

Software Project Case Studies

Analyze the problem and design a software system for one of the following software projects. You are welcome to be creative, as long as you satisfy the constraints of these projects. You will choose one of these case studies and create models/diagrams for your selected case study.

- 1) *From mobile devices to the Cloud.* Many scientists collect data on the field to be analyzed back in the laboratory. Your job is to support this data collection / data analysis process by creating an app for a mobile device (smart phones, tablets) which allows researchers to enter data or notes and this will be saved to the Cloud. When they return to the lab, they can retrieve this saved information on to their local desktop for analysis. They can then save the results of their analysis back in the Cloud. The challenge here is that the User Interfaces must be intuitive and easy to understand. Furthermore, the applications must be highly reliable because researchers can't afford to lose their data.
- 2) *Visualizing source code changes.* In software development, more than one person may change the same source code. Configuration management tools like SVN and Github allow development teams to manage these changes, however, the changes made to the code is not readily apparent within the IDE. Build a CM visualization tool that can be easily plugged into an IDE, such as Eclipse, and extracts information from the SVN or Github. This visualization tool can provide an at-a-glance summary view of the changes to various files, can provide a time-lapse video of changes made to one file, and a mouse-over view of last items changed to a file.