

Parakeet Social Support Registry Application

Team SDDEC22-08

Client: Dr. Katherine Rafferty

Advisor: Professor Mathew Wymore

Team Website: <http://sddec22-08.sd.ece.iastate.edu/>

Problem Statement

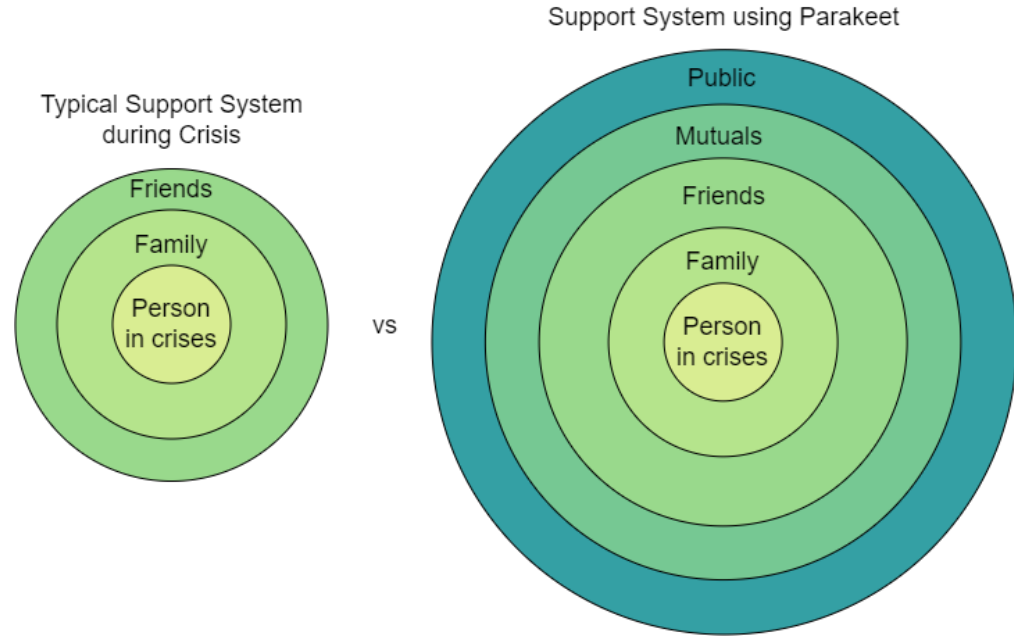
People who have complex medical conditions or parents of children with complex medical conditions need social support that is not being met due to the difficulty of communication of these needs with their social support network.

People also need help organizing the support in order to be effectively supported.



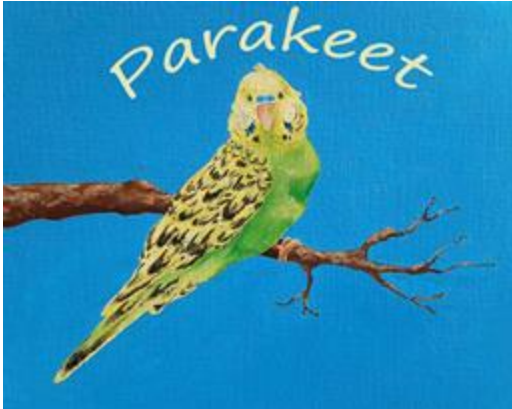
Brings People Together

- Users in a health crisis or with children in a health crisis
- Users who want to help people in their community who are in crisis
- Medium through which these two groups can connect



Why 'Parakeet'?

- 'Para' - beside, alongside
- Support animal -> support website
- Cost-effective
 - Support dog breeds more far more expensive for domain name



Market Survey

What makes the project unique?

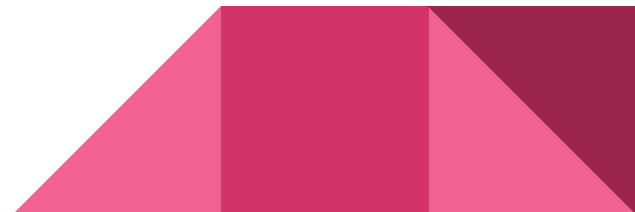
- Not only monetary based
- Ability to create groups or join groups
- Users can use app to organize support or find support as well
- Supports any variety of desired support



The DINNER PARTY



Wisdo



Functional Requirements

- The application shall support any desired type of support.
 - Rationale: Users may need to be supported in a number of different ways, such as monetary donations, supplying food, or providing emotional support.
- The application shall support ability for users to supply requested support.
- The application shall include a messaging feature.
 - Rationale: Users may need to communicate to effectively receive or provide the desired support.
- The application shall include a calendar feature.
 - Rationale: A calendar feature provides an effective organizational tool to allow users to keep track of requests they have made or agreed to support.
- The application shall support two different user types, receiver and supporter.
- The application shall be accessibility focused and easy to navigate.
 - Rationale: The application needs to be usable by anyone, regardless of physical or mental disabilities.



Non-Functional Requirements

- The application shall use proper security protocols to protect user data.
- The application shall be maintainable and able to be given to another development team after the semester.
- The application shall contain proper citation and credit for the commissioned logo artwork.
- The application shall have a budget of \$1000 for initial development.
- The application shall follow the aesthetic requirements provided by the client.
 - Calm, inviting design
 - Psychology supported color theme



Potential Risks and Mitigation

1. Application Security

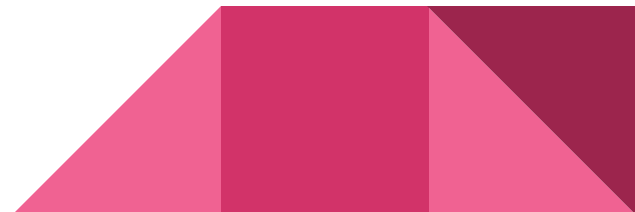
- Account data protection
- Password Protection
- Privacy of Users

Mitigation: Using AWS Cognito & Lambda Functions

2. Malicious Users

- Real users having malicious intents
- Message Spamming

Mitigation: Ability to block and report a user



Software, Hardware, and Technology Used

Front End



React



Grommet

Software



GitLab

Back End

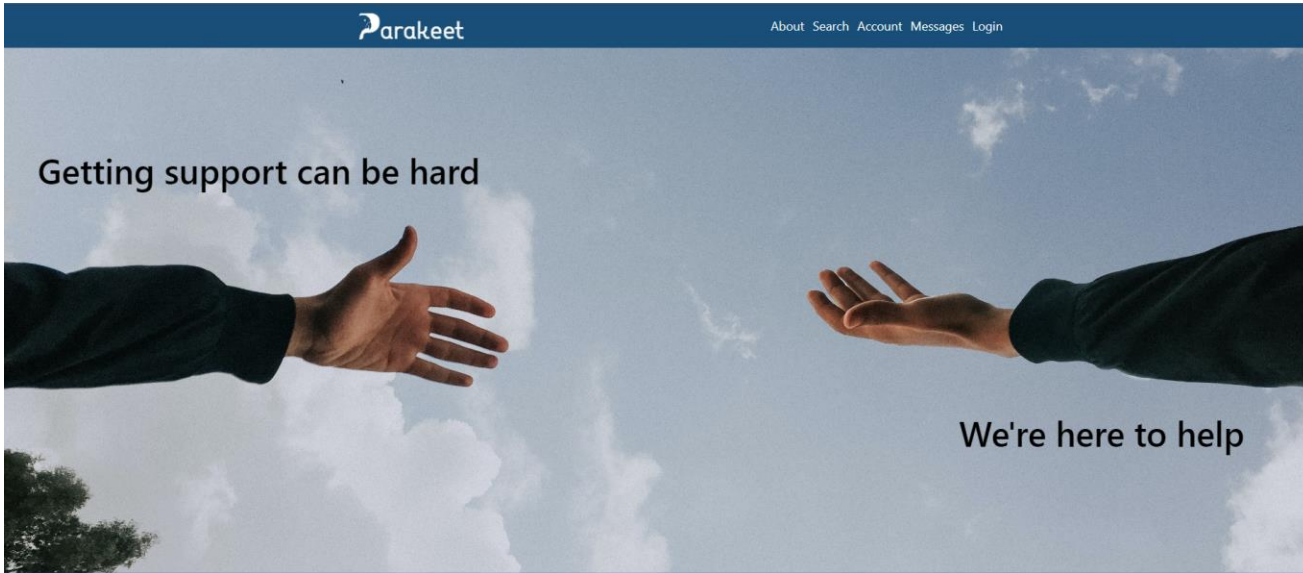


GraphQL



Detailed Design

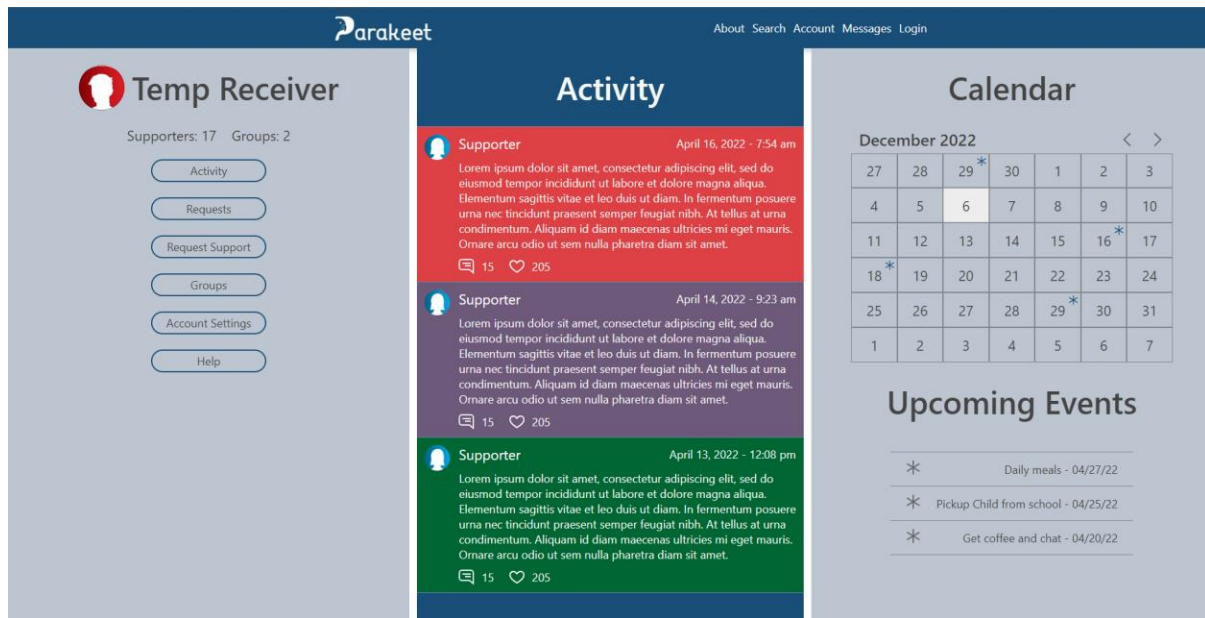
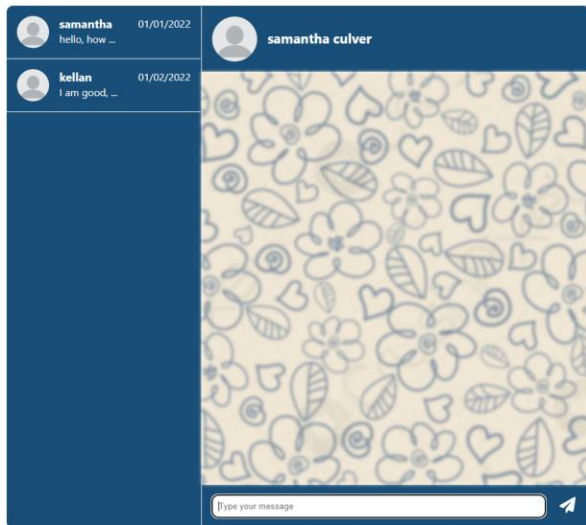
- Easy to use and accessible design
- Welcoming to new users
- Calming color palette



Detailed Design

- Key Features:
 - Request Support
 - Calendar
 - Groups
 - Messaging

Messages

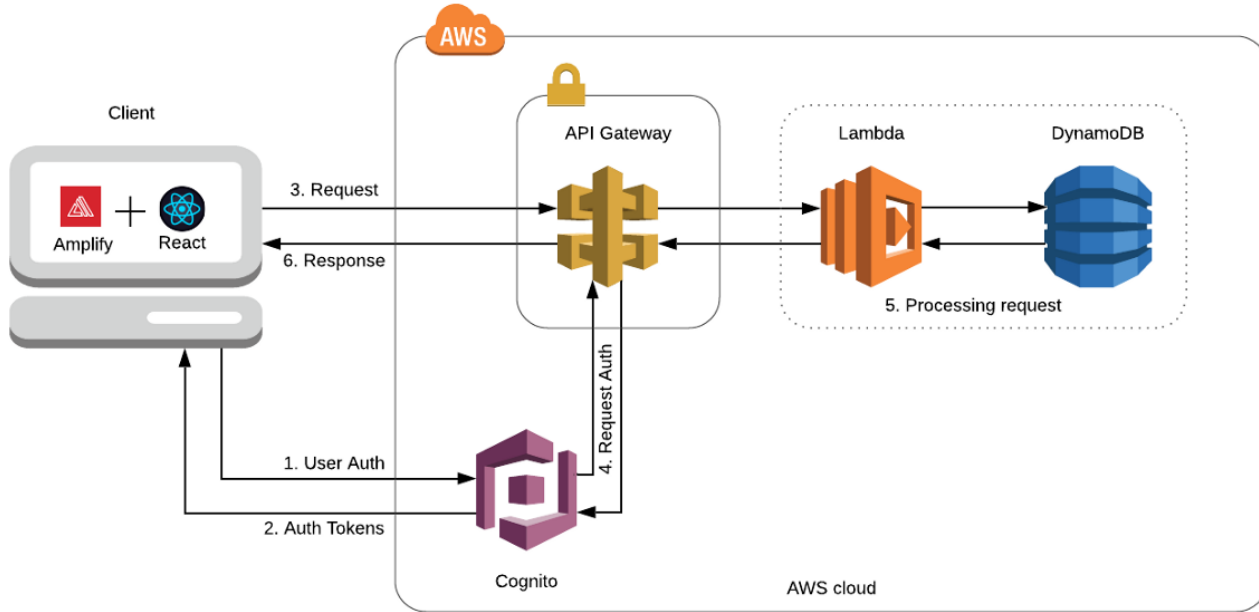


Search Parakeet

User Group Organization

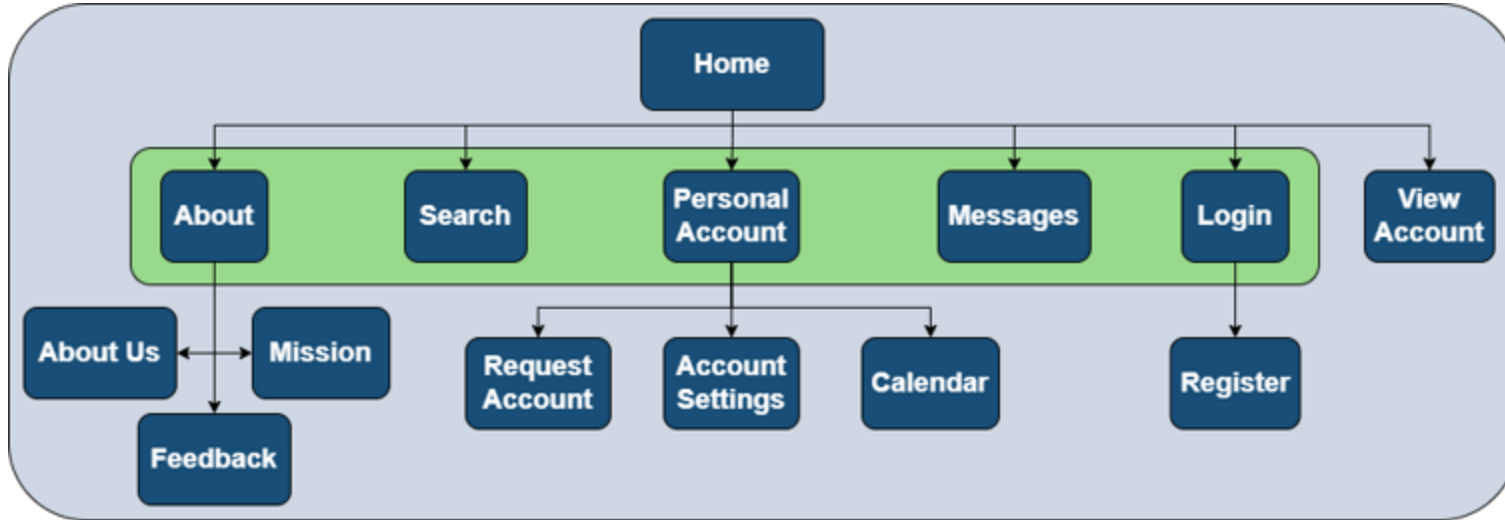
Functional Decomposition

Serverless Web Application Architecture using React with Amplify



- ReactJS frontend application
- Authentication hosted by AWS Cognito
- GraphQL backend hosted by AWS Amplify
- Application hosted by AWS Amplify

Navigation Diagram



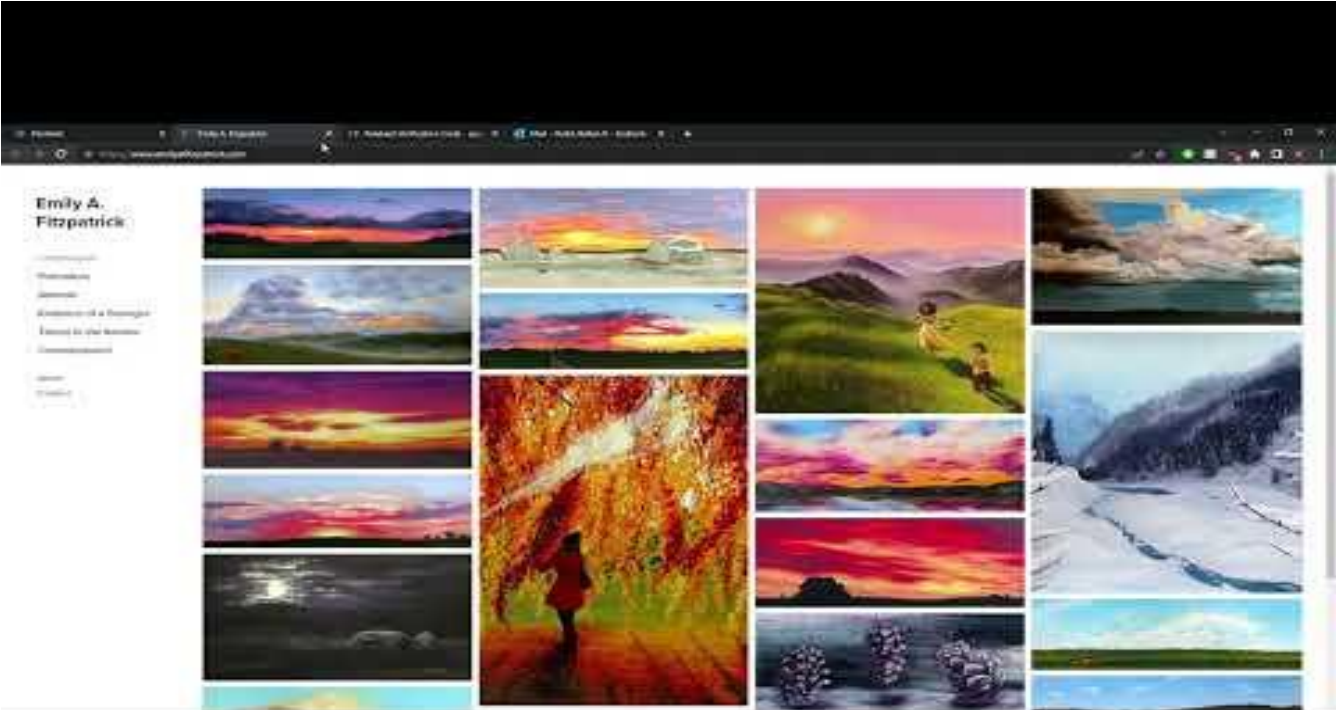
Contained in navigation header
Available on all pages

Current Project Status

- Application is hosted using AWS Amplify
- GraphQL data structures and basic API calls are created
- Frontend Design is complete
- AWS Amplify user pool and authentication is complete and functional
- Incomplete functionality:
 - Account page API calls
 - Saving groups, account settings, etc
 - Activity page pull and refresh
 - Search capabilities



Recorded Demo



Resource Cost/Estimate

- Domain Cost
- Logo Design
- Server Hosting
 - AWS Cognito



SQUARESPACE



Host an app

Free for 12 months

Easily deploy your web app or website to the fast, secure, and reliable AWS content delivery network (CDN) using Amplify Hosting.

BUILD & DEPLOY

No cost up to 1,000 build minutes per month

DATA STORAGE

No cost up to 5 GB stored on CDN per month

DATA TRANSFER OUT

No cost up to 15 GB per month

REQUEST COUNT (SSR)

No cost up to 500,000 requests per month

REQUEST DURATION (SSR)

No cost up to 100 GB-hours per month

The free offer is per account, regardless of number of users. It expires at the end of your 12-month AWS Free Tier term then converts to pay as you go.

Host an app

Pay as you go

Need more capacity than the free tier? Amplify switches over to pay as you go pricing once you exceed free tier limits, with no disruption to your apps.

BUILD & DEPLOY

\$0.01 per minute

DATA STORAGE

\$0.023 per GB per month (this charge recurs until the app is deleted)

DATA TRANSFER OUT

\$0.15 per GB served

REQUEST COUNT (SSR)

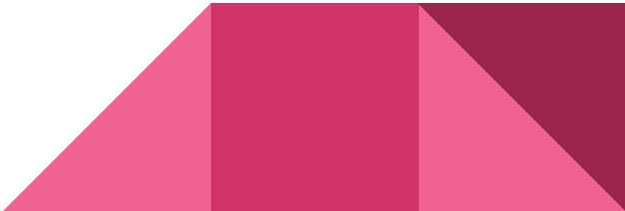
\$0.30 per 1 million requests

REQUEST DURATION (SSR)

\$0.20 per hour (GB-hour)

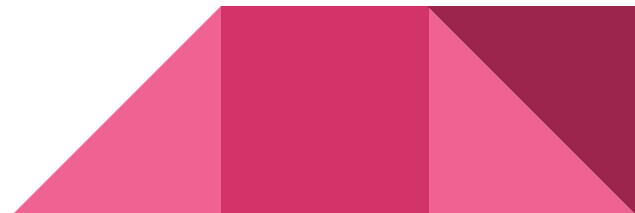
Cost effective, no flat fee per user. Includes multiple sites per project and public SSL certificates at no additional cost.

Technical Constraints & Other Considerations

- Financial resources to support continued server hosting
 - AWS number of users available before exceeding free-use limit (50,000 user limit)
 - Developer support once app is launched
 - Sufficient user pool
- 

Challenges Faced and Setbacks they Caused

- Team members' absence
 - Both original backend developers
- Incorporating a new Team Member
- Back-end Setup
 - Time constraints and fewer team members made it nearly impossible to develop a back-end without starter structure -> Using AWS for the back-end to simplify the work and improve the security



Task Responsibilities and Contributions by Team

Samantha Culver: Team Manager & Front-End Developer

Kellan Hulet: Front-End Manager & Front-End Developer

Siddharth Rana: Full Stack Developer, Website Manager

Brayden Ruch: Back-End Developer & Client Correspondent

Amaranthia Willers: Back-End Manager & Back-End Developer



Credits

- Dr. Katherine Rafferty, PhD. Iowa State University department of Psychology
- *The Dinner Party*, <https://www.thedinnerparty.org/>.
- Emily A. Fitzpatrick - Logo design: Fitzpatrick, Emily A. *Emily A. Fitzpatrick*, <https://www.emilyafitzpatrick.com/>.
- “Fundraising on GoFundMe Takes Just a Few Minutes.” *GoFundMe*, <https://www.gofundme.com/>.
- “Happier Days through the Power of Connection.” *Wisdo*, <https://www.wisdo.com/>.

