CEN 3031 - Intro to Software Engineering

Fall 2015

This semester you will be working in groups of 5-6 on a collaborative project using the Mean.JS software stack. To give your group a jump start, we want to break down the workflow that all of you will be expected to follow. While not everyone in the group will have a title, in a proper Scrum setup, no one single group member is more valuable than another. This document will help get your team on track. We'll explain the basics of Scrum and Team dynamics, the basic workflow using Github, and a list of steps to getting set up.

Scrum Fundamentals:

Scrum Board & User Stories: A scrum board is a way of organizing user stories with their associated tasks, backlogged tasks, in-review code, and completed tasks.

As the customer communicates needs to the team and to the Product Owner, "User Stories" should be written out for each feature. An example user story for a to-do app could be:

USER STORIES:

1. As someone who uses the app, I want to be able to add a task
2. As a customer, I want my to-dos to expire after a week

Using these stories, you will create a list of tasks for completing them. For the first one, an example of a few task would be:

TASKS:

1. Add an input box to the homepage – 1pt
2. Add a button to confirm adding item – 1pt
3. Add the function that appends the item to a database – 2pt
4. Tie the function to the input box – 1pt
5. Add unit test – 2pt

We were able to get 5 tasks out of one of the user stories in this example.

For the final piece, you need to assign point values to each task. If they're simple task they get a small amount of points. If it's a harder task you'll want to give it a much higher value. These points are used to measure the team's ***VELOCITY.*** We use this number, to determine how many items can be completed in a Sprint. If you set the sprints velocity to 20, your team is saying you'll be able to complete 20 points worth in tasks before the end of the sprint. Sprints are the time at which your team works to get to a milestone. This semester you'll have 4 sprints. In this course, we will be using **Pivotal Tracker** to manage our Scrum Board and keeping our teams on track.

Team Fundamentals:

TEAM MEMBERS

The Scrum framework consist of three team roles: The Product Owner, the Scrum Master, and the Team. As previously stated, everyone has equal value to the whole team. Below is a description of each of the roles.

Product Owner:

This team member should be an outgoing people person, able to communicate to both non-technical and technical individuals. As a Product Owner, it is your duty to meet regularly with the customer and understand their needs. Taking those needs back to the team and translating them into features your team should discuss what they can and cannot complete. You should develop an empathic relationship with your customer because it's your duty to set the level of expectation and ensure they're pleased each step of the way. The Product Owner is in charge of setting a velocity, or speed, at which the team is able to maintain development and complete features. Develop a relationship with the Scrum Master, this ensures the product matches the customer's vision.

Scrum Master:

This team member should be an organized individual who's able to see the bigger picture in terms of the customer's needs and the team's ability. The Scrum Master ensures that each member of the team is completing their assigned task within the allotted time for the Sprint. If tasks or features aren't being completed, the Scrum Master is able to reassign a task to another team member with the right skill set to complete the task. This person should keep the Scrum board organized and understand which tasks need to be completed in order to move on to the next. Finally, in order to keep the team in sync, he/she should have a solid relationship with the Product Owner in order to keep the project in line with the customer's vision.

Team:

Arguably, the most important assets of the Scrum Team is the team itself. The team includes every member of the Scrum Team including the Product Owner and the Scrum Master. Team members assign themselves or get assigned by the Scrum Master different stories or task from the Scrum Board. If a team member needs additional help on a task/feature, more than one team member can be assigned to task. Pair programming is generally advised – two develops to one user story.

Team Meetings:

You are expected to meet with your group at least once a week outside of discussion and class. Your team should plan to do live coding during these meetings. A suggestion is to pair off and work on features together. These meetings are also a prime place to do merge pull requests into the Master Branch of your project. Remember, the Scrum Master and the developer who needs to merge should both perform a code review before merging into the Master.

Team Workflow:

As previously stated, you will be using Pivotal Tracker as a scrum board. As soon as your group has been assigned, you should create a Pivotal Tracker account and add all of your group members.

The Team is in charge of adding user stories and creating task for those stories - add them to the board. This is sometimes helpful to do with postit notes first, then move to Pivotal Tracker.

The Scrum Master is in charge of delegating task, he should understand each team member's strengths and weaknesses; assigning tasks that will help that member grow as a developer.

The Product Manager should continuously review user stories to ensure they're in line with the goals of the customer. If something doesn't fit or ideas change, change the user story and the associated tasks.

The Team members should pick up task and complete them within the Sprint timeframe. If an item isn't completed, the Scrum Master should move that to a backlog and review the item. Occasionally, the original assigned developer is unable to complete the task. Be sure to use the comment section on the task to update the status.

The Scrum Master should continue managing the Backlog - items here should be completed ASAP unless there is a valid reason. (I.E.: A different task needs completed first)

In order to submit changes to the Master Branch of the Repo, the developer who added the feature/task should sit down with the Scrum Master and code review. If there is a Merge Conflict, handle it together.

The Product Manager should continue to meet/communicate with the customer, this will allow for the project to grow and change from the original specifications. This help when trying to meet expectations.

Finally, move the items to completed once the feature has been confirmed working and move on to the task/item.

Team Setup:

For Day to day communications use: GroupMe, Facebook Messenger, Slack, Google Hangouts, Texting Messaging etc

For scheduling use: When2Meet, Doodle, Google Doc (WEEKLY MEETINGS)

Github Workflow:

Follow the tutorial in the README file.

✓ https://github.com/CEN3031/workflow

Practice Project:

Instructions located at the bottom of the Tutorial.

✓ https://github.com/CEN3031/workflow

To get your team familiar with Github and how the project will work here is a practice project that is due for a grade. Each member of the group should contribute to this project.

9/9: Project Assigned & Meet Group

9/15: ***Project Due by 11:59pm***

9/16: Show Github and finished practice project to TA

TASKS

Accomplish these tasks in whatever way you see fit. No limitations.

1. Change the background color of the to-do app
2. Give the option to assign a priority to a to-do item

   -- For example: ["Now", "Tomorrow", "Someday"]

3. Add an "edit" button with appropriate functionality
4. Add a button to mark an item as "complete"

   -- this should signify that the item is complete somehow, but not delete it.

   -- You can do this by striking out the text or whatever other way you see fit.

5. Show the total number of items in the to-do list at above the list.

-- This number should change when items are added / deleted (duh).

6. A button to clear all "completed" tasks

Getting Started:

To get your team used to working with each other, we've put together a guide below to everything that needs to be completed.

9/9:

Review Github Workflow in discussion & Agile Lecture in class

- Be assigned the practice project.
- Develop a communication network **BEFORE** leaving lab/class.
- Day to day communications: GroupMe, Facebook Messenger, Slack, Google Hangouts, Texting Messaging etc

9/11 by 11:59pm:

Group should decide on which projects they desire. Rank projects from 1 to 20. (1 is most desired, 20 is least desired)

- Choose Product Manager
  - ✓ Create a Pivotal Tracker Board
  - ✓ Get all of your availability hours for meetings and programming
    - Options: When2Meet, Doodle, Google Doc
- Choose Scrum Master
  - ✓ Create Github Organization – Add all your team to it
    - You will be using this Organization for the practice project assignment and for your real project this semester.
  - ✓ In the Organization's Description – Name all of your team members and their Github usernames
  - ✓ Post the link to your Pivotal Tracker Board
- Team:
  - ✓ Join the Github Organization
  - ✓ Join the Pivotal Tracker Board

9/14: (GET THIS DONE AS SOON AS YOU KNOW YOUR PROJECT)

Product Manager: Contact your customer by email, set up a meeting for this week. 9/14 – 9/19. Your entire group should attempt to be at this meeting. (SAVE ALL COMMUNICATIONS WITH CUSTOMER)

9/15:

Practice Project due

- Each member of the group should have contributed and this should be clear via Github

9/21:

Sprint 1 Begins

- Real Project Starts