

# CS 440: Development Project

Software in Support for Distributed Collaboration



Spring 2021: Group 4  
GATHER (A Family and Collaboration App)

# Goal of the Project

- The Goal of this project is to create a collaboration application which will be personalized for each community/family.
- This application can be used among various settings such as office groups, family groups and friends circle.
- The product will help connect people from miles away.
- It will especially help children living away from their families.
- This product will provide a shopping platform so that one can send gifts, medicines, etc., to their loved ones.

# Features

- Ability to text, voice call, and video call members of the group individually, or all members of the group at once.
- Supports seamless virtual get-togethers, and online multiplayer games unlike any other current social platform.
- Integration with popular food providers (Uber Eats, Grubhub, etc.) to arrange food for get-togethers for attending members.
- Set up reminders for important occasions like birthdays, anniversaries, family meetings, etc.
- Ability to share live location to group members on request.
- Send gifts/essential items to loved ones remotely with integration with popular platforms like Uber, Amazon, DoorDash, etc.

# Platform and Target users:

- This product will be support all major platforms such as Android, iOS, Windows, MacOS.
- Target users:
  - Family groups (users of all ages).
  - Friend circles.
  - Office groups.
  - Communities.

# Requirements

- Minimum functional requirements for messaging:
  - Able to work on multiple platforms.
  - Should support upto 10 users per family group.
  - Application should support audio, video, text and image sharing.
  - Audio supported: mp3, wav, wma.
  - Video supported: mp4, avi, mov.
  - Image supported: jpg, png, gif.

# Non Functional Requirements

## ➤ Performance:

- Should support multiple users playing games and messaging over thousands of groups
- File size should be supported up to 20Mb.
- Application should take less than 100MB of installation space.

## ➤ Reliability:

- User's data should be automatically backed up to databases in case the app crashes.
- User's data and messages should be securely encrypted with end-to-end encryption protocol.

## ➤ Maintainability and Usability:

- Application should have ability for reporting bugs and requesting features.
- Creation of groups should takes less than 5 minutes for any user.

# System Design

- Sub-Systems:
  - GPS Service
  - Database system
  - Chat microservice
  - Payment system
- GPS Service: For accessing the location of the online users.
- Database system: To store all the information and chat history of the users.
- Chat microservice: To handle the chatting features of the application.
- Payment system: To handle the payments with integrations with different platforms.

# Ideas/Future Additions

- Starting with the integration of different delivery services, the future additions will include a separate delivery system rather than the dependence on other providers like Uber Eats, Doordash etc.
- Along with a separate delivery system, the future versions could include a separate shopping place as well as a pick and delivery system through UPS for long distance connections.