Project Management at Cisco

Jose Solorio
Outline

Background
Cisco
Project Management
Career Paths
Waterfall
Agile
User Experience
Day in the Life of a Project Manager
Background
Jose Solorio

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- **Project Manager**
  4.5 Years Project Management Experience in areas:
  - User Experience
  - User-Centered Design
  - Software Development
  - Application Development

- **Certifications**
  - ![Certified](image)
  - ![In Progress](image)
  - ![Certified](image)
  - ![Certified](image)

- **UCSC Alumn**
  - Information Systems Management, B.S., 2008
  - Former Information Systems Management Association – ISMA – Officer
When customers think of Cisco, they think of a company that brings people together by removing the barriers to communication. By connecting people Cisco can transform our lives, making us more productive, engaged, and powerful.
Cisco’s Top 5 Priorities

Core
- Routing
- Switching
- Services
- Security
- Mobility

Business Architecture
- Business and Technology Integration

Video
- Video
- TelePresence

Collaboration
- Voice Systems
- WebEX
- Cius
Core Product Areas

Routing
Switching
Services
Security
Mobility
Collaboration

Voice Systems
WebEx
Cius
Video

TelePresence

HealthPresence
Project Management
What is a Project?

- In project management, a project is defined as a temporary endeavor with a beginning and an end that is undertaken to create a unique product, service, or result.
- There are typically 3 main constraints that govern any given project:
  - **Scope**
  - **Time**
  - **Resources**

- These constraints are typically referred to as the Project Management Triangle where each side represents a constraint. One constraint cannot be changed without affecting the others.
- **Example:** A project takes 6 months to complete.
  - If you reduce time in half (from 6 months to 3 months), to complete it, you must either:
    - Double the Resources
    - Reduce the Scope by half

What is Project Management?

- Project management is a set of principles, practices, and techniques applied to lead projects from start to finish while managing the project's resources and controlling the risks and constraints.

- 2 Main methodologies:
  - Traditional (Waterfall)
  - Agile (Iterative)

- No methodology is better than all

“The application of knowledge, skills, tools, and techniques to project activities to meet the project requirements.”

What Kinds of Project Managers Exist?

There are different specializations in project management:

- Application Development
- Hardware Deployment (Servers, switches, networking gear)
- Backend specific coding (Java, PERL, Python, C)
- Security Systems & Software
- Multi-Organizational Initiatives
**Project Manager**

- Micro-Level Manager
- Responsible for managing and monitoring the day to day activities of project team from start to finish
- Accountable for success or failure of a project

**Program Manager**

- Macro-Level Manager
- Responsible for managing a collection of projects that form a program
- Set overall direction for teams and future projects they will work on

**Product Manager**

- Work with end users/customers to define requirements
- Responsible for ensuring that the product meets the specifications
- In Agile methodology, a Product Manager is also referred to as the Product Owner, and usually has the main role of representing the product to the customer
Visual Depiction

Program Managers

Project Manager

Product Manager

Project 1

Project 2

Project 3
## Certifications

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<th>PMI-RMP</th>
<th>PMP®</th>
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<td>3000 Hrs</td>
<td>4500 Hrs + 3 Yrs</td>
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Source: Project Management Institute (PMI) and Scrum Alliance
Applying Project Management: Traditional (Waterfall) Methodology
Traditional (Waterfall) Framework: Linear & Sequential

Source: Cisco Product Development Methodology (CPDM), GEM Version II
Scenario: You have been assigned to manage the development of a new word processing application

Applying Project Management
Conceptualization Phase

- Focus on “What”
- Define project goals
- Develop business case
- Define product requirements & use cases
- Identify senior organizational sponsor
- Acquire stakeholder buy-in

Outcome: Project is officially authorized.
Conceptualization & Planning

The quick brown fox jumps over...
Planning Phase

- Focus on “How”
- Develop a Project Plan
  - Cost
  - Time
  - Resources
- Risk Management plan
- Testing Strategy
- Finalize Scope

**Outcome:** Develop course of action required to attain objective(s)
Planning
Execution Phase (Development + Validation)

- Execute plan (put the plan into action)
- Manage resources (development and QA)
- Manage scope, schedule, & budget

**Outcome**: Ensure on-time, quality delivery of execution of plan
Development
Development
Development
Development
Validation/QA Testing

Defects Discovered
Validation & UAT

✓ All defects fixed
✓ All requirements met
Deployment

Conceptualization

Planning

Execution

Concept Commit

Execute Commit

Development

Validation

Deployment

Readiness Review

General Availability

Source: Cisco Product Development Methodology (CPDM), GEM Version II
Product Launch

External Release 1.0
Maintenance & Support

Conceptualization
- Concept Commit

Planning
- Execute Commit

Execution
- Development
  - Validation
- Deployment
  - Readiness Review
  - General Availability
  - Maintenance
    - End of Life (EOL)

Source: Cisco Product Development Methodology (CPDM), GEM Version II

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Applying Project Management: Using Agile (Iterative) Methodology
Agile (Iterative) Framework
Agile (Iterative) Framework

Sprint Planning

Iteration 1

Release 0.1
Common questions: What do you want this application to do?
As a Customer, I would like to be able to...

- Write text
- Save a File
- Open a File
- Insert a picture
- Format text
- Have a scroll bar
- Close the application
- Insert a hyperlink
- Adjust the font
- Find / Replace / Select
- Check spelling
Iteration 1
- Write Text
- Have a scroll bar

Iteration 2
- Save a File
- Open a File

Iteration 3
- Find / Replace / Select
- Format text
Product Backlog

Close the application
Insert a hyperlink
Adjust the font
Check Spelling
Insert a picture

Release 0.1

Write Text
Have a scroll bar
Save a file
Open a file
Find / Replace / Select
Format Text
Agile (Iterative) Framework
Iteration 1: Write text and have a scroll bar

The quick brown fox jumps over the...
Agile (Iterative) Framework

Iteration 1

Sprint Planning
Sprint Work
Sprint Review

Perform a Demo

Release 0.1
Iteration 1: Write text and have a scroll bar

The quick brown fox jumps over the...
Iteration 1

✓ Write Text
✓ Have a scroll bar

Iteration 2

• Save a File
• Open a File

Iteration 3

• Find / Replace / Select
• Format text
Agile (Iterative) Framework

Iteration 1

- Sprint Planning
- Sprint Work
- Sprint Retrospective
- Sprint Review

Release 0.1
“Development could improve on...”
Agile (Iterative) Framework

Iteration 1

Update Product Backlog → Sprint Planning

Sprint Work → Sprint Review

Sprint Retrospective

1

Release 0.1
Product Backlog

Close the application
Insert a hyperlink
Adjust the font
Check Spelling
Insert a picture

Release 0.1

Write Text ✔
Have a scroll bar ✔
Save a file
Open a file
Find / Replace / Select
Format Text
Insert a picture (Iteration 2)
Iteration 1

- Write Text
- Have a scroll bar

Iteration 2

- Save a File
- Open a File
- Insert a picture ★

Iteration 3

- Find / Replace / Select
- Format text
Agile (Iterative) Framework

Sprint Planning

Iteration 2

Release 0.1
Agile (Iterative) Framework

Sprint Planning

Sprint Work

Iteration 2

Release 0.1
Iteration 2: Save a file, Open a File, Insert Picture

The quick brown fox jumps over the...
Iteration 1

✔️ Write Text
✔️ Have a scroll bar

Iteration 2

✔️ Save a File
✔️ Open a File
✔️ Insert a picture

Iteration 3

• Find / Replace / Select
• Format text
Agile (Iterative) Framework

Iteration 2

Sprint Planning
Update Product Backlog
Sprint Work
Sprint Review
Sprint Retrospective

Release 0.1

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Agile (Iterative) Framework

Iteration 3

- Sprint Planning
- Sprint Work
- Sprint Review
- Sprint Retrospective
- Update Product Backlog

Release 0.1
The quick brown fox jumps over the...
Agile (Iterative) Framework

Iteration X

Sprint Planning

Updated Product Backlog

Sprint Work

Sprint Retrospective

Sprint Review

Release 0.1

Release 0.5
Agile (Iterative) Framework

Iteration X

Sprint Planning

Updated Product Backlog

Sprint Work

Sprint Retrospective

Release 0.1

Release 0.5

Release 1.0
Release 1.0

External Release 1.0

Product Manager

☑️ Approved
Agile: You repeat the same cycle to get closer and closer to your final product
Traditional

• Sequential
• Linear
• Fixed Time / Costs / Scope
• Follows formal processes
• Occasional releases

Agile

• Iterative
• Cyclical
• Adjusts to change
• Process allows flexibility
• Frequent releases
User Experience
What is User Experience (UE)

- It’s the design of the interaction between you and the application.
  - The **fonts**, icons, design, and **colors** you see.
  - The order in which the application presents information to you:
    1. User logs in
    2. User clicks on Home button
    3. User is presented with X, Y, Z
  - The sequence that you follow to navigate throughout an application.
  - The pleasure or frustration you experience when you use the application.
Why is User Experience (UE) Important?

- Example

Is this where I log in?

Why do I need to see a calendar here?

Don’t the About page links belong at the bottom of the page?

What are some of these acronyms?

Why not show a map instead?

Why does everything have to be a blue link?
Why is User Experience (UE) Important?

Findings: Craigslist

- Information is misorganized and not where it typically should be
  - About link belongs at the bottom
  - Search belongs either at top center or top right
  - The “My Account” link should be more apparent
  - Typically, the left side of a page should be used for navigation. Here, its cluttered with useless Craigslist company links, disclaimers, and whatnots

- I need to read pretty much every link on the page to orient myself
- No images
- No suggestions
- Same fonts
- It looks as if a programmer wrote up the page in 10 minutes, 20 years ago!
- Its not a very enjoyable experience
Why is User Experience (UE) Important?

- Example

Clean design

There are sections which are organized and consolidated

Prices are highlighted in Red making them easy to spot

The number of items in my cart is obvious

Functions that go together are together: Account, Cart, Wish List

An image is already worth a thousand words. No need to write them out as blue URLs
Why is User Experience (UE) Important?

Findings: Amazon.com

- Information is organized
- The information flows in a logical order, easier to read
- Images you can click
- Suggestions
- Variety in fonts and colors that help you identify the type of information
- It’s evident that great thought was put into the design
- Makes you want to come back and use it again
Why is User Experience (UE) Important?

• User Experience is too often overlooked and usually the last thing a product manager thinks about.

• Why? Because a lot of products that are truly remarkable under the hood are masked by bad designs on the outside and people don’t know that.

• A great user experience is important because it makes products stand out. It’s difficult to determine exactly what makes that product great, and that’s the whole point. A great design should be working quietly for you in the background and not become a source of distraction.

• Great user experiences don’t happen by accident. They are the result of hard work, careful observation, and re-design until the product is just right.
Why is User Experience (UE) Important?

- When a product brings a great user experience...

  People will want to use the product again

  Customers walk away with a positive experience

  Its easier for new people to start using the product

  It sets that product apart from others

  It portrays a message that says this product is high quality
Why is User Experience (UE) Important?

If you had to choose...
Day in the Life of a User Experience Project Manager
Day in the Life of a User Experience Project Manager

• Project Manager for the Cisco Smart Analytics application

• Directed the planning, development, and deployment of five releases

• Web application that allows a customer to measure how efficiently their network infrastructure (Routers, switches, networking gear) is set up and deployed
The Teams

User Experience
- Graphics Design
- Experience Design

Frontend
- Adobe FLEX Programming
- User Interface Programming

Backend
- Java Programming
- SQL & Database

Quality Assurance (QA)
- Testing
- Defect Tracking
Day in the Life of a Project Manager

Responsibilities include

• Gathering requirements from product managers for the next release

• Working with leads of different teams to translate verbal requirements into technical ones

  Teams are divided by specialty

  Backend: Java programming, database design
  Frontend: Graphical User Interface programming
  User Experience: Focuses on the application’s design, look and feel, graphics

These teams come together to identify which part of the requirement falls on their court
Day in the Life of a Project Manager

Responsibilities include

• Decomposing requirements into units of high level hourly estimates
  Each team will submit an hour estimate for a requirement (Example Req. “A”)
    Backend: 30 Hours
    Frontend: 40 Hours
    User Experience: 20 Hours
    Total: 30 + 40 + 20 = 90 Hours for Requirement “A”

• Coordinating with the teams to plan an achievable 3-month schedule containing a collection of requirements
  The teams & managers meet to identify any dependencies which may require some work to be done in a certain order

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Day in the Life of a Project Manager

Responsibilities include

• Calculating costs and team capacity
  If a team has 5 members, they have a **weekly** capacity of 5 people x 8 hours a day x 5 Days = 200 Hours
  No one team should be given more than their capacity for each week
  Mix and match requirements within the schedule until all teams are booked to their fullest. Repeat for every requirement for 3 months into the future.
  Goal: Maximize work given to a team while avoiding over-allocations for anyone

• Getting approval from upper management and kicking off project
  No work begins until the 3 month plan is in place
  Everything calculated, everything figured out
When a new requirement comes in...

User Experience

Backend

Frontend

Quality Assurance (QA)
When a new requirement comes in...

User Experience

Is this what you had in mind?

I want to see Software Age

Product Owner

Yes, Design Approved!
Estimation

User Experience

10 Hours UE Effort

Frontend

30 Hours Frontend Effort

Backend

15 Hours Backend Effort

Quality Assurance (QA)

8 Hours QA Effort

Software Age: 63 Hours
Goes into the queue for the next release

Software Age: 63 Hours

- Iteration 1:
  - Software Age: 63 Hours
  - New Logo: 5 Hours
  - Configuration Files: 200 Hours
  - Hierarchy: 35 Hours
  - Total: 303 Hours
  - Capacity: 325 Hours

- Iteration 2:
  - Total: 0 Hours
  - Capacity: 325 Hours

- Iteration 3:
  - Total: 0 Hours
  - Capacity: 325 Hours