Milestone 1:

Concept: In the aforementioned scenario, one person would be responsible for creating a group (using your web app) with the bill amount and sending others a link. This link would navigate the other group members to the group page in the web app that shows the amount the respective person is responsible for (ex: at the bare minimum the bill would be split evenly across all members of the group). All members of the group must accept the terms (in real time) for the group leader to be able to pay the entire bill using a one time use card (think NFC like Apple/Google Pay).

Proposal:

How would a user interact with your app? Are there different types of users? Provide a use-case diagram (https://www.uml-diagrams.org/use-case-diagrams.html)

How would a user interact with your app? Are there different types of users?

There are two types of users. First, there is the leader of the group, who creates the group, determines how the bill should be split up, and actually pays the bill. Then, there are the other group members, who have to accept the terms of the payment.

1. Leader of group
2. Group member

https://www.figma.com/file/5OQY1uPzf0tw8gFAeyKpUg/Use-Case-Diagram?type=whiteboard&node-id=0%3A1&t=DTpYGa2VJnO0FpA8-1

What is your proposed tech stack? Provide your reasoning for each tool and which others you looked into.

-React: group familiarity, somewhat industry standard,
-Express - familiarity, unified language (js) for whole app
-Google Firestore/MongoDB/PostgreSQL: Maybe to persist user's groups

Which branching strategy does your team plan on adopting?

Trunk Based Development: because we are a small team and this is a short term project. Where we mostly will commit directly to the trunk. At points we may create short-lived feature branches, but will quickly merge with the main branch in an iterative manner.

Initial architecture/design thoughts?

(1) Might consider utilizing event streaming tech (Apache Kafka for example) to alert users in group real-time.
(2) Could go for MVC.
(3) Utilize Singleton pattern for single instance of payment class that handles all transactions across all groups.

What are the pieces of the app that you'll need to build? Ex: building a form, tracking user agreements, bill splitting, etc.

User Types:

(1)Leader = should be the one that pays the bill
(2)Participant = should be the people that are liable on the bill except the leader.

App States:

1. Create group UI
    a. All groups user is part of
2. Home page is your past current groups filtered.
3. footer: + button for group create
4. Creating group:
    a. Leader: link generated
5. Group page:
    a. Waiting for payment terms acceptance
        i. You can click confirm at the top?
    b. Who has actually paid (retroactively, not in real time)
6. Popup for NFC card
7. Ready for payment
8. Profile page for email and verification/history.

You'll also need to provide Figma mocks (low-fidelity is fine) for each of the screens you plan to have with the different app states. Include these mocks as images in your proposal with an explanation of what the mocks represent.

https://www.figma.com/file/MyejCL3WYgNoPtpIesFTh2/Project-Mocks?type=design&mode=design&t=2zZ0gYqcGCTHTH8V-1