PMP Team Formation and Charters/Briefs

CSCI 5040: Professional Master's Project (1 of 2)

Lecture 5

Learning Objectives

- Discuss project team assignments
- Plan for team formation, initial project deliverables, sponsor contact, and class status update meetings

First… Thank you

- The feedback from the sponsors on the project fair meetings regarding your engagement was very positive
- Thank you so much for being at your best

Projects and Team Assignments

Project Name	Total Requests	Overall Score	Popular Rank	Target Team Size	Current Teams	Team Needs	Notes
Inspiring - Site Rework	35	135	1	5	5		
Status - Conversational Interface	35	107	2	5	5		
Helping - Web Integration	30	93	3	5	5		
Inovonics - ADL Algorithms	31	85	4	5	5		
Status - Psychological State Algorithm	28	80	5	5	5		
Trimble - IoT Network	19	58	6	4	4		
Double Helix - Microscopy Algorithms	4	12	7	3	2	1	C++/Matlab
Edwards - UX Redesign	4	8	8	2	0	2	UX
Edwards - Network Simulation	2	7	9	4	3	1	Data analysis
Edwards - CAD Component	2	3	10	2	2		

- Initial team assignments out Monday
- Process: 1st choice, 2nd choice, hard to fill, easy to fill (all w/DNP, P)
- Currently looking for two UX design, one C++ & Matlab, one Data analysis (likely Python or other OO language)
- Please send me a private note on Chat or on Piazza if interested in open positions (1 C++/Matlab, 1 Data analysis/Simulation, 2 UX)
- Final team assignments out Wednesday AM; goal is to send to sponsors

Regular Project Status Meetings

- With Preethi
  - Inspiring - Site Rework
  - Helping - Web Integration
  - Double Helix - Microscopy Algorithms
  - Inovonics - ADL Algorithms

- With Bruce
  - Status - Conversational Interface
  - Status - Psychological State Algorithm
  - Trimble - IoT Network
  - Edwards - UX Redesign & Edwards - CAD Component
  - Edwards - Network Simulation

- Schedule a regular Zoom meeting for your entire team with Preethi or I starting the week of 9/14; start with a 30 minute meeting, we'll get it down to 15.

- Attendance by whole team required
- We'll discuss status update submissions for these meetings soon

Minimal Project Management – What you “can’t not” do

- Charter – establish sponsor, governance, validity
- Definition – objective, context, goals, deliverables, scope (in vs. out)
- Staffing – roles & responsibilities
  - RACI chart – Responsible, Accountable, Consulted, Informed
- Work Breakdown Structure (scope) & Timeline (schedule)
- Launch meeting
- Weekly status – task status, risks & issues, changes, new information
- Planning to end the project
  - From Bob Lewis’ “Bare Bones Project Management” 2006

- Also “Project Jeopardy” clarity
  - Thanks to Russ Miles

PMP Project Deliverables – 1st Semester

- Waterfall
  - Charter – extended to agree on sponsors needs for specific tools, communications, or deliverables (project or product)
  - Project Brief
  - Sponsor signoff/phase gate
  - WBS (2 passes)
  - Requirements (2 passes)
  - Sponsor signoff/phase gate
  - Weekly status updates for class staff, tbd for sponsor
- Scrum (3 two-week sprints)
  - Design activities (architecture, design, test planning, etc.)
  - Proof of concepts (ensure tools or components work/understood)
  - Prototypes (early aspects of design)

- NOTE: Deliverables may change as project is structured with the sponsor

Overall PMP Schedule

- Week 3: 9/7
  - Initial and final team assignments
  - Bruce will notify sponsors of team assignments
  - Bruce will send out NDAs for signatures
  - Teams should hold an initial meeting and discuss team roles
  - Charter and project briefs assigned/initial development
  - Thursday speaker (attendance tracked) – Amy & Rae
  - Request an introductory meeting for your team and the sponsor
- Week 4: 9/14
  - First meetings with sponsors – if you can share initial charters/project briefs all the better
    - Review any process, deliverables, or tool requirements they may have
  - First meetings with Bruce/Preethi for project status updates
  - Charter and project brief due, charter submitted for sign off by sponsors

Overall PMP Schedule

- Week 5: 9/21
  - WBS & Requirements
- Week 6: 9/28
  - WBS & Requirements – pass 1 reviewed by sponsor
- Week 7: 10/5
  - WBS & Requirements
- Week 8: 10/12
  - WBS & Requirements – pass 2 reviewed by sponsor
  - Midterm exam (take home)

Overall PMP Schedule

- Week 9: 10/19
  - Begin 1st 2 week Scrum sprint – Architectural/System Design
- Week 10: 10/26
  - Scrum
- Week 11: 11/2
  - Begin 2nd sprint – Design/Prototyping
- Week 12: 11/9
  - Scrum
- Week 13: 11/16
  - Begin 3rd sprint – Design/Prototyping
- Week 14: 11/24 (off 11/26-11/27)
  - Close 3rd sprint
- Week 15: 11/30
  - Final sponsor and in-class presentations
  - Assessments: Instructor, GSS, sponsors, peer
- Week 16: 12/7
  - Final exam (take home)

Project Deliverables and Grading

50 points (5%) Attendance – Team meetings, Speakers

50 points (5%) Participation – Piazza topic discussions – don't miss these, looking for regular contributions

100 points (10%) Midterm (take home)

100 points (10%) Final (take home)

200 points (20%) Assessments (Instructor, Peers, GSS, Sponsor)

500 points (50%) Project Deliverables (Some subject to change based on sponsor input)

- 100 points (10%) Status updates
- 50 points (5%) Charter
- 50 points (5%) Project brief
- 50 points (5%) WBS & requirements 1
- 50 points (5%) WBS & requirements 1
- 50 points (5%) Scrum 1
- 50 points (5%) Scrum 2
- 50 points (5%) Scrum 3
- 50 points (5%) Final presentation

Extra credit for final presentations, instructor assessment (tbd)

Similar grading in 2nd semester

What is your PMP class team responsible for?

- Meeting sponsor expectations
- Managing sponsor expectations
- Maintaining team dynamics
- Keep everyone responsible and involved
- Learning software life cycle/project management rhythms
- Maintain goals and timelines
- Communications
- Project delivery – documentation, testing, code, deployment(?)
- Representing CU, Graduate CS, your team, and yourselves

Team Roles

Set these roles in your first team meeting…

- You can adjust this
  - It may be individuals wear a couple of role hats
  - It may be your team doesn't need the role or needs different ones
- Everyone should be responsible for some code development
- Potential roles:
  - Project or Team lead – point of contact for the sponsor and class staff
  - Technical or Architectural lead – ensure project technical thoroughness
  - Source control lead – merging, code reviews
  - Test and Quality lead – TDD, unit test, integration/system test, test plans
  - Documentation lead
  - Deploy/install lead
  - Communications
  - Requirements
  - Etc.

Team Size	2	3	4	5	6	
Lead	Project	Project	Project	Project	Project	Deliverable Tracking, Sponsor Contact
Roles	Technical	Technical	Technical	Technical	Technical	Architecture
	Source	Source	Source	Source	Source	Source Control and Merging, Code Rev
	Test	Test	Test	Test	Test	Test and Quality
				Build	Build	Versioning, Deploy/Install
					Documentation	Control/Review Project Docs
	(Can switch at Midterm if needed)					

More on Sponsors

- What sponsors want:
  - Working product
  - Regular progress updates – clear, succinct communications – don’t waste time
  - Questions that are on point and on time
  - Input on scope and direction – be ready to say “yes” or “no”
  - Enthusiasm from the team!
- Watch out for
  - Estimates on tasks – if you miss, reduce the amount in tasks to make better estimates
  - Don’t claim to know or be able to do something you can’t
  - Protect your schedule if need be

Communicating with Project Sponsors

- Once the teams are formed, you'll set up a communications plan with your sponsors
  - Your team should plan to **ask for a sponsor meeting at the end of this week, and hold the meeting next week**
  - The initial meeting is introductory, but you should share:
    - You're developing a Charter and Project Brief for their review
      - If you can show a preliminary, great
      - If they have a charter format they'd like you to use, great
      - You need to know about any requirements they have for tools, processes, or deliverables – and need to review and approve these for you
- Please remember, if you communicate via e-mail, cc both Bruce and Preethi, to allow us to monitor written communications between teams and sponsors
- For our projects, the sponsor owns all Intellectual Property (IP) rights resulting from the master's project
- Do not discuss, reveal, or distribute project materials outside of your team, sponsor, and the class staff without express permission from your sponsor

Why a Charter?

- The project charter is a document issued by the project sponsor that formally authorizes the existence of a project and provides the project manager with the authority to apply organizational resources to project activities.
- The charter establishes a partnership between the performing and requesting organizations.
  - PMI PMBOK 6th ed.

- Ultimately it puts in writing that your project team is going to provide this project for the customer, and that the customer authorizes it to happen.

Goal for your Charters

- Sometimes known as a “Statement of Work” or SOW
- Written agreement between your team and your sponsor (customer)

- You must gather input for the charter from your Sponsor
- You must have a signoff from the sponsor on the final charter

- You should see if the sponsor has a standard charter or Statement of Work document/template you can use
- Any mission/vision statements should come from the sponsor

Standard Charter Content

- Description and Scope
  - Background info on organization: Their mission, vision & strategies
  - History of the problem / business need / opportunity
  - Objectives – the solution to the need, success criteria
  - Benefits
  - Scope statement - major products/results, specific out-of-scope items
- Approach
  - Major milestones or events schedule
  - Impact on other projects or systems
  - Critical assumptions, and constraints
  - Major known risks and risk mitigation plans
  - Process for change control
- Resources
  - Stakeholders
  - People, Roles & responsibilities
  - Other material resource needs
- Acceptance criteria
- Time and cost estimates – budget
- In addition – a special section on Alignment
  - Which of our processes/tools/deliverables we will use or the sponsor will have us use (next page)

This would make a good outline for your charter document if the sponsor doesn't have a template they want you to use.

Sponsor Alignment for PMP Class Charters

- Team/Sponsor Communications – E-mail
  - E-mails will usually be between Sponsor contact, Project lead, cc Bruce & Preethi
  - Other needed? Slack, Piazza, other?
- Live Meetings – CU Zoom
- Task/Issue/Defect Tracking - Trello
- Source Control/Code Review/Tagged Builds – GitHub
- Development tools (software, any needed hardware or cloud connectivity, other) – per project
- Planned Project Deliverables for 1st Semester
  - Charter and Project Brief
  - WBS and Requirements
  - Scrum Sprint Deliverables (3)
    - Architectural Design
    - Detail Designs
    - Proof of Concepts/Prototypes

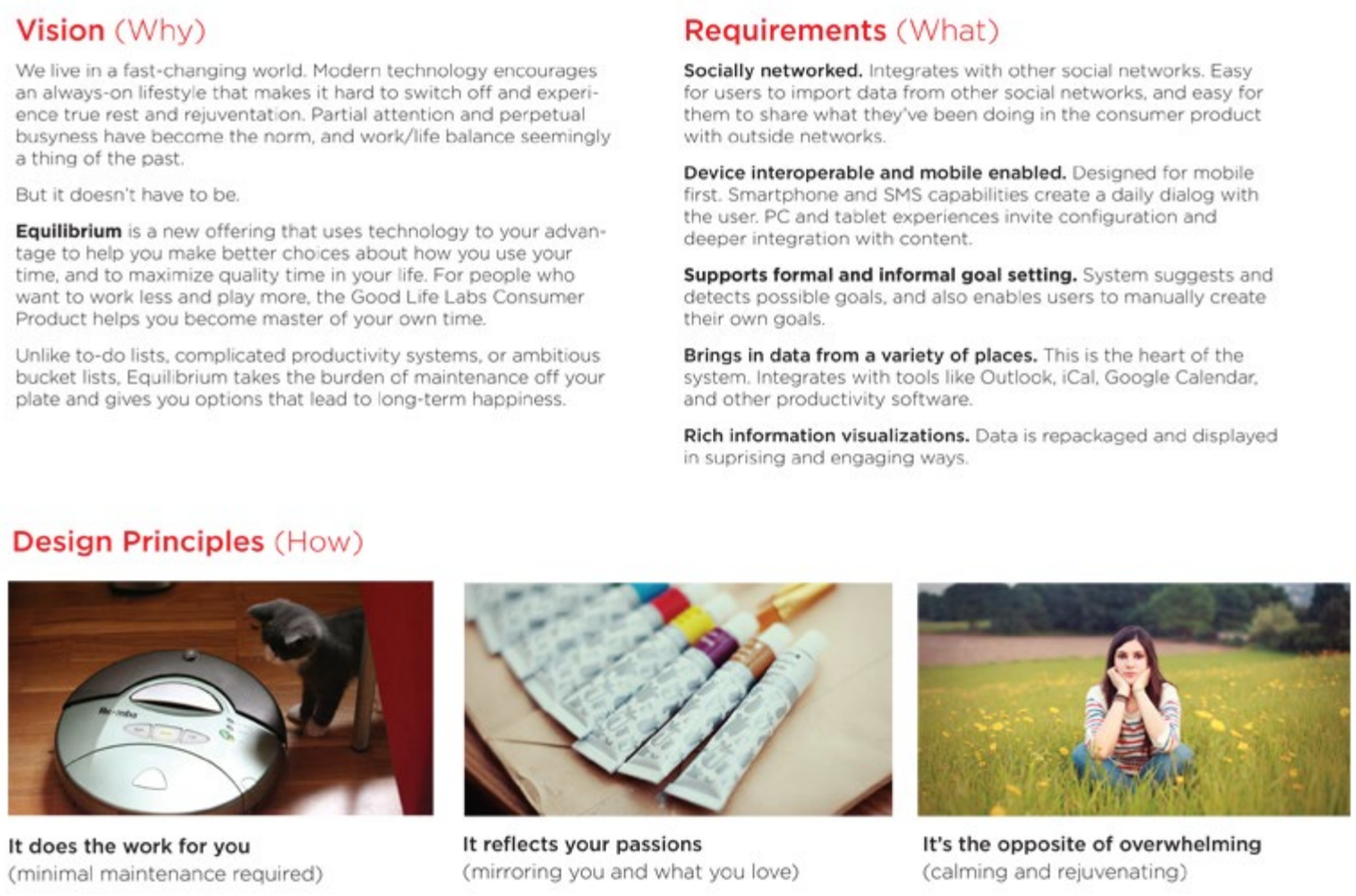
The sponsor will have to look at these elements and let us know if they want us to use any of their tools or provide different project deliverables

Charter Templates

- You can create your own, or use a standard template
- https://www.projectmanagementdocs.com/blog/top-7-pmbok-templates/
  - Project Charter is formal, but has most of the project areas
- https://www.smartsheet.com/blog/project-charter-templates-and-guidelines-every-business-need
  - Project Charter in either Word or Excel
- https://www2a.cdc.gov/cdcup/library/templates/CDC_UP_Project_Charter_Template.doc
  - Charter from the CDC, not recommended/fairly complex, but might be interesting to look at

Project Brief

- Time: A few hours
- Goal: communications
- Summary of overall project plan – even simpler than a project overview
- A poster sized graphic with selected topic sections
  - What are you doing? (Requirements)
  - Why are you doing it? (Vision)
  - Key design elements
  - Constraints and outcomes expected
  - Anything you feel should be shared
- Posted publicly, it allows for visibility and discussion on project focus and goals
  - https://rosenfeldmedia.com/ux-team-of-one/3641/



Vision (Why)

We live in a fast-changing world. Modern technology encourages an always-on lifestyle that makes it hard to switch off and experience true rest and rejuventation. Partial attention and perpetual busyness have become the norm, and work/life balance seemingly a thing of the past.

But it doesn't have to be.

Equilibrium is a new offering that uses technology to your advantage to help you make better choices about how you use your time, and to maximize quality time in your life. For people who want to work less and play more, the Good Life Labs Consumer Product helps you become master of your own time.

Unlike to-do lists, complicated productivity systems, or ambitious bucket lists, Equilibrium takes the burden of maintenance off your plate and gives you options that lead to long-term happiness.

Requirements (What)

Socially networked. Integrates with other social networks. Easy for users to import data from other social networks, and easy for them to share what they've been doing in the consumer product with outside networks.

Device interoperable and mobile enabled. Designed for mobile first. Smartphone and SMS capabilities create a daily dialog with the user. PC and tablet experiences invite configuration and deeper integration with content.

Supports formal and informal goal setting. System suggests and detects possible goals, and also enables users to manually create their own goals.

Brings in data from a variety of places. This is the heart of the system. Integrates with tools like Outlook, iCal, Google Calendar, and other productivity software.

Rich information visualizations. Data is repackaged and displayed in suprising and engaging ways.

Design Principles (How)

It does the work for you
(minimal maintenance required)

It reflects your passions
(mirroring you and what you love)

It's the opposite of overwhelming
(calming and rejuvenating)

Goal for your Project Brief

- To use to present and clarify what your team is working on (to yourselves and others)
- Likely a summary of key elements from the charter in a poster or document form
- What are you delivering?
  - Problem description
  - Key requirements
  - Key design elements
  - Expected outcomes/benefits
- Who's on the team?
- Who are the stakeholders/sponsors?
- A lot of variation in how briefs are presented and formatted…

- Suggested brief elements:
  - Project Details
  - Background
  - Key Deliverables
  - Benefits
  - Assumptions, Constraints, Risks
  - Stakeholders
  - Milestones

Templates for Project Briefs

- Can be poster or document as your team decides
- A nice graphical example: https://funginstitute.berkeley.edu/capstone-project/object-scanning-and-replication-using-3d-camera/project-brief-1-ada-he-page-001/
- https://www.stakeholdermap.com/project-templates/project-brief-template.html
  - Particularly good summary of brief content, templates are a little fancy
- https://www.wordtemplatesonline.net/project-brief-templates/
  - Word-based Project Brief Template 01 isn't bad…
- https://project-brief.casual.pm/
  - The Website brief template is interesting – other examples
- Might google design briefs and project brief templates for other alternatives

Non-Disclosure Agreements (NDAs)

- Once teams are assigned, Bruce will send NDAs out for your signature, they will then be provided to CU and the Sponsor
- You must sign this agreement to work on the projects
- Basically, because all our projects will have IP owned by the sponsor, you may not disclose any information about the project to anyone outside of the PMP class without your sponsor's express permission
- Standard stuff, CU protects your interests

Appendix C – Student Acknowledgement

ACKNOWLEDGEMENT OF STUDENT OBLIGATIONS TO COURSE PROJECT SPONSOR
Computer Science Professional Masters Project, CSCI5040/5050

I, _____[PRINT NAME], Student, having enrolled in the University of Colorado Boulder's CSCI5040/5050 academic course, acknowledge that I will be permitted to work on a related industry-sponsored Graduate Design Project ("Course Project") only upon accepting certain responsibilities related to the sponsor's information and sponsor's ownership of results and deliverables of the Course Project.

By signing below, Student acknowledges and agrees to the following:

ACKNOWLEDGEMENT

Student wishes to participate in Course CSCI 5040/5050 (the "Academic Course") at University under the direction of the University's Academic Course Professor, Bruce Montgomery ("Course Director"), the purpose of which is to provide Student with experience applying skills and knowledge in the field of Computer Science to a technical problem in the field.

SPONSOR NAME (hereinafter "Sponsor") has entered into an agreement with University dated _____, titled Graduate Design Student Project Fixed Price Agreement, (the "Project Agreement") for providing financial and mentoring support for students enrolled in the Academic Course to work on a particular technical problem described as follows:

PROJECT NAME (hereinafter "Course Project").

While enrolled in the Course, Student wishes to devote his/her efforts to working on the Course Project. Students working on the Course Project may expect to receive the following educational benefits:

1. Student will have the opportunity to work on a real industry project.
2. Student will have the opportunity to interact and learn from industry experts who are mentors for the Course Project.
3. Student will have the opportunity to work with state of the art tools located at industry sites and within the Department of Computer Science.
4. As a result of interactions with industry sponsors, Student may obtain opportunities for professional advancement or employment.

In return for such educational, experiential, and other benefits of participating in the Course Project, Sponsor shall be entitled to take ownership of any New Intellectual Property. "Intellectual Property" includes: a) any art or process, machine, manufacture, design or composition, or any new and useful improvement thereof, or any variety of plant, which is or may be patentable under the patent laws of the United States ("Inventions"), and b) original works of authorship fixed in a tangible medium of expression under the copyright laws of the United States ("Works"). "New Intellectual Property" shall mean all Intellectual Property conceived or first reduced to practice or made during the performance of this Agreement by the student(s) working on the Course Project.

AGREEMENT

1. Proprietary Information
   a. "Proprietary Information" shall mean all information provided by Sponsor to Student and clearly identified by conspicuous legend as proprietary or confidential by the Sponsor at the time of disclosure. In order to be considered proprietary, information disclosed orally or in any other transitory medium must be identified to the Student as proprietary at the time of disclosure and summarized in writing within thirty (30) days after such disclosure. Specifically excepted from this definition of Proprietary Information is all information:
      (i) known by the receiving party at the time of disclosure;
      (ii) publicly disclosed except by breach of this Agreement;
      (iii) rightfully received by the receiving party from a third party without an express obligation of confidence;
      (iv) independently developed by the employees or agents of either party without any use of Information provided by the other party; or
      (v) is required by law or regulation to be disclosed.
   b. Except in connection with and in furtherance of Student's participation in the Academic Course and work on the Course Project (including but not limited to communications with Sponsor Mentor(s), University instructors and mentors, faculty advisors and other students enrolled in the Course Project), Student shall not at any time or in any manner use, copy, disclose,

Next Steps

- Discussion topics up on Piazza; new one coming soon
- Lecture 9/8 – Project Charters and Briefs
- Project Team Assignments finalized on Wednesday; sent out to sponsors
- Bruce will send out NDAs for signatures
- Teams should hold an initial meeting, discuss team roles
- Teams start working on charter and project briefs
  - Use project descriptions to start, capture things you don't know or need to find out from the sponsor
- Project lead should request an introductory meeting for your team and the sponsor
  - Always cc Bruce & Preethi on sponsor e-mails
- Speaker 9/10 – Amy & Rae on Career Services (attendance!)
- Next week
  - Hold first sponsor meetings next week!
  - Schedule weekly status meetings with Preethi and I
  - Lecture 9/15 – More Project Management, Status Reporting
  - No lecture 9/17
  - Try to get charters completed and signed off by end of next week
- Preethi and I are available for questions