CS189A - Capstone

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Today

• Check out cardboard boat race rules
  – Boat race is Friday at 2pm at Goleta Beach (look for TA Ankita)

• Discuss and choose teams (4 or 5 members)
  – Identify **group leader** and **scribe**
    • **Lead**: motivator, picks up all loose ends, settles debates/makes decisions
    • **Scribe**: records scrums, retrospectives, sprint planning, mentor/TA meetings
• See Piazza for the links to the pitches on youtube!
  – https://piazza.com/class/isgekuwxner7o1?cid=14
Selection Process

• **Claiming a project**
  – Only **complete** emails dated after **5pm** on Monday Oct 3 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 (Gale-shapely)
    • You are **not** likely to get your top preferences
    • One team per project/company!

  – Announced Tuesday morning
• 5pt **Science**: Has the project the demonstrated application of important, interesting, or new aspects of Computer Science? (e.g. Use of machine learning, non-trivial algorithms, solid distributed system design techniques)

5pt **Practice**: Did the project adhere to techniques that represent the state of best practice in industry throughout the development of the system (e.g. repo workflows, test-driven development, issue tracking, or use of static or dynamic analysis tools)

5pt **Scope**: Has the team attacked a problem of significant (but appropriate) scale and complexity. Does the problem require the development of significant new code and/or the integration of complex exciting parts that are not normally made to interface to on another? Was the project able to complete the goals that it set for itself?

5pt **Teamwork and Presentation**: Do all the members of the team contribute significantly (in their own ways)? Does the team take the process seriously and communicate effectively with one another and the mentors? Is the project presented both in written and spoken form in a way that is compelling and impressive? Has the team developed an impressive demo?
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
Getting Started – see Link on Web Page

• 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
    • Services: MongoLab, Instacluster, Amazon RDS, Hadoop/ElasticMapReduce
    • APIs: Twitter, Facebook, Google technologies (maps/earth/drive)
    • Development environments: Apache JClouds
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• Tuesday: contact mentors to introduce yourselves
• Wednesday: write up 2 page vision statement
• Thursday: send vision statement to mentors for feedback
• Friday: Update/turn in vision statement; Sprint 1 planning: task time estimation and selection (**2 week sprint, starts Monday**)