• **Claiming a project**
  
  – Only **complete** emails dated after **1:45pm** on Monday Oct 8 considered
  -- Email to Chandra (ckrintz@gmail.com) with
    • Subject: 189a project selection
    • Sent by group leader (or his/her representative)
    • List of group member names, **identify lead and scribe**
    • A picture of each group member for public posting
    • List all company participants in order of preference
  
  – FCFS assignments + algorithm
    • You are **not** likely to get your top preferences
    • One team per project/company!
CS189A Goals & Requirements

- Four 2-week sprints:
  - Oct 15-29 (PRD v1 – tools, technologies, design);
  - Oct 29-Nov 8 (use cases/user studies and prototyping, PRD v1);
  - Nov 8-26 (design, prototyping, testing, PRD v2);
  - Nov 26-Dec 6 (prototype presentations, prototyping and testing)

- Specify what the product will do
  - Vision statement Due Oct 15
  - Product Requirements Document (PRD) (due Nov 1 and Nov 29)
  - Design tools, brainstorming, coding (tests and implementation)

- Build and test an initial prototype
  - Typically teams iterate on these activities until they converge to a working prototype!

- 189A last week of class + maybe discussion
  - Prototype Demonstration
  - Recorded, order determined randomly
Your Grade

- Attendance at classes and discussion section
  - One miss for class/discussion is allowed with excuse, followed by letter grade decrease per miss
- Team participation: sprint scrum, retrospectives, planning, treatment/support of your teammates
- **Weekly substantial contributions (50 LOC each) to code repository**
- Completion of all of the project requirements (next slides)
- Demo performance
  - Judging criteria, amount of work put in, robustness, extensiveness
Capstone Project Requirements (1/2)

• Use of agile development process with per-sprint task tracking (recommended: Trello or PivotalTracker)

• Daily scrums (M-F) recorded by scribe in shared Google Doc
  – Class/discussion days: last 15mins of class
  – Shared with Instructor, Mentor, TA, and team

• Weekly meetings (virtual is ok) with mentor (scribe logs)

• Every 2 weeks: meeting with TA (during discussion/class is OK)

• Class/discussion attendance and participation in team activities
  – Bring laptop to class, email Chandra if you don’t have one

• Vision statement turned in by deadline (& approved by mentor)

• Draft 1 & 2 of PRD turned in by deadline
  – Evolve as you design and prototype; approved by mentor

• Working prototype for base functionality demonstrated in the last week of the quarter
Capstone Project Requirements (2/2)

• Use of a code repository (recommended: GitHub)
  – **Ongoing** contributions by all members *each week*
    • Identify a workflow that works best for your team
    – Can include preparation of requirements documents

• Use of an issue tracker (recommended: Waffle.io or github)

• Documented code

• Automated unit tests and integration and/or functional tests
  – Code defensively!

• Use of user stories and/or use cases for requirements & design

• Use of UML for system requirements modeling and design

• Wireframes for user interfaces if any

• Complete 4 2-week sprints, **record** retrospectives and planning for each
F18 Deadlines

- Oct 8 at 1:45pm
  - Project choices, decided on during class, (using format specified) to instructor via email
- Oct 11 by end of discussion: complete setup and start on project planning
  - Github repo, project description sentence, google doc & group setup and sent to TA via email (invites sent to TA, instructor, team, mentors), sprint I planning and vision statements
- Oct 15 by end of class
  - Vision statement (email PDF to TA)
  - Sprint 1 (Oct 15-20)
- Oct 29 in class
  - Demo and retrospective (retro) for Sprint 1, plan Sprint 2 (starts Oct 29)
- Nov. 1 by end of discussion
  - Project requirements doc (PRD) v1 (using format specified) as PDF to TA
- Nov 8 by end of class
  - Demo and retro for Sprint 2, plan Sprint 3 (starts Nov 8)
- Nov 26 by end of class
  - Demo and retro for Sprint 3, plan Sprint 4 (starts Nov 26)
- Nov 29 by end of discussion
  - Project requirements doc (PRD) v2 as PDF to TA
- Dec 3 and 6th (if needed): Project Demos to class/discussion for 189B instructor/video record
- Dec 7: (on your own) Demo and retro for Sprint 4; plan development over break
2-Page Vision Statement

- PDF via email to TA by end of class (class time allocated) on date specified
  - Project Title / Name (can change)
  - Team name, members names/emails
  - Team lead
  - what the project is about
    - What problem the project is solving (what is innovation, the science, and new core technical advance)?
    - Why the problem is important
    - How the problem is solved today (if it is)
  - Identify the outcome of the project
  - Define initial project milestones: specification, design, prototyping
  - How do you plan to articulate and design a solution
    - List the implementation platform and technologies will plan to use to develop the solution
    - Overview the process model you will employ to achieve the milestones
• Outline project investigations, **divide up work** across members
  • **Teach each other**

• Identify software systems you want to use to track progress/files
  – Trello, github, google docs, pivotal, sphynx, issue trackers

• Identify programming languages, frameworks
  – Work on **tutorials** if new to you
  – **Testing frameworks and mock tools** (balsamiq), language/web frameworks, UML
  – Mobile development platforms: Coronalabs.com, iOS, Android
  – System configuration: Ansible, Puppet, Chef, Saltstack/Saltcloud
  – Cloud technologies
    • Infrastructure (servers): Amazon EC2/S3
    • Platforms: Google App Engine, Heroku
    • Mobile Backends: Backendless, Google Endpoints, AWS Lambda
    • Services: MongoLab, Instacluster, Amazon RDS, Hadoop/ElasticMapReduce
    • APIs: Twitter, Facebook, Google technologies (maps/earth/drive)
    • Development environments: Apache JClouds