

# CS4760 App Description

**Team name** Risk Generators

## **App Description:**

Our app will be used to assess construction risks and costs. We will use past construction projects to predict potential risks based on cost, size, location, and the type of project. This will enable construction managers to learn about the possible factors that have affected other projects while building their projects.

Users for the app will include public officials and contractors who are going to plan out a construction project. They will answer a quick questionnaire and then risks associated with previous construction projects similar to their current one, will be generated and displayed to them. We expect them to be middle aged and have some basic knowledge about technology.

The data used will mostly be from a provided database which can be outputted as a .csv file. The database contains previous construction projects and the factors that affected them.

## **Post-Interview notes:**

- Overall app description:
  - Planning projects and identifying potential risks(Price changes, seasonal work issues, etc.)
  - The app will be used to help prevent delays and unexpected issues
  - The app will be linked to a database containing similar projects and issues they encountered.
  - Comparing how different variables affect the project and having downloadable data is the goal.
  - Flexible about how the app is designed.
- Database information:

- Major Project DataBase: The past projects that were documented and what we will be using to show the risks.
- Database has ~6000 documented issues/risks to check over. We will get the database shared with us since it's online privately
- Database also contains many attributes pertaining to each project to use for relevance searching.
- Link to scientific article that explains the database in greater detail:  
<https://www.sciencedirect.com/science/article/pii/S0926580522001741?via%3Dihub>
- App technical requirements:
  - App needs to take in natural language and process it into a template.
  - We will be given Python code (with NLP?) on how the database works.
- How the app displays information:
  - We need the option to choose which “category” of project type to submit.  
 Types(bridge, building, etc), size/cost, location. Option for location to be flexible with user submission by giving a region or specific location
  - Cost impact and schedule impact are important results that should be shown to the user.
  - Client mainly wants the final list of most frequent risks and the cost impacts of the results relating to their project.
- Audience and background information relevant to project:
  - The audience is state department of transportation
  - Publicly funded projects so the goal is to detect possible dangers so there are precautions taken.
  - Delivery methods for construction projects are one of the categories the app will sort by.
    - Design->bid->build - A company designs the plans of the project. -> A bidding occurs and the contractor with the lowest cost of building gets the project. -> The project is built.

- Design->build - happens when the same company designs and builds the project.
- Public Private Partnership PPP: non-government company that is investing/ signing a contract with the government where they get the benefit of the project for building the project, ex: a toll.
- App platform:
  - Working on multiple operating systems with a preferable focus on mobile devices. A website would also likely work
  - Scientist is fine with the project becoming a phone application or a website (Sounded like his preference was application).
  - The app should have the option to download a pdf version of the “feed” but the user should also be able to view it without needing to download anything.