

ComfortRoute

CSE 3311 - Project Inception

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GitHub Repository: <https://github.com/Kass-ii/CSE-3311>

Version: v0.1-inception

What is ComfortRouter?

- ▶ Have you ever missed an hourly bus or trai and wished you could wait for the next one indoors?
- ▶ Or waiting for an appointment with an awkward amount of time to kill?
- ▶ Are there no public buildings nearby to rest at?
- ▶ Comfort Router gives public transit directions that maximise your time spent in air conditioning.

User Story

- ▶ I am waiting at Centreport Station in freezing weather and want to travel east to Downtown Dallas in time for my appointment.
- ▶ The next eastbound train is in 30 minutes.

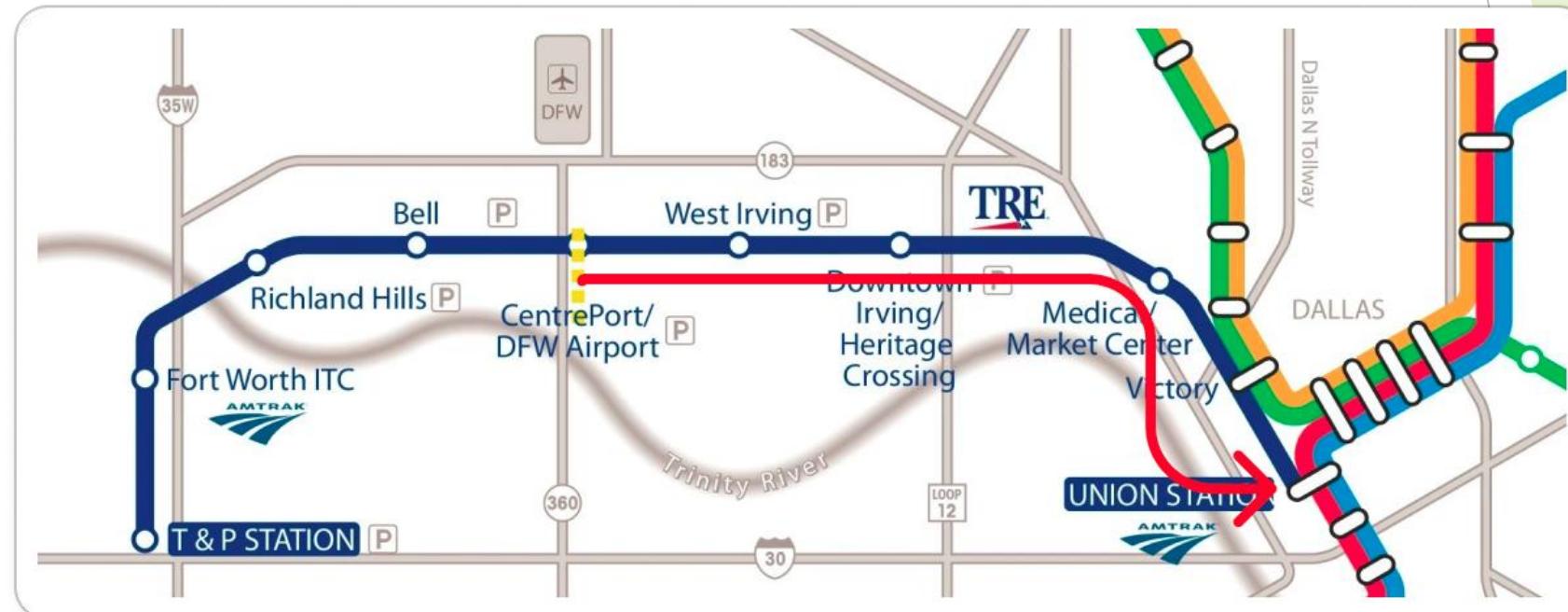


Image created by Dallas Area Rapid Transit, arrows added. [Link](#)

User Story

- ▶ Comfort Router says to instead ride the west bound for one stop and then get on the eastbound train so I spend less time in the freezing weather.

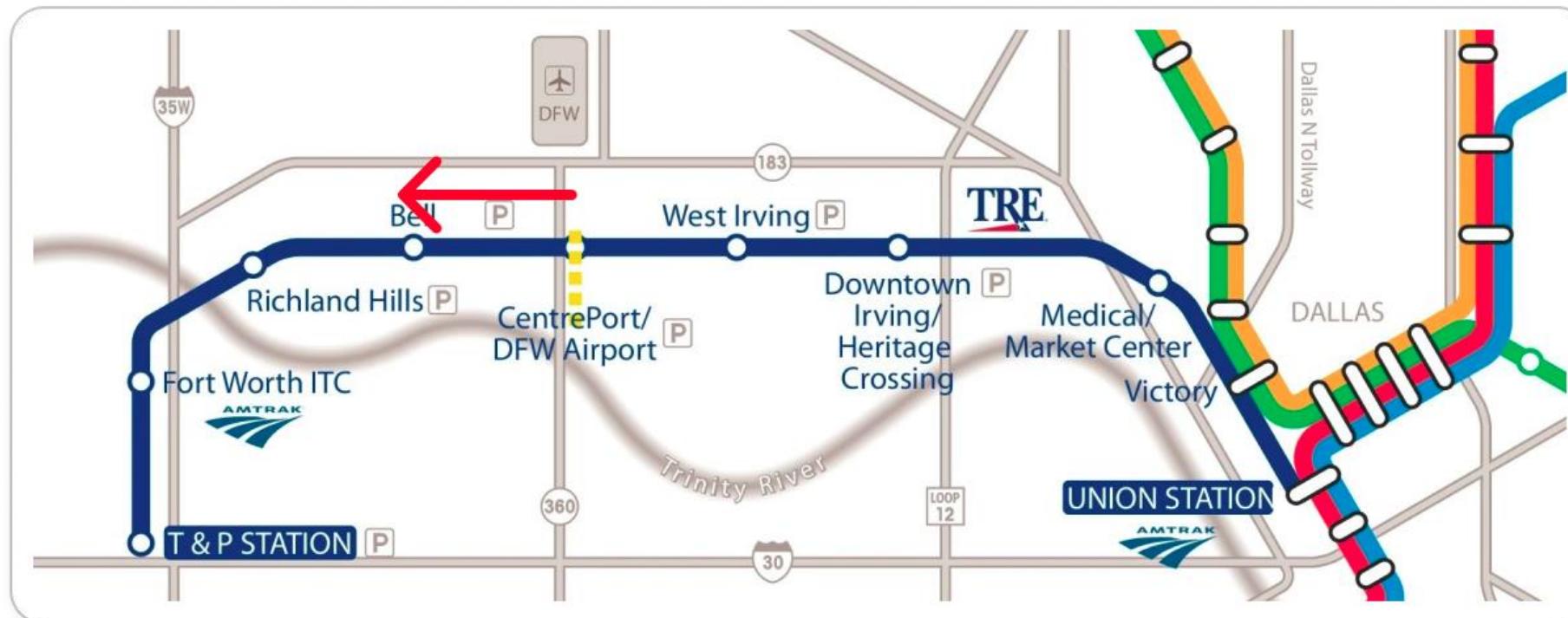


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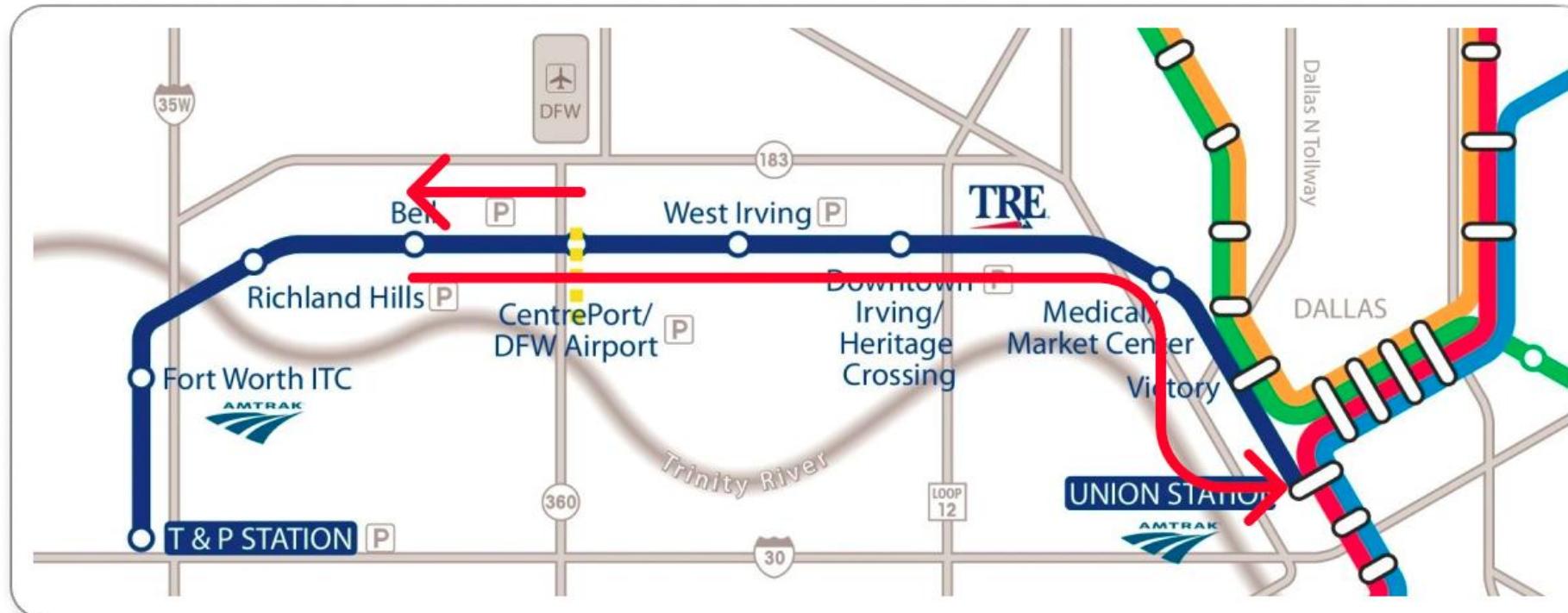


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User Story

- ▶ Instead of waiting for 20 minutes at Centreport for the east bound train:
- ▶ I waited for 5 minutes at Centreport, spent 7 minutes riding to Bell Station, waited for 5 minutes at Bell Station, and then rode back to Centreport for another 7 minutes back where I started.
- ▶ I will arrive at my destination at the same time but I spent less time in the freezing weather.



Photo by the Trinity Railway Express
[link](#)

Similar Platforms

► Platform	Focus	Comfort aware
► Google Map	Fastest route	✗
► Transit App	Fewest Transfer	✗
► CityMapper	Efficiency/Reliability	✗
► ComfortRoute	Rider Comfort+arrival time	✓
►		

Core Features and User Flow

User Input



Starting Station



Ending Station



Arrival Time

Processing



Calculate trip to arrive by arrival time

Maximize time spent in Transit

Constraints



Transit only - no driving/walking/cycling



Based on schedules - no real-time tracking



Transit stations only as start/end points

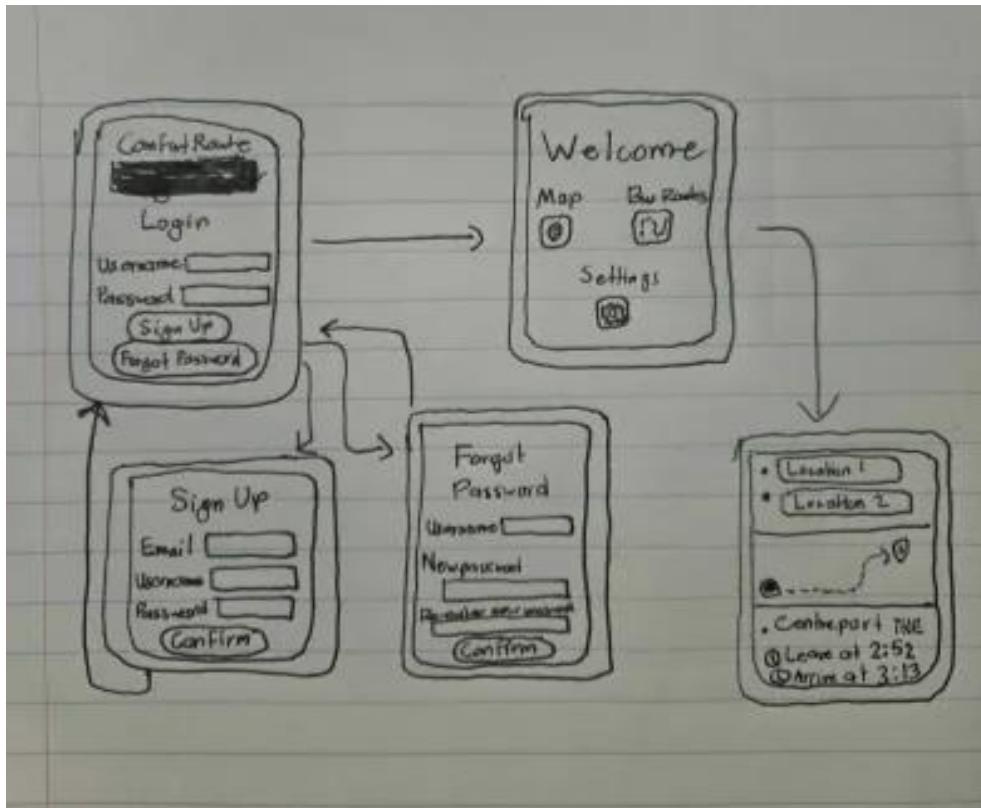
Feature Implementation Plan And Risk

- 1** Back tracking on same rail line
- 2** Out and back rail trips to same origin
- 3** Out and back trips
- 4** Multi line detours and extended detours

Risk	Probability	Effect	Exposure
Lack of team coordination	33%	4 hrs	1hr 20min
Dependent on one team member for use case	5%	10 hrs	30 min
Errors in GTFS data	15%	2 hrs	18 min

Risk Exposure = Probability × Effect

Screen Design



Technology Stack

- ▶ Main Stack: Python, AWS, Terraform, Docker, GitHub, FastAPI/Flask, SQL Database
- ▶ Secondary Stack: React/React Native,

Why we're using x technology

- ▶ AWS
- ▶ Docker
- ▶ Github/github actions
- ▶ SQL Database
- ▶ React/React Native
- ▶ Terraform
- ▶ Python
- ▶ GTFS

Value of the Project

ComfortRoute adds real value by making transit trips more comfortable, enjoyable and predictable.



More Time in Transit

Riders spend more time on buses and trains, less time waiting outside



All-Weather Solution

Works in any weather condition - rain, snow, or freezing temperatures



Predictable & Enjoyable

Makes transit trips more comfortable and reduces uncertainty



Benefits Everyone

From daily commuters to elderly or health-sensitive passengers



ComfortRoute: Making every transit journey more comfortable

THANK YOU!!!!

ANY QUESTIONS???