

10/23 - Day 1 - Lab 8 Deliverable/Notes

1. Team Number

7

2. Team name

Team 7

3. Team Members

Riley Rasizer , Arman Mokhlesi , Kian Feiz, Julia Williamson, Reed Shisler

4. Application Name

Better Boulder Buses

5. Application Description

Better Boulder Buses is a free, Boulder-based public transportation website that allows users to view bus routes, live locations of buses, and bus schedules, while also adding route planning ahead of time. Our application includes both a user-friendly computer and mobile interface that provides a clean, functional user experience. Our application is a Boulder-based public transportation website that allows users to view bus routes, live locations of buses, and bus schedules, while also adding route planning ahead of time. We also have an interactive map that updates available routes nearby for users based on their location.

Our application will have a sign-in that allows users to mark if they are students, which will populate buses differently based on whether they get the transportation for free. Otherwise, if not a student, our application will provide bus pricing and reroutes for

purchasing tickets or passes. With an account, you can also favorite bus routes so that your most used bus routes populate at the top of the bus list first.

Future possible implementations are embedding Uber/Lyft pricing and routing alongside public transportation, expanding the area, surveying users to check bus times and the cleanliness of bus stops, and utilizing users' live location to update bus times and outages. For our UI, a future possible implementation is different themes.

6. Audience

The ideal users of our improved Boulder transit application are residents, students, and workers in the Boulder area who rely on public transportation as part of their daily routines. The audience also includes individuals who value sustainable travel options but find existing transit apps frustrating or limited.

Our app is designed for users who want a reliable, straightforward, and ad-free way to plan and track routes without needing to pay for premium features. Particularly, we hope to convert users who use the CU-endorsed "Transit" app, which has those paywalls.

7. Vision Statement

To keep Boulder moving by making public transportation information public.

8. Version Control - Done!

[CU-CSCI3308-Fall2025/group-project-rjrasizer:](https://github.com/cu-csci3308-fall2025/group-project-rjrasizer)
[cu-csci3308-fall2025-group-project-group-project-template created by GitHub Classroom](https://github.com/cu-csci3308-fall2025/group-project-group-project-template-created-by-GitHub-Classroom)

9. Development Methodology

Scrum elements:

- We'll hold short weekly standing meetings (about 10–15 minutes) to share progress, discuss challenges, and set goals for the week.
- 2-week sprints with defined and unchanging deliverables. Communicate with others at the weekly meeting if the deliverable is too far out of reach or if you need help
- At the end of each sprint, we'll take a few minutes to reflect on what went well and what we can improve for the next week.

Kanban elements:

- We'll use a **shared Kanban board** (in GitHub) to track our tasks through the stages: *To Do* → *In Progress* → *Review* → *Done*.
- This helps us clearly see progress, divide work evenly, and avoid overlapping tasks.

Why this works:

Since we're students and new to a project, it's unrealistic to have a hyper-strict plan. This is an excellent starting point and we can stick to it the whole time, but it is open for improvement and we can work towards more specificity as we continue.

10. Communication Plan

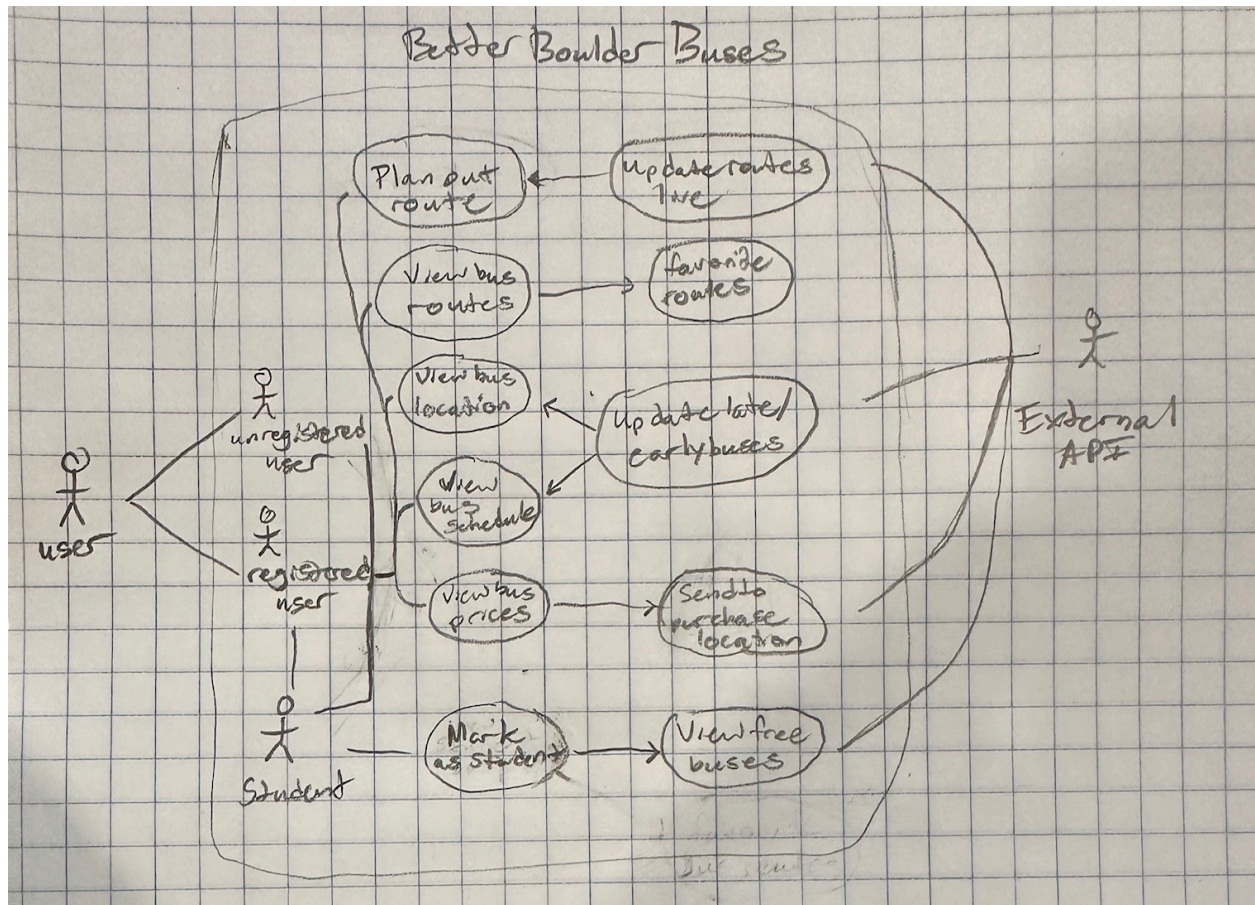
Our team has already set up a Slack page that we plan to use as our main tool for collaboration. We have yet to include our TA on our channel, but once we have our first meeting, that will be a priority. We have all agreed we are not afraid of constructive criticism, and are comfortable with being clear about expectations of each other, but never overpowering or being unprofessional in our expectations.

11. Meeting Plan

- **Team Meeting:** Sundays at 11AM on Zoom.

- **Weekly meeting with TA:** We are meeting after our lab time on Thursdays from 1:15-1:30

12. Use Case Diagram

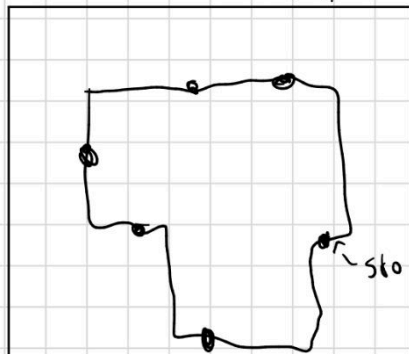


13. Wireframe

Taking inspiration from the Boulder Transit app we will have a mobile first layout while also still having desktop functionality. The desktop UI will look similar to google maps as that will reduce adoption friction with our users.



Mobile UI

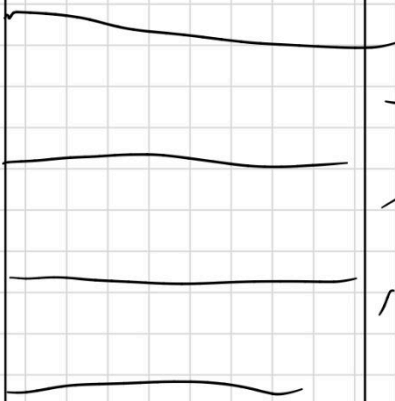
When specific route
selected

Route Selected

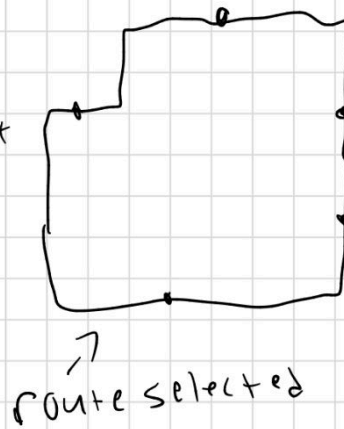
More detailed route
inf

Desktop ui

Search

different
routes

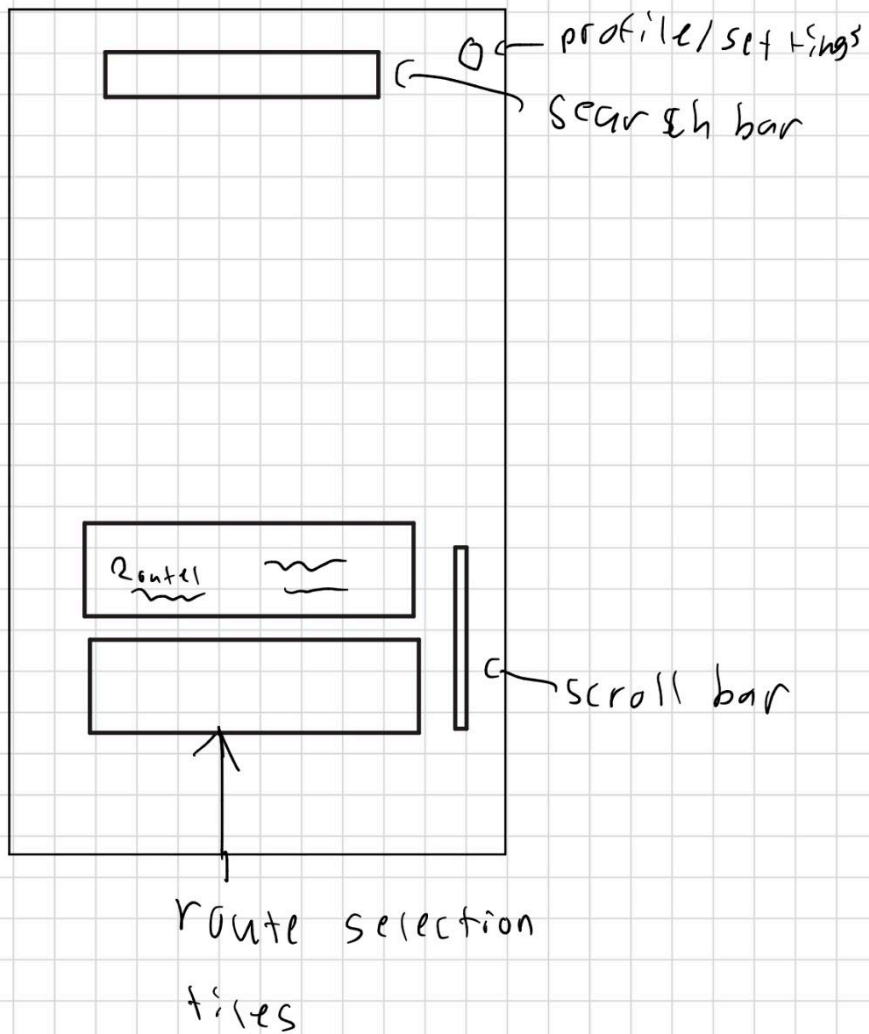
Map





Low Fidelity Wireframe

Mobile UI



Extra Credit

Identify at least five potential risks related to your project. For each risk, describe its severity and outline suitable mitigation strategies to address it.

1. Team coordination is one of the biggest challenges and risks, along with too large of a too-large scope for our project. This is a moderate problem, but if we don't communicate consistently, our project will fall through and we won't be able to make deliverables. We can mitigate this by keeping constant communication and keeping chats clear.
2. We want to create our own algorithm to map routes and use dijkstras to find shortest path. This could prove difficult and be intensive on low powered machines if run locally. This isn't a major risk since most servers have high power but we can mitigate this by being smart about hard-coding and writing efficient code.
3. If our data isn't live and correct, people relying on our application to map to their destination may be left without any ability to route themselves. This is a major issue if our api calls aren't quick enough to see when the buses are late or early, as if we report the wrong time for an arrival, a user may be left without a ride. We can mitigate this by making sure our tables are updated consistently with surveys from users stating if the buses are on time.
4. Storing user data is always an issue. If we have users create an account and plan out routes, we need to mitigate the risk of storing that information and protecting our users. This is a high-severity problem, so we need to hash all passwords and routes created with smart database creation.
5. We will be calling API's for our map data, and if this isn't up to date, information could be incorrect and affect how users map their routes. Bus routes and map data are the core structure of our app, so we need to make sure the data accessed from our api calls is correct. We can mitigate this by using regularly managed apis and checking against website data.