

GroupEats App

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Arranging social gatherings can be challenging due to the diverse schedules and dining preferences of friends and family. The proposed solution is a web application that collects the preferences and availability of a group of users. The app suggests some restaurant options using advanced APIs and algorithms.

The app uses the PERN tech-stack and is deployed on AWS. The app is designed to reduce the time and effort involved, ensuring seamless planning for all participants and enabling everyone to fully relish their social gatherings.

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The Societal Problem

Social groups often experience decision paralysis when choosing a location for gatherings. This indecisiveness can hinder participation and lead to the outright cancellation of events. As a result, this can cause feelings of frustration or antagonism among group members. The absence of a comprehensive decision-making process not only disrupts social cohesion but also diminishes the quality and frequency of social interactions. Consequently, the overall experience of group activities suffers, undermining the sense of community and connection within the group.

Problem Characteristics

- Increasing the number of choices can cause the decision-making process to become more complex, leading to lower satisfaction (Iyengar).
- Adding more choices contributes to an underestimation of perceived decision time, which increases the actual decision time (Fasolo).
- The number of attributes in a choice also influences the complexity of the choice (Greifeneder).
- The difficulty in making decisions coupled with the mass amount of information available, such as reviews on Yelp, justify the necessity of a solution to the problem

Current Process Flow



Solution Statement

- A lightweight, responsive web application to plan and execute a group dining experience
- Reduces the friction of going out to eat with friends and family
- A form will collect information such as food preferences, availability, preferred price points, and other relevant details from each user
- Makes use of different API's and algorithms to create a list of restaurants that best suits the group's overall preferences



Solution Process Flow



What it Will Do

- Help gather and make plans for indecisive individuals
- Cut down on time deciding where to go
- Give detailed information about a place
- Make a plan given preferences and price selection
- Check for availability on destination
- Eliminate need to manually make plans for compatriots
- Generate a link that can be shared with others
- Produce a list that match set preferences
- Schedule lunch, dinner, etc with multiple people

What it Will Not Do

- Will not be used to make plans outside of group dining
- Will not allow for direct ordering or scheduling from restaurants
- Will not advertise restaurants to the user
- Will not show restaurants that are not on Yelp
- Will not show restaurants that are too far from the users (ie. No 1 hour drives for food)
- Will not offer a means of messaging in the web app to communicate with the group
- Will not be a subscription based service or require any one time payment
- Will not be available as an app that can be downloaded from an app store

Competition Matrix (1/2)

Feature	GroupEats	Doodle	Open Table	Yelp	Facebook Events
Create groups and collect group members' restaurant preferences	Yes				
Suggests restaurants based on combined preferences of the group	Yes				
Group scheduling/polling for time/date	Yes	Yes			
Personalized recommendations	Yes	Yes		Yes	

Competition Matrix (2/2)

Feature	GroupEats	Doodle	Open Table	Yelp	Facebook Events
Dietary restrictions filtering	Yes		Yes	Yes	
Suggest restaurants based on groups' dietary restrictions	Yes				
Event reminders	Yes		Yes		Yes
Real-time updates on group status	Yes				Yes

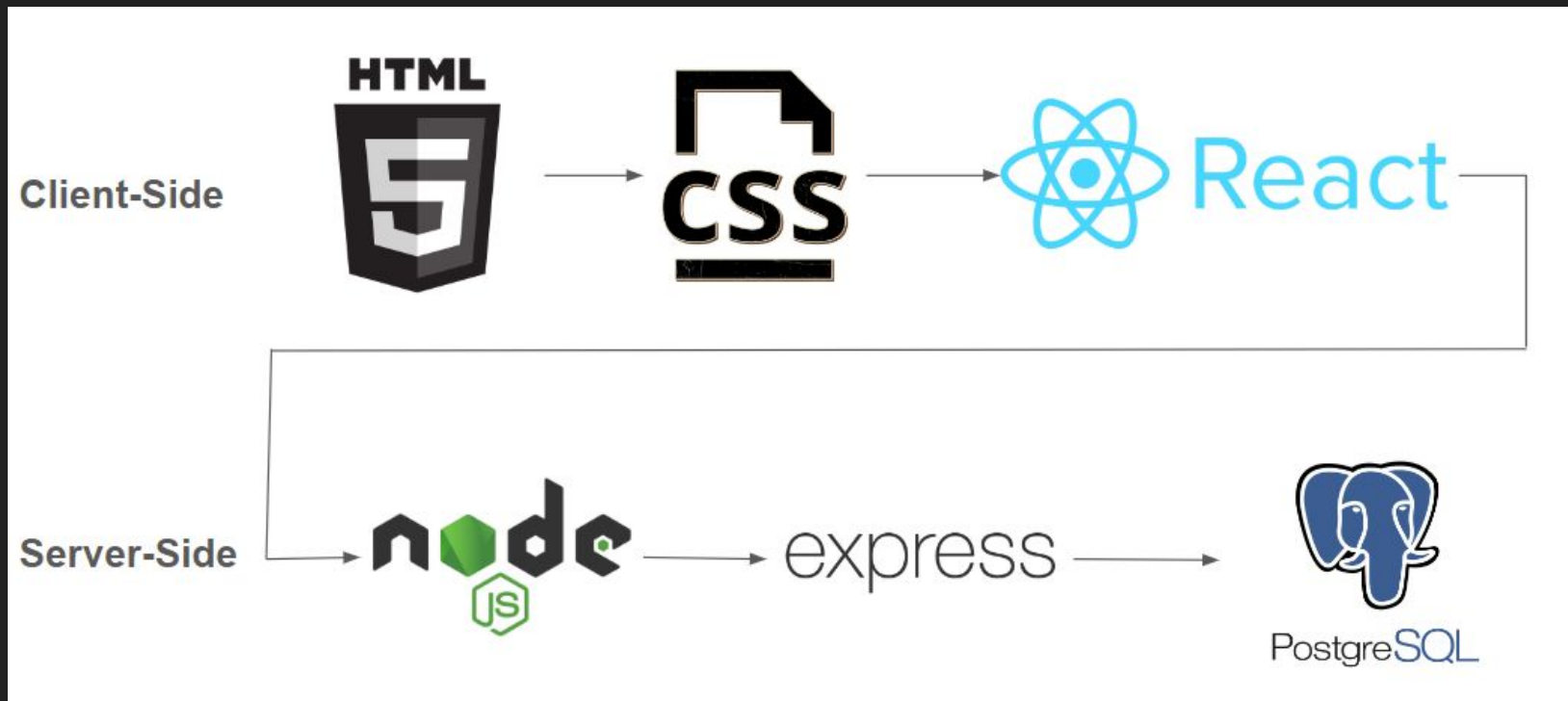
Development Tools

- Integrated Development Environment - VSCode
- Version Control - Git through GitHub
- Continuous Integration and Continuous Deployment - GitHub Actions and Workflows
- Backend Language - JavaScript via Node.js
- Frontend Language - HTML, CSS, and JSX
- Database - PostgreSQL
- Testing Framework - TBD
- Documentation Tool - TBD

Major Functional Components

- HTML
- CSS
- JSX
- React
- Node.js
- Express
- PostgreSQL

Major Functional Components Diagram



Customer Risks

		Impact				
		Very Low	Low	Medium	High	Very High
Likelihood	Very High					
	High					
	Medium			C1		
	Low	C2	CM1			
	Very Low	CM2				

- C1 - Ease of Use for new customers
 - CM1 - Add well-explained instructions and intuitive UIs
- C2 - Unrealistic Expectations for app features
 - Add a clear description of what the app is to be used for

Technical Risks

		Impact				
Technical		Very Low	Low	Medium	High	Very High
Likelihood	Very High					
	High					
	Medium					
	Low			T1		T2
	Very Low		TM1	TM3	T3 / TM2	

- T1 - Reliance on APIs might create limitations. Rate limits, downtime or unavailability
 - TM1 - Regularly review and monitor API usage
- T2 - Server load. NodeJS and Express might have a hard time handling high number of concurrent users
 - TM2 - Utilize load balancing
- T3 - PostgreSQL might have performance bottlenecks
 - TM3 - Conduct regular performance testing to identify bottlenecks

Security and Legal Risks

		Impact				
		Very Low	Low	Medium	High	Very High
Likelihood	Very High					
	High				L1	
	Medium			S1		
	Low					
	Very Low		LM1	SM1		

- S1 - Personal user information could be leaked
 - SM1 - Ensure the database is kept private and that communication between the user and the server is secure
- L1 - Users may be concerned about the use of their data
 - LM1 - Detail how user data will be used in a Terms of Service or Privacy Policy document

Conclusion

- **The process of scheduling social gatherings can be improved**
- The GroupEats app will be a comprehensive solution to the identified problem.
- The features provided will outrival the competition
- The tech stack allows for rapid prototyping and development
- The identified risks are able to be mitigated

References

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