17-437 / 17-637 Fall 2018 Final Project Proposal

Due September 27th 2018

This project proposal has two goals: (1) to commit you to a final project team, and (2) to declare your high-level intentions for the application you build as your course final project. You should tell us what you plan to build, what technologies you will use, and convince us that your idea is interesting and cool. Under some circumstances we will allow you to revise your high-level application goals after the project proposal, but only with direct permission from one of the course instructors. If the course staff is concerned that your project idea is not novel or will not provide you an opportunity to demonstrate the learning goals of the course, we will require you to implement a project idea proposed by another team.

You may not get an extension for this project proposal assignment. You must turn in your final project proposal using the Google Form at https://goo.gl/tCnC7u by Thursday, September 27th at 11:59 p.m. You may revise your team membership or project details (by revising your form response) at any time before the project proposal deadline. Each team should submit just one proposal. Your proposal must include the details described below.

Project name

Provide a short (2-8 word) description of your project idea. Your project name is public; it will be shared with the rest of the class.

Team member Andrew IDs

Provide a space-delimited list of your team members' Andrew IDs, including your own.

All project teams must have two or more members; you may not work alone on your final project. Larger teams will complete more sophisticated, substantial projects than smaller teams. Teams of four or more will be required to provide additional details below to ensure that the plan is appropriate and feasible for a larger team.

Sections all team members can attend

Tell us which course sections *all* of your team members can attend. During the second half of the course we will have some class meetings where your entire team must attend a specific section, assigned by us. You may propose a project with team members from other course sections, but if we aren't able to adequately staff the in-class project events, we might need to reject proposals containing members from multiple course sections. (That possibility is rare.) You can maximize the chance your team is approved by making yourselves available for as many course sections as possible.

Project description

Describe your final project in 1-3 paragraphs. Your description should be at a high level of abstraction, not a detailed, low level of abstraction. Describe your project's most fundamental features and what problems it solves for its users. Your description should include any external data or APIs on which the

project depends. You should try to convince us that your project is novel and interesting. Your project description is public; it will be shared with the rest of the class.

You have great flexibility in proposing your final project. Historically, most successful two-person projects are web application sites similar in complexity to **grumblr**, but not similar to **grumblr** itself. Projects are often more interesting if they cleanly incorporate a rich external API or external data; see https://goo.gl/JNtZ8e for a list of resources successfully used in the past. Successful projects are *cohesive*: they consist of a successful implementation of some closely-related set of features, rather than a disjoint collection of unrelated features or external libraries or tools.

Ideal projects are scalable in size so that you can adapt to changing requirements as you work. Even the best-planned projects run into technical difficulties, project partners get sick, other courses have major deadlines, etc. Once you have a basic project idea you should think about how you might scale the project to be bigger or smaller as necessary. Which features could you eliminate without breaking the cohesiveness of the application? Which features are critical? If the project might be too small, how might you add complexity to make it a more appropriate size? Understanding these details is important to your success, although you generally should not include these details in your 1-3 paragraph description.

We expect most project proposals to be a dynamic web application, but you may propose other web application-related projects if you want. You might, for example, propose a substantial modification or feature addition to an existing web framework. If you propose something other than a traditional web application, please see one of the course instructors for details. Otherwise, here are some specific details and restrictions on your project:

- You must build something new. You may not turn in work you have previously done. We might allow you to extend something you have previously done, but to do this you need explicit permission from the course instructors.
- Your project should be sufficiently different from **grumblr** to allow you to demonstrate the fundamental ideas of this course without basing any part of your project implementation on your **grumblr** solution.
- You may not be paid by anyone for your project work.
- You may not receive credit from another course for your project in this course.
- Your project must be interactive—typically from a web browser—and must store and retrieve data at a web server. If you want, users may interact with your application from non-browser clients (such as a mobile application) but if so you should describe your intended client in your project description.

If we are concerned that your project lacks novelty or will not provide you an opportunity to succeed, we will ask you to implement another team's proposal rather than your own. We do not typically describe past projects because we want your proposal to be your own, not just a new implementation of a past year's project. The following project ideas, though, will most likely result in you being asked to implement another team's proposal. Unless you believe you have an extremely novel variant of the following ideas, you should avoid proposing:

- Restaurant food ordering or delivery services.

- Generic event or calendar services.
- Shopping sites like eBay, Amazon, or Craigslist.
- Draw Something, or other applications that exist as a public demo of a major web application framework or tool.
- Any application similar to **grumblr**, for which the key idea is follower/following relationships with some users observing data made available by other users. Specific projects in this theme to be avoided include:
    - Most music-, image- or other file-sharing sites.
    - Travel blogging sites.
    - Any generic social network-based application.

Adding an unrelated feature to a non-novel project (e.g. real-time chat to a blogging site) does not make the proposal novel; it merely creates a non-novel project that lacks cohesion.

After the project proposal deadline, the course staff will select an unspecified number of the most interesting project proposals and require teams with non-novel projects to select and implement a project based on one of the novel project descriptions.

Planned technologies

List the technologies you plan to use for your project. You may propose to use any technologies you want; include a justification of your choice of technologies if you do not use the technologies we've used in this course. We might warn you against using unusual technologies if we fear they will prevent you from demonstrating the learning goals of this course, but that possibility is rare.

Additional details for large teams

If your team is four or more people, you must provide additional information to help us evaluate whether your project is appropriate for a team of your size. Specifically, for each member of your team you must describe that team member's:

- Relevant technical and non-technical experience, including any experience with web technologies and other technologies related to your specific project proposal.
- Intended responsibilities for your project. Include specific details about which role(s) each team member will play, which software components you expect he or she will write, and which tools, technologies, or resources he or she will be responsible for incorporating into your project.
- Experience with other large software development teams or projects.

Successful proposals for larger teams must convince us that (1) your project is an appropriate size or can be adapted to become an appropriate size for your project team, (2) your team's prior experience is sufficiently diverse to allow distinct, independent roles in a large project, and (3) each team member's planned responsibilities are sufficiently independent to allow us to evaluate your individual work.