Controlling Scope

Challenges in Forming and Maintaining Requirements

Important things to be kept in mind

- Take time and be cautious when defining the requirements.
- We can't expect them to stay stable throughout the development process.

Unstable requirements

"One of the two most common reasons that software projects get out of hand is unstable requirements." – Robert Glass

How to deal with changes 1/2

A typical situation

- The development team begins work on a specific set of requirements.
- When part way through the project, the client changes their mind on one thing or another.
- All of a sudden, the development team has to change their priorities midstream.

How to deal with changes 2/2

» If the development team changes their direction every time a client makes a change, the project can quickly spin out of control.
  - This creates a massive backlog of developer tasks and degrades the product quality.
  - Developer's morale can go down the drain too.

» If the product team sticks with the original plan and makes no adjustments, the end product is not likely to satisfy the client's needs.
  - A waste of the development team's time and the client's money

How to balance between these two extremes?

Product vision

Product vision

"**Long-term strategic concept** of the ultimate purpose and form of a new system" – by Karl Wiegers (an author and consultant in the field of software engineering)

Product Vision – Guiding Principle for the Product

"Product vision is what outlines the products value to the client and its place among competitors in the market."

» *No matter what changes with the product, the product design should still support its vision.*

When the idea for the product is first conceived. We ask:

- What is the purpose of the product to begin with?
- What problem does the client want to solve?

Scope

Scope

"The scope draws the boundary between what's **in** and what's **out** for the project." – Karl Wiegers

» Scope tells you what you will and won't do,

Scope and vision are interrelated

- Vision encompasses what the product will eventually do to satisfy a user's need.
- Scope encompasses what can **realistically be achieved** within the current project.

Scope

Scope – Important to consider when we think about a software product

While the client's overall purpose of the product has not changed, what is being asked of the developers has changed.

» Scope affects development teams and their product managers.

» How do you decide what that means for a specific project?

» How do we make sure we stay within it?

Best place to start: during the requirements elicitation phase

Manage expectations

Manage expectations to avoid disappointing situations

- manage expectations with your client early
- avoid over promising on the features of your product
- avoid situations that result in disappointment.

(by identifying the capabilities, which a user might expect from your product, but that you will not include in the current project.)

Example situation

You're creating a website for a music band. Users of the website might expect to be able to message other fans and purchase concert tickets.

However, if you think that these things will be too much for your team to implement in the amount of time given before your deadline, then it is perfectly acceptable to say to your client.

Quiz

Manage expectations & scope creep

Scope creep happens when the products requirements build up.

Which of the following do you think are ways to defend against scope creep?

- A. Have the client prioritize requirements.
- B. Make expectations clear.
- C. Draw the scope with your client and
- D. Ask, is this in scope?

Quiz

Which of the following do you think are ways to defend against scope creep?

- ✓ A. Have the client prioritize requirements.
- ✓ B. Make expectations clear.
- ✓ C. Draw the scope with your client
- ✓ D. Ask, is this in scope?

Ways to defend against scope creep

1, Make expectations clear between the customer and the manager

That is, make sure everything has a clear start and end date and try to stick to it as much as possible.

2, Draw the scope of your client

Employ a use case diagram to show the expected interactions between different user roles and the tasks supported by the product and design around that.

3, Ensure that the client prioritizes the requirements

When the client specifies which requirements are the highest value, it is easy to insure that the most important parts of the product are developed early.

» should time or funding for the project be reduced, you'll still have satisfied the key requirements.

4, When forming the requirements, ask the question, "is this in scope"?

It's easy to overlook the time wasted on refining unnecessary requirements. » If you force yourself to ask about the relevance of each of the requirements, you can determine what's in the current project as well as note capabilities for future releases.

5, Estimates

Changes are usually introduced to increase the project's business success. Evaluating each change individually and making decisions case by case.

- give you the freedom to expand your product
- maximize the chances of its success

After a change is accepted:

- revise your estimates
- plans to reflect the change.

6, Effort & Impact Estimation

developing requirements & estimate the amount of effort required to fulfill each requirement

- helps to decide whether a requirement is realistically doable or not.
- When a change is proposed for the product, spend time to evaluate the implications of that change.
  - How will it affect your personnel resources?
  - Funding,
  - product quality,
  - schedule,
  - likelihood of success.

Review

» What vision is and how it relates to software projects
» What scope is and how it can get out of hand.

Avoiding scope creep by

- Managing expectations.
- Drawing product boundaries.
- Setting priorities.
- Asking, is this in scope?
- Making estimates
- Evaluating the impact of proposed changes.