

<https://github.com/Krish123git/CSE111BusSchduleProj.UCM>

# Bus Database Project

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# System Description

Bus Tracker + System/planner

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- Created because the bus system at UC Merced doesn't have all the features that many people may want.
- Bus System information and trip planner
  - Easier to access and look at certain routes and times without opening a specific pdf and looking at a big table for stops and times.
- Create and view reviews
  - A review system that is a route → driver based
- The info is all pulled from the UCM site



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# Main Functions:

- Trip Planner
  - Checking bus routes/times
  - Viewing bus status + drivers
  - Leaving/reading reviews for route-driver pairs
  - Finding the bus locations based on schedule
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## Bus Transit System UML

View Bus Routes

See Bus Route Times

Using the "Trip Planner"

View Stop Times

Vehicle Tracking

Payment plans/Fare Collection

View Drivers Information

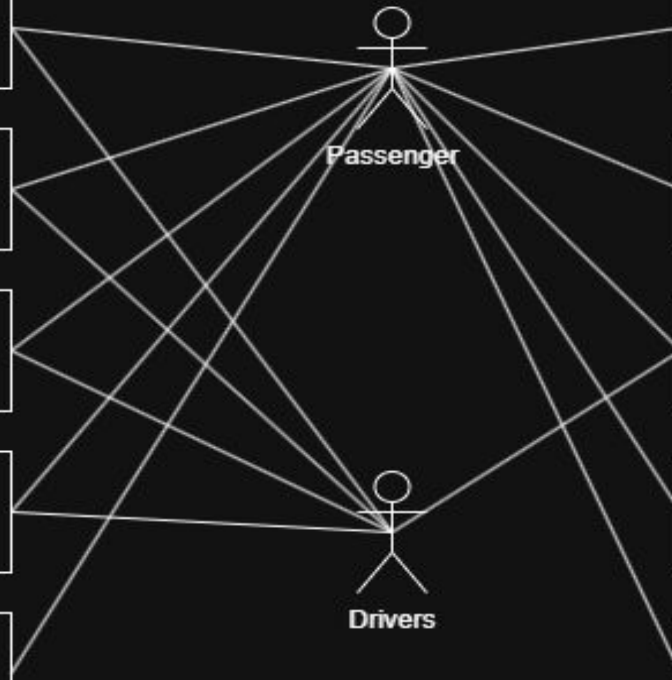
View Bus info and status

Leave a review

View event schedule

Passenger

Drivers

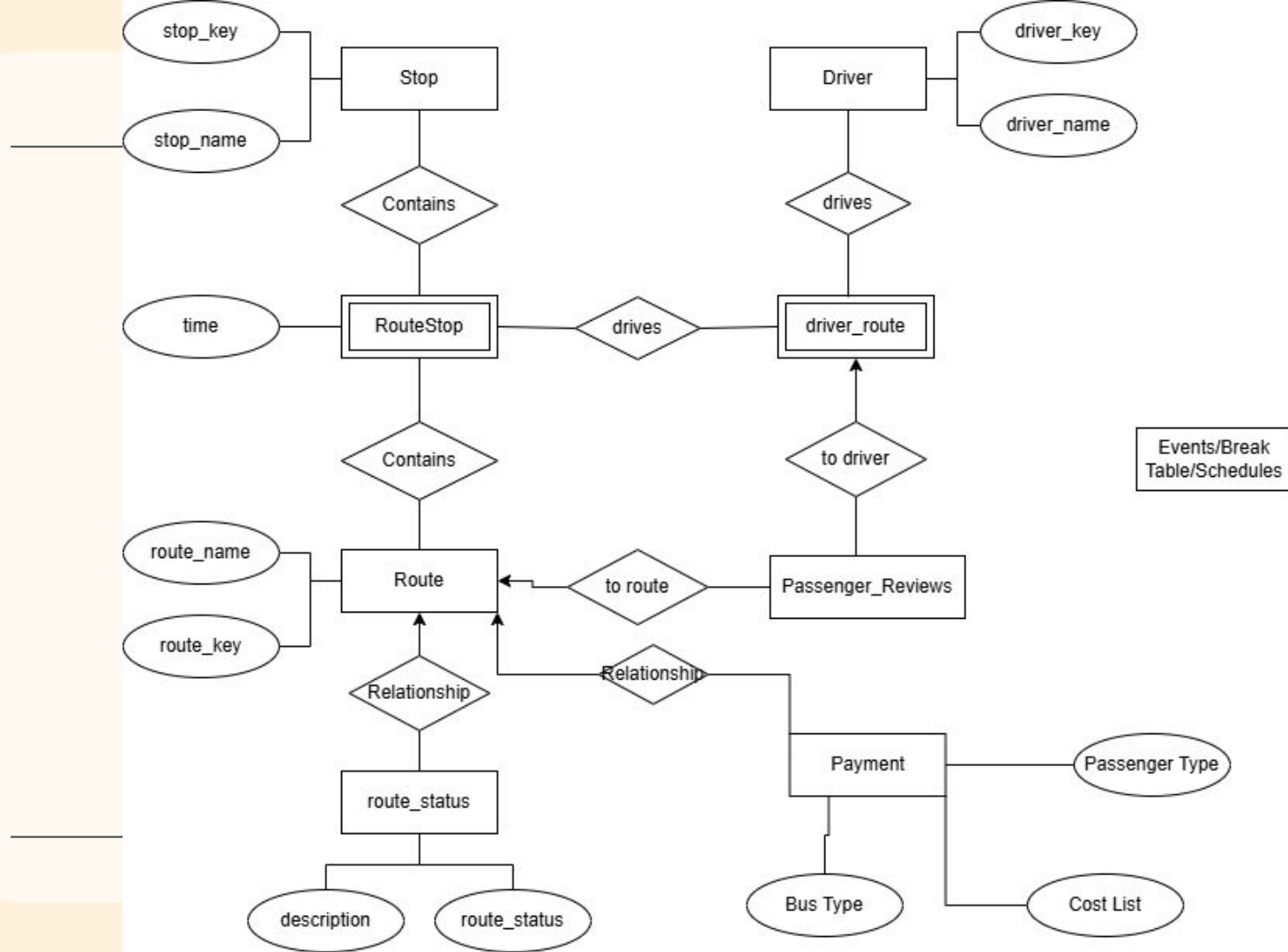


# ER Diagram

Bus Tracker + System/planner

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# Relational Schema

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```
route(**route_key**, route_name, status_key[FK])
stop(**stop_key**, stop_name)
route_stop(route_key[FK], stop_key[FK], time)
driver(**driver_key**, driver_name)
driver_route(driver_key[FK], route_key[FK])
route_status(**status_key**, description)
passenger_review(**review_id**, review_text, review_score)
route_driver_review(route_key[FK], driver_key[FK], review_id[FK])
payment(**passenger_id**, passenger_type, route_key[FK], cost)
```

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# Implementation

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- Created using streamlit (simple app builder that can have a local hosted website easily)
- All UI features were created using streamlit's built-in menu/GUI features
- Our database was built using the schema shown earlier with python supplementing it's functionality. All prompts, user input, and information is handled with python querying the database with conditionals.
- The database is created in SQLite
- We originally had used a CLU interface which didn't look good, we also tried making a menu in there but that didn't look right either.



Quick demo of use cases:

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