggested but you are encouraged to identify your own. There should be a firm intention by the client to use the software in production. Aim for a minimum of a three-year production life with many users. In selecting a project, think broadly. Your project can be an application, system software, or even a toolkit. Software engineering covers everything from cell phones to supercomputers. The only conditions are that there must be a **real client and real users**. The client are encouraged to attend presentations, we encourage local clients.

Examples: Check Cornell CS 5150.

Deliverables

Since every software project is different, there is no set list of deliverables that every project must provide. Part of your task is to decide what is needed for this specific project. Typical deliverables include working code, documentation, training materials, test suites, etc.

- The projects are divided into three or four parts, each of which ends in a milestone. At each milestone, the team submits a written report.
- After the final milestones, the team makes a presentation to the client and the course team.

The three primary criteria for a successful project are: satisfying the client's needs, usability of the product, and maintainability over the life of the product. These are group projects, but you will also be rewarded individually for special contributions to the project, or failure to provide a fair share of the effort.

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[1] It is mainly based on the project description listed in the CS 5150 offered in fall 2015 in Cornell

Technical environment

Most projects will use C++, Java, Python, Ruby, PHP, or Perl, on Unix, Linux, Windows, or Macintosh computers, tablets, or smartphones, but you are encouraged to use whatever is right for your particular product. Every project should use a project management system for their documentation and code. This should be chosen in conjunction with the client.

Client Expectations and Business Considerations

The client can expect the following from the students:
- A careful study of the requirements.
- A design that meets those requirements.
- A tested and well documented system that performs as specified.

In return, the student can expect the following from the client:
- Weekly meetings.
- Feedback on plans, prototypes, and draft documentation.
- Attendance at the project presentations.

The client must understand that a semester is a very short period of time to complete a substantial system. However, the client has often found it necessary to continue work after the semester to add extra functionality. Sometimes, members of the project team have continued work the following semester, as an **independent project**.

Business considerations

A number of business considerations surround any practical software product. As part of the *Feasibility Study and Plan*, every project must describe how it will handle these considerations.

- For your software to interface with other programs, the client may provide access to trade secret or other proprietary information. In this case you may be asked to sign a non-disclosure agreement.
- As SUNY-Poly students you own the copyright in the software that you create. However, the client needs to be able to use your software and to use it as a basis for future work. You must either agree to transfer the copyright to the client or to provide the client with an unrestricted license to use it.
- It is just possible that a project may develop concepts that could be patented. This is a complex area, with implications for the project team, the university, and the client. The client may require a statement that covers this possibility.

Schedule[2]

Task 1: By Feb. 9

- Form a group (groups must be decided by **Feb. 4**)
  - Within:
    - Write a simple summary about the skills sets that team members have
    - Think about possible projects that can be implemented by existing skill sets
    - On 02/09, each team has to go to the podium and briefly describe your team (skill set, possible project direction).

Task 2: Find your client and get your specs
Client is ….
Idea:

- **Lumosity ?**
  - Listen to their description (commercial)

- **Grading System ?**
  - Idea Gradescope.com

- **Attendance System ?**

- **Ride-share system ?**
  - web or android?
  - eg. simple version of https://www.kangaride.com/ for Utica/Rome

- **School exam archive ?**
  - For all courses available in SUNY Poly
  - Various Semesters
  - Various Instructor etc

Teams
Date for Doctor
Lateralus
Secret Wombat Liberation Army
Team II
Team Redundancy Team

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[2] Schedule is subject to change but it will be discussed with the class if any change is to be made.

Task 3: Feb. 18
Stage 1: Preliminary Manual (Requirement Document)

Task 4: April 7
Stage 2: Progress Report
    . Template and format will be given after the due date of exam 1

Task 5: April 26/28

Team	Date	Seq.	Topic
Ryan B.	**Apr. 26**	**1**	**REStful**
Kyle	**Apr. 26**	**2**	**Haskell + Functional Programming**
Jesse	**Apr. 26**	**3**	**Unity Game Dev**
Team II	**Apr. 26**	**4**	**Gravity Squares**
SWLA	**Apr. 26**	**5**	**Uber for Old Person Computer Repair**
Team Redundancy Team	**Apr. 28**	**6**	**Exam Archive System**
Dates for Doc	**Apr. 28**	**7**	**Dates for Doctor**
Lateralus	**Apr. 28**	**8**	**Appointment Scheduler**

Stage 3: Group Presentation
[Part of 26th will be used for extra-point presentation]
    . Each time would give presentation of their project, the content should include

1. The use diagram of the functions, showing how they are connected in your project
2. Brief overview on your almost-finished manual
3. Demonstration of your project
4. Brief description of each person's contribution
5. Q+A section

    . Aim for a 25-minute presentation, all members must participate and present
    . Each team will have to evaluate the other four teams.

Task 6: April 30th
Stage 4: Final product [Source code + full-fledged Manual + presentation slides]