

CS 373 IDB Project Technical Report: FuturFindr

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Motivation

The motivation for this project is allowing users who want to plan for their future the ability to see the three most important things - career, housing, and education - all at the same time. Since these three things are inherently intertwined and broadly applicable to most people's futures, it should be pretty useful - having to consider all three separately is hard enough, so we want to save people time (and chrome tabs) by showing them how their decision in one area could affect their options in the other and vice-versa.

User Stories

1. *"I am a college student and want to find a part-time job nearby. I want to be able to filter by location so that I can find a job nearby and make sure it's part time so that I can also focus on college work as well. Additionally, a slider for the pay range would be a bit annoying... maybe keep a min text box?"*

These are all filter options. Should be pretty straightforward to implement in the appropriate phase - phase 3.

2. *"I am entering my senior year of high school and I want to look for colleges near my city, preferably in my state in the US. I want to be able to filter colleges (or other higher education institutions) by location and maybe tuition (combine the filters) so that I can choose the best institution for me based on these factors. Additionally, a slider for the tuition range would be annoying; maybe keep a min/max text box?"*

These are more filter options which will be implemented in phase 3. A maximum and minimum box is an interesting idea which has now been requested twice - for things with numbers, maybe we should have boxes and/or sliders for all of them?

3. *"I am moving to a new city and need to find housing nearby as soon as possible. I want to be able to filter by location, rent/lease/price, and neighborhood rating. Also, I want to make sure it's near my job, so maybe filter by location of that job too."*

This request wants us to have our filtering system work between models - for instance, being able to choose a job and have housing filtered such that it would be applicable to that job. This could be challenging, depending on how complex they really want this to be. This will be implemented in phase 3.

4. *"I am in my 30's have no idea what I want to do. I don't know whether I should continue my education, find a new job, move locations, or whatever. I want this site to display all the data for these 3 areas of my life where I have no clue how to further so I can plan, or find, my future. Maybe if you could show pictures of the city, that would incentivize me to move there?"*

This is a multimedia function which may not be covered by our current APIs. We'll implement this in phase 2 and possibly consider adding an additional API if our current ones don't include pictures of the city.

5. *"I am all about the MONEY and want find the best 'software engineering' job in my location as well as filter by salary. Also the company that I would work for needs to be common enough to show up on all job sites so that I can figure out which is the best place to apply from. Additionally, a company rating wouldn't be bad."*

The filtering by salary should be already covered by our current development plan, but being able to pick out companies specifically is a good idea that may need us to add more options than we thought. This will be implemented in phase 3.

6. *"I am a freshman and I want to transfer to a better college. However, I don't want to pay more than what I am paying right now. I want to be able to filter colleges by ranking and tuition so I can choose a better college with similar tuition. Maybe I want to see which majors have the highest ranking in that college, so I can check whether I can transfer to my current major."*

Ranking system will be filterable, but not sure about ranking by major because of the nicheness and how difficult it would be to access an API for that. Still, we will try our best.

7. *"I lived in a dormitory last year, but I want to live off-campus for the upcoming semester. Unfortunately, I don't have a license, so I need to take a bus or walk to school. So, I want to check whether there is transportation from an apartment to my college. Or, I just want a filter based on the distance from my college, so I can check whether the apartment is walkable from my college."*

Yes, that's the great part about our website: you will get to see which colleges are literally in the city you live in! Addresses will be given for each too, so maybe we could work on some sort of way to show the distance from the currently viewing apartment to close colleges.

8. *"I visited my friend in Chicago last month and it was a wonderful place, so I decided to move to Chicago. Before I move to Chicago, I want to get a job and find an affordable apartment based on a new salary. So, I want a filter that can check a salary of a job and a price of an apartment at the same time. Also, it would be better if I can pin jobs and apartments so I won't have to find my favorite jobs and apartment."*

We will do our best to implement a filter by location so that the job and housing are in the same place and so that the salary is desirable.

9. *"I am very busy and I don't want to spend much time searching for an apartment. I chose a place to live, so I want a website that recommends an apartment based on rating and price. Also, after I choose a certain apartment, I want to know apartments that have similar prices and ratings from that location, so I can save time."*

Ratings are not currently part of our dataset but will be soon. We will add sorting sliders and text boxes to enter your desired ranges for these data to filter out housing locations.

10. *"I am a student majoring in computer science, and I am looking for a software engineer internship for this summer. I want to see whether there is an open position near my*

apartment or college. So, it would be good for me if your website provides an open position for each company. Also, I want to see ratings and reviews of that companies, so I can choose the right one."

Yes, the page for each intern position will show location as well. However, rating is not part of our data set, so we will provide links to well known sources that show people's ratings on their experience at this position (internship).

Restful API

<https://documenter.getpostman.com/view/25807396/2s93CExcaC>

Three Models

Colleges - model which provides all information regarding colleges or universities someone would want to attend, including ranking, location, tuition, acceptance rate, and degrees.

Jobs - model which provides all information regarding employment, including company, salary, location, description, and job requirements.

Housing - model which provides information regarding housing, including location, review scores, images, and contact information.

Tools Used

- React - main javascript library used for our front-end
- React-Bootstrap - javascript framework, works with react to power front-end
- Material UI - react component library used alongside bootstrap
- NameCheap - where we bought our domain name
- AWS Amplify - the service that hosts our React application
- Teams - team communication
- Visual Studio Code - IDE everyone used for development
- GitLab - repository location for our project
- Postman - used for testing/documenting APIs
- Axios - allowed us to contact GitLab API from within react app

Data Sources

(Subject to change; more APIs may be added in the future)

Apartments.com - housing info

LinkUp.com - job/employment info

CollegeScorecard.ed.gov - college info

Gitlab.com - on top of version control, also where we get contributor, commit, and issue info

Hosting

Once we had decided on futurfindr, we attempted to get the futurfindr.me domain off domaincheap for free using their 'Free Domains for Students' program.

Though a couple of us tried to grab it, we would all get stuck at the email verification step, so Seth just ended up buying it (for a whopping \$8.90). After we had registered the domain, we transferred it over to AWS, where we used Amplify to host our React application. At that point, we followed a YouTube tutorial to have one of our repository branches deploy automatically to AWS when pushed to. Not too bad to figure out, at least once we had secured the domain.

Issues we ran into

- Inexperience! Basically none of us had used react before so there was a lot to learn about. Without YouTube tutorials and the many, many references and examples we were given, it would've been impossible to put this together in time.
- Like we said in the hosting section, getting the domain was annoying and the free methods didn't work. This forced us to buy the domain.
- APIs, APIs, APIs! We had also never dealt with Rest APIs, so it took a minute to learn what postman does, on top of actually finding good data sources that weren't paid.