Project Management at Cisco

Jose Solorio, Ben Rus, Ali Ataei
Outline

Background
Cisco
Project Management
Career Paths
Waterfall
Agile
Day in the Life of a Project Manager
Background
Jose Solorio
jossolor@cisco.com

• Project Manager
  3.5 Years Project Management Experience in areas:
  Software Development
  User Centered Design

• Certifications
  ![CCENT Network Certified](image)
  ![PMP In Progress](image)
  ![CSM Certified ScrumMaster](image)

• UCSC Alumn
  Information Systems Management, B.S., 2008
  Former Information Systems Management Association – ISMA – Officer
Ali Ataei
aataei@cisco.com

About Me:

- UCSC Alumni
- Information Systems Management Association (ISMA) - Admin
- Graduated with B.S. in Information Systems Management (2009)
- Started at Cisco Systems as an intern in June 2009
- Was later converted to a full-time employee

Professional Experience

- Project Manager
  - 2.5 Years of Project Management Experience

- Worked on a number of projects such as
  - Network Analytics Interface (NAI)
  - Smart CSOne
  - Smart Services User Experience (SSUE)
  - Smart Net Total Care (SNTC) & Partner Support Service (PSS)
Ben Rus
berus@cisco.com

• Experience
  Project Manager/Scrum Master – Cisco
  2.5 Years Project Management Experience
  Started as Intern through UCSC

• Education
  Information Systems Management, B.S. 2009 – UCSC
  Focus on Software Development and Network Administration
  Former Member of ISMA
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 Product Areas

Routing
Switching
Services
Security
Mobility
Collaboration

Voice Systems
WebEx
Cius
Video

TelePresence

HealthPresence
Our Team
Cisco Services

- Products/Responsibilities:
  - TAC Support
  - Contracts
  - Security
  - Network Management Solutions
  - Supporting software

- ~20% of total revenue generated by Services

- Example Scenario:
  Network management solution capable of predicting network efficiency based on data collected and comparing to competitors.
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 and risks for any given project
  
  **Scope:** Refers to the work that needs to be accomplished to deliver a product, service, or result with the specified features and functions.

  **Time:** Refers to the amount of time available to complete a project

  **Cost:** Refers to the budgeted amount available for the project.

• **Note:** 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.

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.”

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

<table>
<thead>
<tr>
<th></th>
<th>CAPM</th>
<th>PMI-RMP</th>
<th>PMP</th>
<th>Certified Scrum Master</th>
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<tr>
<td><strong>Name</strong></td>
<td>Certified Associate in Project Management</td>
<td>PMI – Risk Management Professional</td>
<td>Project Management Professional</td>
<td>Certified Scrum Master</td>
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<td>Traditional</td>
<td>Agile</td>
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<td><strong>Education</strong></td>
<td>Associated Degree</td>
<td>Bachelors</td>
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<td>Associates Degree</td>
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<tr>
<td><strong>Work Experience</strong></td>
<td>1500 Hrs</td>
<td>3000 Hrs</td>
<td>4500 Hrs + 3 Yrs</td>
<td>Pass Exam</td>
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Source: Project Management Institute (PMI) and Scrum Alliance
Industries & Fields

• High-Tech
• Manufacturing
• Visual Design
• Pharmaceutical
• Process Automation

• Construction
• Engineering
• Quality Assurance
• Industrial Design
Applying Project Management: Traditional *(Waterfall)* Methodology
Traditional (Waterfall) Framework: Linear & Sequential

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

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

*Outcome*: Project is officially authorized.
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)
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
Deployment

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

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

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**Scenario:** You have been assigned to manage the development of a new word processing application

**Applying Project Management**
Conceptualization & Planning

The quick brown fox jumps over...
Development
Development
Development
Development
Development
Validation/QA Testing

Defects Discovered
Validation & UAT

✔️ All defects fixed
✔️ All requirements met
Product Launch

External Release 1.0
Applying Project Management: Using Agile (Iterative) Methodology
Agile (Iterative) Framework

Iteration X

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

Release 0.1
1 2 3

Release 0.5
1 2 3

Release 1.0
1 2 3
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

Sprint Planning

Iteration 1

Sprint Work

Perform Testing

Release 0.1

1
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
“Development could improve on...”
Agile (Iterative) Framework

Iteration 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
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
Agile (Iterative) Framework

Iteration 3

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

Release 0.1
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

1 2 3

Release 0.5

1 2 3
Agile (Iterative) Framework

Iteration X

Sprint Planning

Updated Product Backlog

Sprint Work

Sprint Retrospective

Release 0.1

1 2 3

Release 0.5

1 2 3

Release 1.0

1 2 3
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
Day in the Life of a Project Manager
Day in the Life of a Project Manager

• Project Manager for the Network Analytics Interface application

• Directed the planning, development, and deployment of four releases
  1.0
  1.0 Web
  2.0
  2.1

• Current Version: 3.0

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

• Client base include large firms, domestic & international
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
  - Meetings
  - Requirements clarifications

- 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
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

Frontend

Product Owner

I want to see Software Age

Backend

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

User Experience

Is this what you had in mind?

I want to see Software Age

Yes, Design Approved!

Lead

Project Manager

Product Owner

Software Age

<table>
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<tr>
<th>Year</th>
<th>Number of Devices</th>
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<tr>
<td>2007</td>
<td>0</td>
</tr>
<tr>
<td>2008</td>
<td>5000</td>
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<td>2009</td>
<td>8000</td>
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<tr>
<td>2010</td>
<td>1000</td>
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<tr>
<td>2011</td>
<td>300</td>
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Estimation

Software Age: 63 Hours

User Experience
10 Hours UE Effort
Lead

Frontend
30 Hours Frontend Effort
Lead

Backend
15 Hours Backend Effort
Lead

Quality Assurance (QA)
8 Hours QA Effort
Lead
Goes into the queue for the next release

Software Age: 63 Hours

<table>
<thead>
<tr>
<th>Iteration 1</th>
<th>Iteration 2</th>
<th>Iteration 3</th>
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<tbody>
<tr>
<td>Software Age: 63 Hours</td>
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<tr>
<td>New Logo: 5 Hours</td>
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<td>Configuration Files: 200 Hours</td>
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<td>Hierarchy: 35 Hours</td>
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<td>Total: 303 Hours Capacity: 325 Hours</td>
<td>Total: 0 Hours Capacity: 325 Hours</td>
<td>Total: 0 Hours Capacity: 325 Hours</td>
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