Socialize!

Final Project for: COMS 6998 Cloud Computing Big Data
At

Columbia University

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Date of presentation: 12-18-2023

Semester: Fall 2023

Problem statement & Motivation

1 | Connectivity Challenge

Navigating a new campus poses challenges in establishing connections and socializing to feel a sense of belonging.

Students find it difficult to form quick bonds for compatible project partners, complicating coping with tight course deadlines.

Lack of connections and a social circle could be detrimental to students' mental health.

2 | Existing platforms

Existing platforms like Meetup and Heylo focus on event coordination and promotions.

The authenticity of organizers remains unconfirmed.

Juggling platforms like WhatsApp, email, Discord, and Slack results in missed opportunities and incomplete awareness.

No unified platform exists for students to create events, meetups, and study groups.

3 | Value proposition

Unified Columbia Hub: A one-stop platform for Columbia students to connect, form study/project groups, organize meetups and events, receive tailored recommendations, and create polls.

Exclusive Columbia Community: An application exclusively for Columbia students to find like-minded peers with shared interests

Unique Selling Point

Introducing Socialize - A one stop solution for all your needs.

No more missing out on events scattered across different platforms!

🚀 **Exclusive Community:** Join a trusted space exclusively for Columbia students, where events, meetups, and study groups seamlessly come together.

🤝 **Precursor to Project Groups Formation:** Connect at meetups to gauge compatibility before forming project and assignment groups – Socialize makes teaming up a breeze!

🌈 **Personalized Magic:** AI and Interest-based recommendations ensure every event and meetup suits your taste, making your social experience truly unique.

📊 **Polling Power:** Creators can understand and cater to student interests with our intuitive polling – making your events and meetups a hit!

Don't just socialize – Socialize intelligently with your exclusive campus companion! 🎉

Key Features Implemented

User Signup and Profile Management:
- Efficient registration and profile update process.
- Registration only permitted through Columbia Lionmail email for added security.
- Users can view, create, and update their profiles and preferences.

Homepage Central Hub:
- Personalized experience with upcoming activity details.
- Displays user-created activities and highlights polls for community engagement.

Activity Creation Empowerment:
- Users can effortlessly create events, meetups, or study groups.
- Input essential details during the creation process for dynamic and user-driven activities.

Activity Registration:
- Simplified registration process for expressing interest.
- Foster an inclusive environment by efficiently signing up for various activities.

Email Notifications:
- Timely and personalized communication with AWS SES integration.
- Confirmation messages for successful activity registrations.
- Emails for user authentication

Features Implemented continued ..

Activity Search Functionality:
- Harnesses Elasticsearch for comprehensive and efficient searches.
- Textual searches based on title, description, location, and category for easy discovery.

AI-based Recommendation System:
- AWS Personalize for personalized recommendations.
- Analyzes user activity history to tailor suggestions.

Interest-Based Suggestions:
- Aligns recommendations with user-indicated preferences.
- String-based filtering for personalized experiences based on specified interests.

Polling Feature:
- Seamlessly create polls to gather opinions and preferences.
- Facilitates high participation and easier event selection for users.

Architecture Diagram
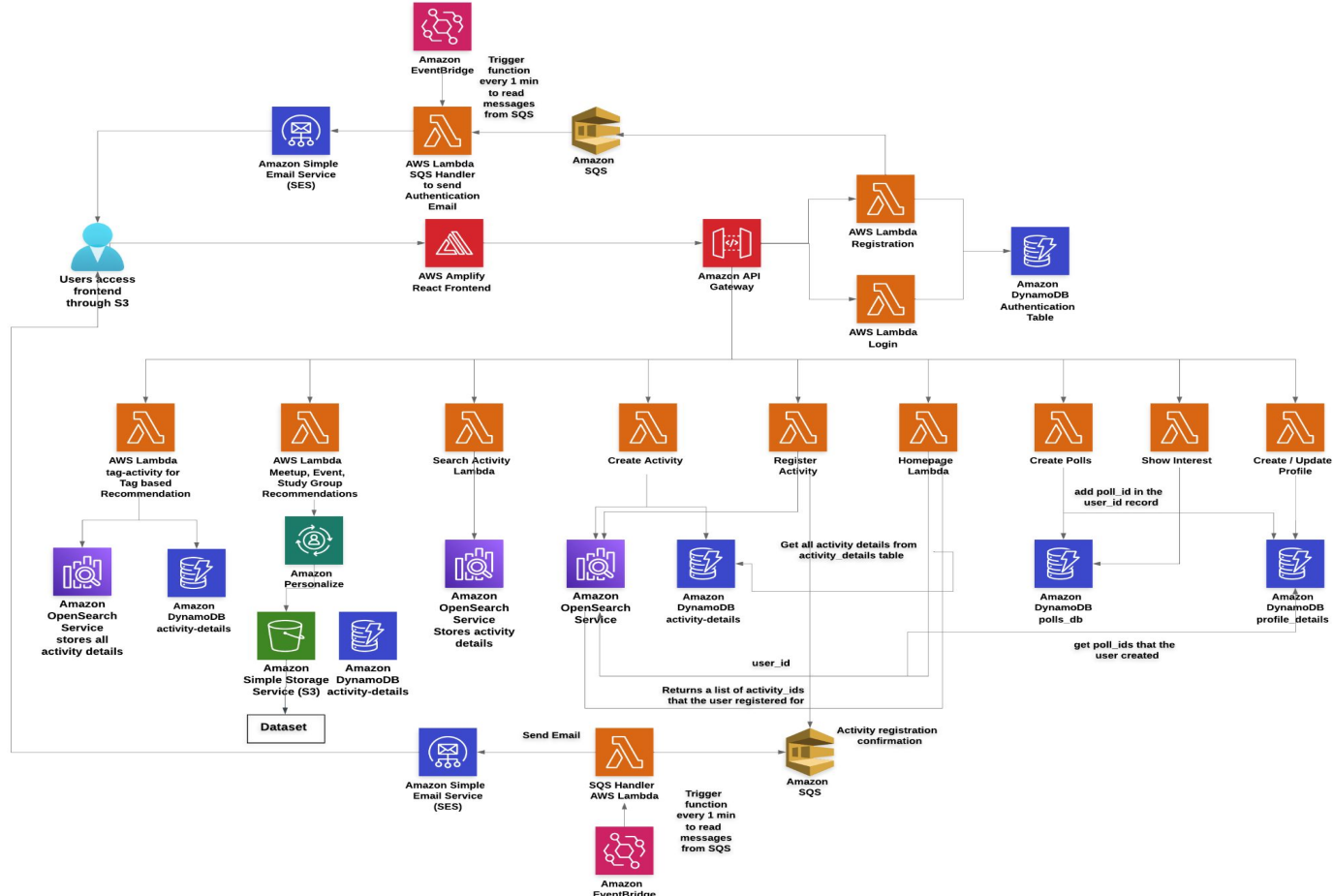
Key Design Aspects

- **AWS Personalize**
  - Data Prep for AWS Personalize:
    - Used Kaggle's Nashville Meetup dataset (24,591 users, 126,813 interactions)
    - Categorized activities based on tags, added timestamps and locations
  - AWS Personalize Configuration:
    - Established an AWS Personalize solution and campaign, and filters for activity categories
- **Search functionality**
  - OpenSearch drives the Activity Search Functionality, searching text fields like title, description, and location corresponding to activities for comprehensive results
  - Utilizes boolean conditions in a multi-match query and also incorporates fuzzy search for an enhanced search experience
- **Interest-based Recommendation**
  - Uses open search to filter activities with tags marked by the creator based on the interest of the user specified in their profile.
- **Polling Feature**
  - Stores all the polls' details in a DynamoDB table along with the user_id of the poll's creator
  - If a user creates a poll, they are assumed to be interested in the activity
  - When a user participates in a poll, the participant_count is increased and the user_id is added to the list of participants

Target audience

- Socialize currently caters to Columbia University students, with a focus on freshmen and international students new to the city.

- While our initial target is Columbia, the product holds the potential for future expansion, making it a scalable venture that could encompass other universities.

- Beyond its university focus, Socialize envisions potential applications in corporate settings, offering a versatile platform for team-building, event coordination, and fostering connections within corporate companies.