

# EC601 2022 Class Plan

[Osama Alshaykh](#)

Graduate level Thesis, Project or  
Company Lead R&D Project

# Class Objectives

- Prepare you to be a system engineer by understanding
  - Product formation: how can you take an idea and make it into a product
  - Product analysis: competitive analysis, landscape analysis
  - Development of use cases
  - Use Case Development: Translation of use cases into system and engineering requirements resulting in system architecture
  - Product Testing: How to test your product
  - Concept Validation: How to validate concepts
  - After-launch: Maintain, monitor and upgrade products
- Agile development
- Being part of a Team, leading a team and public presentation
- Utilizing resources in building products: Open Source, Cloud and third parties

# Class Style

- Self-learning
  - You need to research, read and train yourself with help from us.
- Agile Learning and development
- Every lecture includes
  - Presentation (in class: 30 minutes)
  - Working Example (in class: 30 minutes)
  - Working together on your Homework or project (online: 30 minutes)
- Multi-team collaboration
  - Code Reviews
  - Acceptance Report
- Very interactive and you need to present
- Always have your computer with you in class

## Academic Misconduct (copied from Prof. Clem's email)

BU takes academic integrity very seriously. Academic misconduct is conduct by which a student misrepresents his or her academic accomplishments, or impedes other students' opportunities of being judged fairly for their academic work.

Knowingly allowing others to represent your work as their own is as serious an offense as submitting another's work as your own. More information on BU's Academic Conduct Code, with examples, may be found at

<http://www.bu.edu/academics/policies/academic-conduct-code>

# Collaboration Policy (copied and modified from Prof. Clem's email)

- This is a research and project based class. You can use solutions developed in open source or other research papers. However,
- you must clearly reference them. You MUST include the reason you used their work and give them clear credit for using their work.
- You should follow the open source license of any work you may use. If they don't allow using their work, do NOT use it.
- You must clearly acknowledge all your sources (including your collaborators).
- You must write all reports and papers in your own words (although Java code may be shared with your collaborator)
- You may not use any human resource outside of class (including web-based help services, outside tutors, etc.) in doing your homeworks or project.
- Failure to meet any of the above conditions could constitute plagiarism and will be considered cheating in this class. If you are not sure whether something is permitted by the course policy, ASK ME! (it's much more awkward to explain your actions after the fact to the college disciplinary committee).

# Class Plan

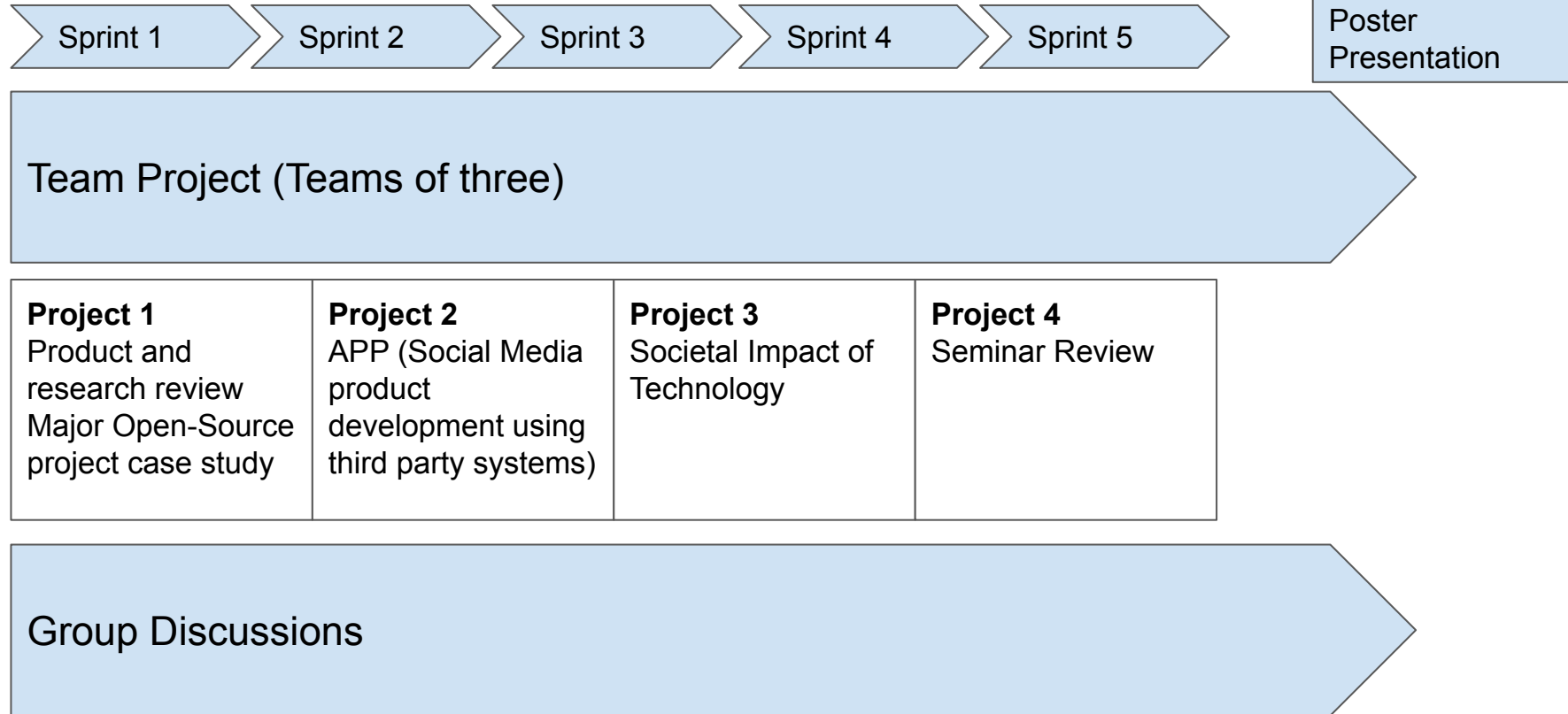
- In class will be for 1 hour
- We will have open office hours for support
- We will have a teaching assistant assigned for groups
- Introduce the ambassadors

# All online

- All your homeworks, documents and projects must be on GitHub
- Your GitHub account is required
- The next week, focus on becoming familiar with Github and principles of code management and agile development



# Class Plan



# Grading

| Item         | Item                                     | Grade | Totals      | Details                                                                                      |
|--------------|------------------------------------------|-------|-------------|----------------------------------------------------------------------------------------------|
| Team Grade   | Sprints                                  | 15%   | 35%         | Main criteria is effort during the sprint period.                                            |
|              | Final Deliverable                        | 20%   |             | Main criteria is poster presentation, your overall effort during the project                 |
| Individual   | Project 1: Literature and Product Review | 10%   | 65%         | Main criteria is covering the main areas the report requires                                 |
|              | Project 2: App development               | 10%   |             | Will be defined during user stories lecture                                                  |
|              | Project 3: Societal Paper                | 10%   |             | Will be defined during societal impact lecture. Part of the grade is for group presentation. |
|              | Project 4: Seminar Review                | 10%   |             | Pick any scientific seminar, attend it and do a thorough literature review of it.            |
|              | Participation                            | 25%   |             | Attendance and in lecture group discussions and presentations                                |
| <b>Total</b> |                                          |       | <b>100%</b> |                                                                                              |

# Seminar Review

- I copied it from Senior Design Professor Pisano.
- Objective: Do literature review of a topic and understand it well. It is like Project 1 but focused on an area that people have worked on and achieved results.
- Expectations:
  - Pick a seminar, presentation, PhD defense, etc in BU our outside BU and attend it
  - Read the related papers and work
  - Write a paper summary describing
    - Topic
    - Main contributions
    - Results
    - Your view of the work
    - What would you do as next steps
- Due Date: submit it before 12/1/2022. The earlier submissions will get extra credit
- Resources
  - [BU ECE events](#)
  - [BU CISE events](#)
  - [BU College of Computing and Data Sciences Events](#)
  - [MIT Media Lab Events](#)

# Team Projects

- We will start with Step 1 (project 1), which is an individual project.
- After Project 1 is completed, teams will be formed based on your interests
- Details:
  - Please select one of the [projects](#).
  - [Use the following form for you project selection](#)
  - If you have your own idea, please use the form to propose it.
  - Deadline for selection is Sunday September 9th 5:00 PM EST.

# Project 1 Expectations

- Problem Statement:
  - What does the topic cover?
  - Why it is important?
- Applications
  - What are applications of the topic?
  - What is the societal significance of the research?
- Pick an area of focus that interests you in the topic
- Literature review
  - As comprehensive as you can, research the different approaches and solutions in research community and industry
- Open Source research
  - Research the different open source projects that touch the topic of your interest
- Duplicate the results

Thank you