

New Product (July 2005 – February 2007)

Role and Responsibilities:

I was the Software Team Lead for this project. My responsibilities included software design process, software schedule control, and software architecture.

Description:

PRODUCT was a complete redesign of an existing product using new technology that dramatically increased delivery accuracy. This project was classified as a research and development project. The PRODUCT is a medical device that contains a mechanical system controlled by firmware and software. The software presented the control of the system graphically and was present to monitor and control the system for accuracy and safety.

Scope:

The software team was responsible for discovering requirements for the software, presenting potential solutions for review, creating prototypes to be used in usability studies, creating and maintaining software development process, capturing and controlling requirements, creating and maintaining detailed design documents, writing code to accomplish the requirements, code reviews, and writing and performing testing to verify that the software requirements were accomplished.

Team Description:

Team Lead (1)	As the lead software developer I was responsible for the full development life cycle, and for mentoring non-software team members through the discovery of the software requirements.
Software Engineers (1-5)	Team members who were responsible for software engineering tasks.
Software Quality (0-2)	Team members who were responsible for helping create and review requirements, defining testing strategies, creating test protocols, performing tests, and verifying that requirements were met.
Documentation Specialist (1)	Documentation and process support.

Research Phase

Initiating:

Our most important responsibility during the initiating process was to discover the functionality required for the system. Many of the people on the team were not engineers and we needed something to facilitate communication between software engineers, product managers, sales representatives, customers, graphic artists, and tech support personnel, as to the intent of the system and how it would function. I introduced “Storyboards” for this purpose. Storyboards are a form of paper prototype that combines visual elements and system logic. This approach was successful and was our most effective tool for initial scope discovery and definition.

Planning:

During the planning phase I created a work breakdown structure and schedule for the executable prototype. We then outlined the software development approach we would follow for creating this prototype. This process included revisions to the storyboards and the creation of use cases, in an effort to add greater definition to the scope.

Execution, Monitoring and Control:

The team followed the defined development process to create the prototype by the planned release date. I was responsible for managing the task distribution, reporting status, controlling the overall software development process, while still doing some software development.

Close:

The first software release was for internal usage only, to be used in the lab for testing and for user evaluations. The research phase helped our team learn a lot about the software, firmware and hardware this system would be using. I facilitated the capture of that knowledge and the team used it to influence the final system design and development.

Research Phase Time Estimates:

Process Group	Time (hours)
Initiating	300
Planning	340
Execution	1040
Monitor and Control	100
Close	120

Development Phase

Initiating:

The project manager started the development phase, and I was responsible for the elaboration of the software scope so it would be detailed enough for software development.

Planning:

I was responsible for the development of the software development approach, which was captured in the overall project plan. Additionally I developed the software schedule, and facilitated and influenced the development of the software detailed requirements through use cases.

Execution, Monitor and Control:

The team followed the defined development process to create the first version of the system by the planned release date. I was responsible for managing the task distribution, reporting status, controlling the overall software development process, in addition to metrics collection and reporting.

Close:

The first version of the software was successfully released, and a limited number of customers were chosen to field test the new product.

Research Phase Time Estimates:

Process Group	Time (hours)
Initiating	160
Planning	160
Execution	640
Monitor and Control	60
Close	0