ACTIVE CIRCLE

Connects outdoor enthusiasts by allowing them to create, join, and participate in group activities like hiking, swimming, and sports.

Team Members

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Course Number: CSIS 3375

Section Number: Section 1

Group Number: Group 6

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Table of Contents

1. Requirements Gathering

According to the instructions and the project plan, our team conducted a user study (survey) to better understand the needs, preferences, and behaviors of potential ActiveCircle users.

1.1 Purpose / Objectives for Requirements Gathering User Study

The main objectives of our user study were:

a. **Identify User Motivations**: Understand why people are (or are not) engaging in outdoor activities, and what would motivate them to participate in group events.

b. **Uncover Pain Points**: Find out the obstacles people face when trying to be active, such as scheduling constraints, not knowing local groups, or lacking motivation.

c. **Evaluate Desired Features**: Learn which specific features (e.g., event creation, real-time chat, gamification) most appeal to participants.

d. **Assess Social vs. Solo Preferences**: Determine how important social interaction is for maintaining regular fitness routines.

e. **Gauge Technology Familiarity**: Understand participants' comfort levels with fitness apps, GPS, chat tools, or other digital engagement features.

1.2. Choice of User Study and User Sample

- **Method**: Online survey (using a short, structured questionnaire).

- **Target Users**: Primarily young adults (age 18–40) who are interested in fitness, outdoor activities, and social connections. Some older adults (40+) were also included if they regularly engage in group fitness or outdoor activities.

- **Sample Size**: 20 total participants completed the survey.

1.3 Draft of the User Study Survey

Below is a condensed version of the survey questions used:

a. Age Group

- Under 18
- 18-24
- 25-34
- 45-54
- 55+

b. Gender

- Male
- Female

c. What is your level of physical activity?

- Sedentary (Little or no exercise)
- Lightly active (1-3 times per week)
- Moderately active (3-5 times per week)
- Very active (6+ times per week)

d. Which outdoor activities do you participate in regularly? *(Select all that apply)*

- Hiking
- Running
- Cycling
- Swimming
- Team Sports (e.g., soccer, basketball)
- Other

e. How do you currently find outdoor activities or sports groups?

- Social media (Facebook, Instagram, etc.)
- Meetup groups
- Fitness apps (Strava, AllTrails, etc.)
- Word of mouth
- Other

f. What motivates you to participate in group activities?

- Socializing
- Fitness goals
- Competition
- Mental well-being
- Other

g. Do you track your fitness or outdoor activities using an app?

- Yes
- No

h. If yes, which fitness apps do you use? *(Select all that apply)*

- Strava
- AllTrails
- Nike Run Club
- MyFitnessPal
- Other

i. What features do you look for in an outdoor activity app? *(Select all that apply)*

- Event organization
- Finding activity partners
- Fitness tracking
- Chat with participants
- Gamification (badges, challenges)
- Other

j. How important is it for you to have real-time notifications for upcoming events?

- Not important
- Somewhat important
- Very important

k. Would you be interested in earning badges and rewards for participation in activities?

- Yes
- No

l. How likely are you to use an app that helps you find and join group activities?

- Very unlikely
- Unlikely
- Neutral
- Likely
- Very likely

m. What challenges do you face when trying to participate in group activities?

- Finding reliable participants
- Scheduling conflicts
- Lack of motivation
- Safety concerns
- Other

n. What is one feature you would love to see in an outdoor activity app?

(Open-ended text box)

o. Do you have any concerns about using an app like ActiveCircle?

(Open-ended text box)

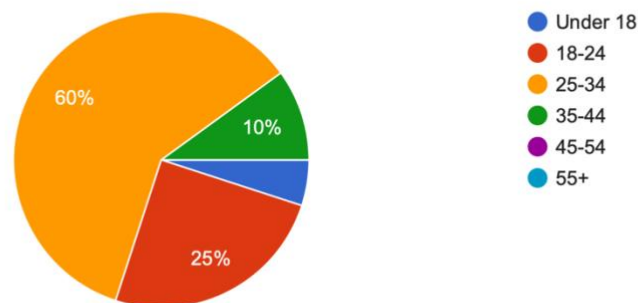**p. Any additional comments or suggestions?**

(Open-ended text box)

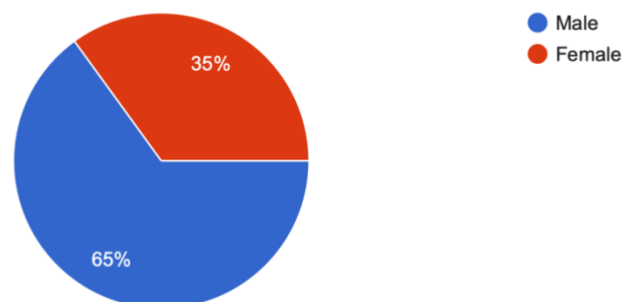## 1.4 Data Visualization and Analysis

From **20 participants**, we highlight a few summarized findings:

Age Group
20 responses

Interpretation: The largest demographic is 25-34-year-olds, suggesting an adult audience. This may shape design choices toward a more mobile-friendly, social-media-integrated experience.
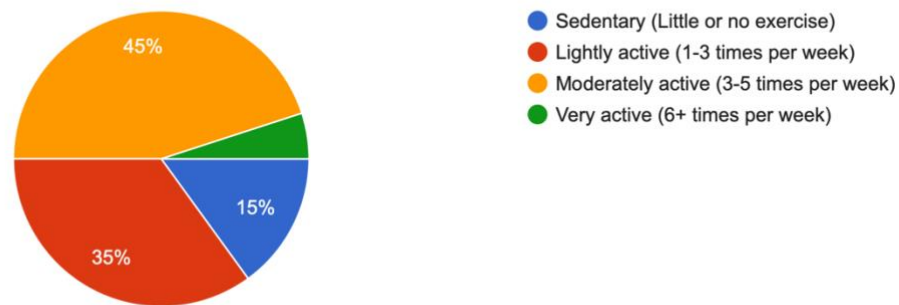
Gender
20 responses

Interpretation: There is a slightly higher male representation (65%). While this isn't a major imbalance, it's worth considering any gender-specific preferences or pain points when designing user flows to ensure the app remains inclusive and engaging for all users.

What is your level of physical activity?
20 responses

- Sedentary (Little or no exercise)
- Lightly active (1-3 times per week)
- Moderately active (3-5 times per week)
- Very active (6+ times per week)

45%
15%
35%

Interpretation: About half are moderately active, and 35% are lightly active and the rest seem a little more active. An app might be used by those trying to increase consistency so providing gentle motivation and scheduling support could help them move from light to moderate or moderate to very active.

Which outdoor activities do you participate in regularly? (Select all that apply)
20 responses

Activity	Value
Hiking	6 (30%)
Running	6 (30%)
Cycling	3 (15%)
Swimming	3 (15%)
Team Sports (e.g., soccer, bas…	6 (30%)
	2 (10%)
Jogging	1 (5%)
badminton	1 (5%)
Working out	1 (5%)
Walking	1 (5%)
None	1 (5%)
Cricket	1 (5%)
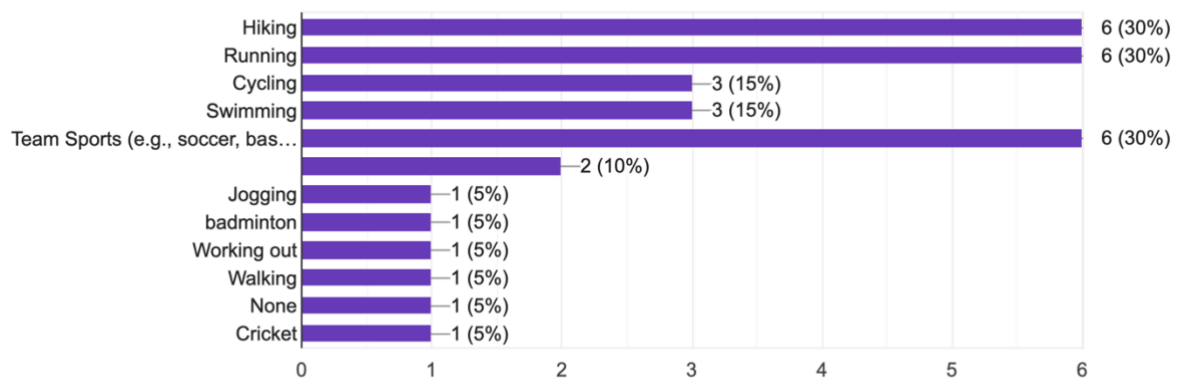
Interpretation: A broad range of activities with multiple picks around solo, group type exercises like hiking, running, and team sports. The app might need to handle both solo sports (where users just want a partner or small group) and structured, large group sports.

How do you currently find outdoor activities or sports groups?
20 responses

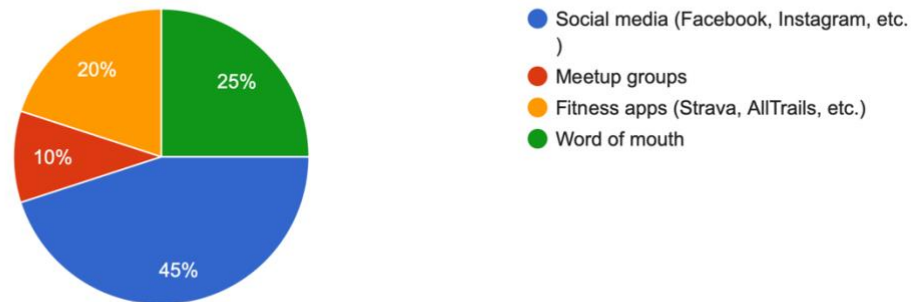- Social media (Facebook, Instagram, etc.)
- Meetup groups
- Fitness apps (Strava, AllTrails, etc.)
- Word of mouth

45% 25% 20% 10%

Interpretation: Most rely on social media and informal networks (word of mouth). This indicates an opportunity to create a more organized digital platform for event discovery, because many are not using dedicated fitness or event apps yet.

What motivates you to participate in group activities?
20 responses

- Socializing
- Fitness goals
- Competition
- Mental well-being

40% 35% 20%
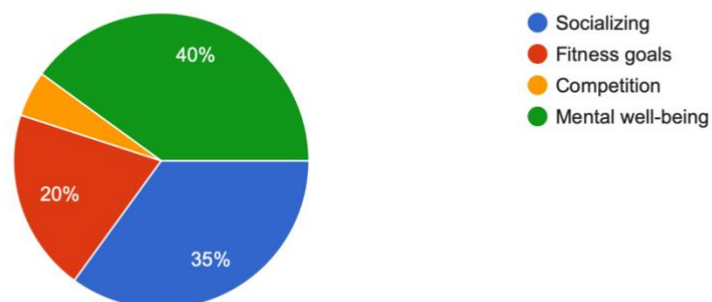
Interpretation: In most users, Mental well-being and Socializing motivate them to participate in group activities, whereas very few are motivated through fitness goals. Based on this, the app might highlight ways to meet new people or join events with a shared sense of friendly challenge.

Do you track your fitness or outdoor activities using an app?
20 responses
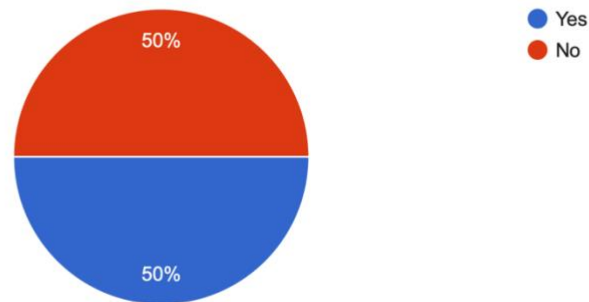
Interpretation: The result shows that 50% are using an app to track their fitness and outdoor activities, whereas the rest 50% are not. So, we might or might not provide this feature.

If yes, which fitness apps do you use? (Select all that apply)
15 responses
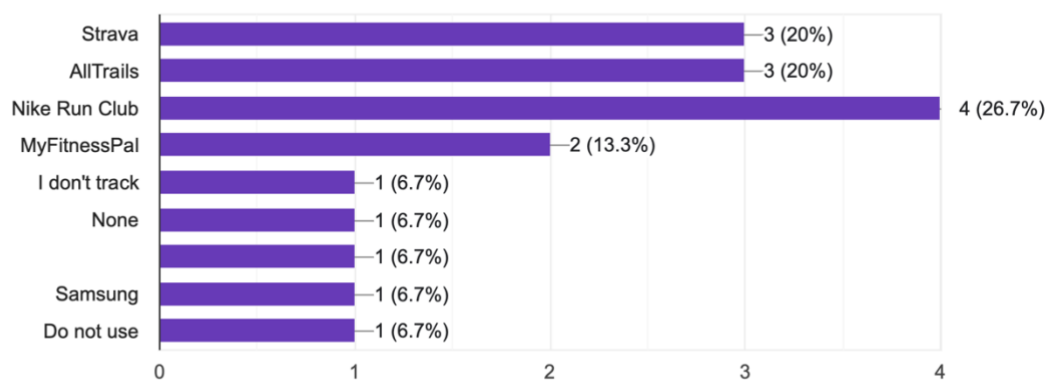
Interpretation: One single dominant app appeared as Nike Run Club following Strava and AllTrails in second place. ActiveCircle can differentiate with group-based social features and multi-sport coverage.

What features do you look for in an outdoor activity app? (Select all that apply)
19 responses
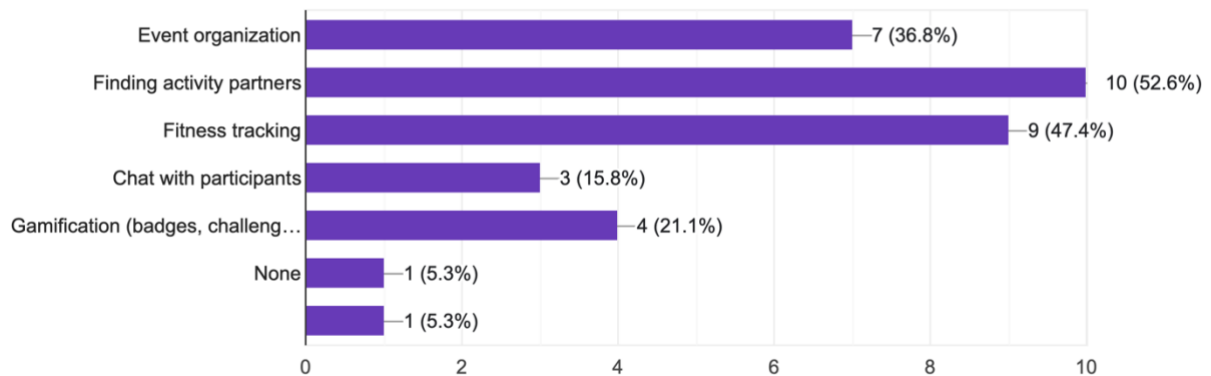
Interpretation: The top two revolve around finding activity partners & fitness tracking. Gamification and chat with participants are less demanded but still relevant. These findings suggest that the biggest gap is in coordinating events and connecting with others, more so than strict fitness metrics.

How important is it for you to have real-time notifications for upcoming events?
20 responses
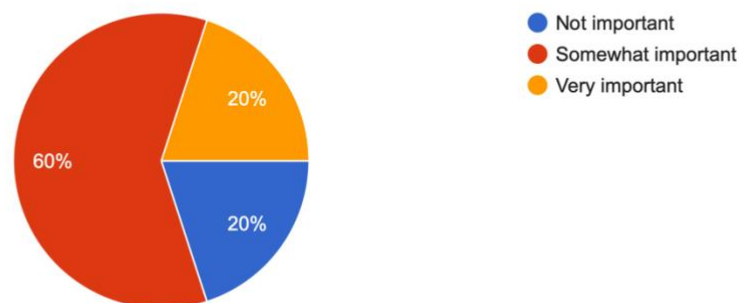
Interpretation: The majority want real-time updates with a combination of somewhat important and very important. This strongly suggests push notifications or in-app alerts for upcoming events.

Would you be interested in earning badges and rewards for participation in activities?
20 responses
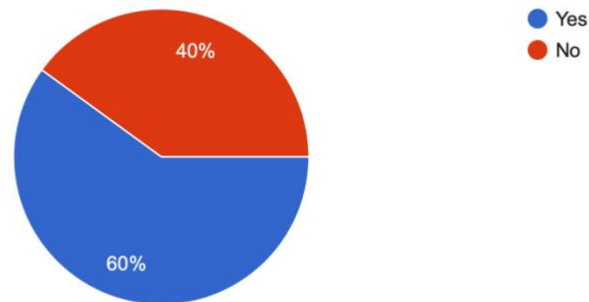
Interpretation: 60% of users want badges, whereas the rest 40% do not want. So, we might be providing this feature in our app.

How likely are you to use an app that helps you find and join group activities?
20 responses
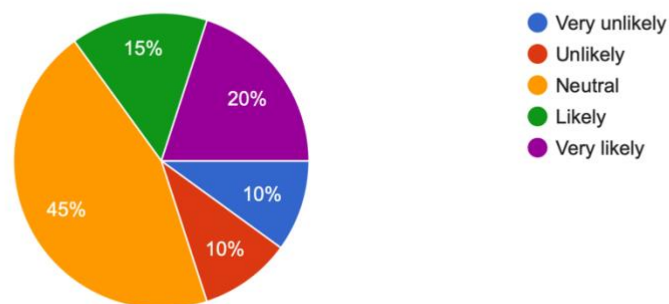
Interpretation: Combining, 80% are likely or very likely or neutral to use an app that can help to find and join group activities. Another 20% is unlikely or very unlikely, could be convinced with compelling features.

What challenges do you face when trying to participate in group activities?
20 responses

- ● Finding reliable participants
- ● Scheduling conflicts
- ● Lack of motivation
- ● Safety concerns
- ●
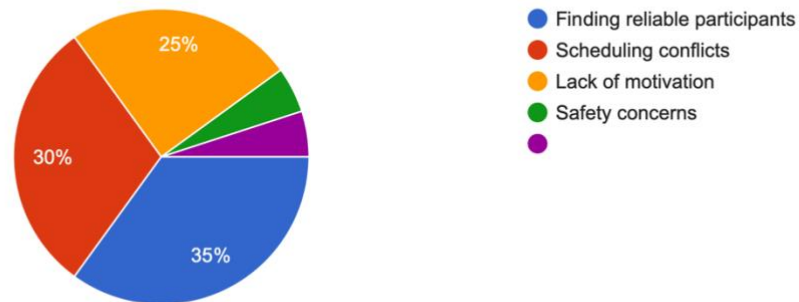
Interpretation: Scheduling conflicts and finding reliable participants are big hurdles. Integrating a user reputation system, flexible scheduling, or waitlists might help. Also, consider motivation-enhancing features like reminders or group accountability.

What is one feature you would love to see in an outdoor activity app?

(Open-ended text box)

16 responses

Social media integration
Reminders for the events.
None
Chat
background check of people
Real-time environmental alerts. This could include updates on weather changes, air quality, wildlife sightings, or trail conditions based on the user's location.
More flexible hours
To track my friends one on the trail in real-time so that if I could not join, I still track if he/she is ok.

More badges for small accomplishments
Map tracking
NA
beautiful UI
More events and host my own events
Finding activity partners

Interpretation: Most revolve around convenience (alerts, reminders) and safety/trust (background checks, location sharing). This suggests that while social and group aspects matter, user trust and security are also concerns.

Do you have any concerns about using an app like ActiveCircle?

(Open-ended text box)

14 responses

No
Not yet
Privacy
NA
no
No i don't have any.

Interpretation: While most users expressed no concerns, privacy was mentioned. The app should ensure secure handling of personal data and give users control over what information (like location or activity updates) they choose to share.

Any additional comments or suggestions?

(Open-ended text box)

6 responses

No
None
NA
no comment
The User Interface should look attractive.

Interpretation: While most had no additional comments, one response emphasized the importance of an attractive user interface. Focusing on a clean, visually appealing design will enhance user experience and engagement.

1.5 Insights from the Results

Demographics: The majority of respondents are in the 25-34 age range, suggesting a tech-savvy audience likely comfortable with mobile apps and social networking. This points to the importance of designing a mobile-friendly, social-media-integrated experience.

Group-Focused: A high interest in finding activity partners emphasizes the need for robust search, matching, and social features. As many currently rely on informal networks (e.g., word-of-mouth) and social media, there's a gap for an organized digital solution for event discovery.

Fitness Level: Roughly 45% are moderately active, 35% are lightly active. Features that support habit-building and consistent event scheduling would appeal.

Motivations: Socializing & mental well-being rank high. Encouraging friendly challenges, leaderboards, or group achievements could enhance engagement.

Notifications: 20% want very important real-time notifications while 60% want somewhat important. Incorporate push alerts for event reminders, scheduling changes, etc.

Gamification: 60% want badges; 40% do not. This calls for optional gamification so it doesn't alienate the latter group.

Challenges: Scheduling conflicts, finding reliable partners, and lack of motivation are the big three. The app should include flexible scheduling and ways to vet reliability (e.g., user ratings, in-app participation history).

Privacy & Safety: Privacy concerns and requests for background checks highlight a need for secure data policies, user blocking/reporting features, or verified identity methods.

App Differentiation: Many do not use existing fitness apps or only use them lightly. A single solution that bridges multiple sports, organizes group events, offers basic tracking, and fosters trust/safety could address these gaps.

2. Requirements Generation

Requirements generation was carried out by analyzing user stories (personas and scenarios) based on the target user types discovered during our research and from the creative design perspective of the team.

2.1 Personas and Scenarios

Below are three representative personas that reflect diverse motivations, goals, and contexts for using ActiveCircle.

Carlos

- Age: 31
- Occupation: Financial Consultant (works long hours)
- Lifestyle: Lives in the city, craves nature and group hikes on weekends
- Challenges: Struggles to coordinate reliable hiking partners, experiences last-minute cancellations, worried about trail difficulty and safety

Scenario

- Carlos is at his office on a Friday afternoon as he finalizes a stressful work week. He wants to plan a moderate-level hike for Sunday to clear his head and stay active.
- He reaches out to friends via group chats. Some are unsure, others can't make it, and a few might come but haven't confirmed. He checks local social media hiking pages, but the posts often reference older events or advanced multi-day treks far outside the city.
- By Saturday, Carlos was anxious because no one had committed anything. He considers going alone but recalls when he got lost on a rugged trail and felt uneasy about safety.
- He tries searching for fresh meetups that focus on moderate difficulty and scenic routes. Most search results point him to random Facebook events that don't show actual attendance or skill levels.
- Frustrated and short on time, Carlos either ends up going solo (which he doesn't enjoy as much) or scrapping the hike altogether. He wishes there was a single place to find well-organized group hikes, where he could easily confirm participation, see route info, and share updates if plan change at the last minute.

Kate

- Age: 27
- Current Life Stage: New mother, caring for an infant
- Past Fitness Routine: Used to join yoga and aerobics classes
- Challenges: Inconsistent schedule (naps, feedings), wants quick, baby-friendly outings, uncertain group participation.

Scenario

- Kate is at home after a sleepless night, remembering how she used to attend Saturday yoga classes. Now, with a newborn, those scheduled classes don't mesh well with her baby's unpredictable routine.
- She attempts to reach out on a local "Moms in the Park" Facebook group, hoping for a stroller-friendly walk. The group is large, and most posts either get lost or don't confirm an actual meet-up location or time.
- A few neighborhood moms say they're interested but can't decide on a good day or place. By the time Kate checks back online, the discussion thread is buried under unrelated posts.
- One weekend, she does gather the energy to drive to a small park, thinking at least one other parent might show up. She waits, but no one arrives. Unsure if it was canceled or if people just forgot, Kate ends up walking alone for a bit and feeling discouraged.
- She envisions a more reliable way to find local, baby-friendly activities on short notice, track who is actually attending, and perhaps see a small reminder or child-friendly label. She misses the group sprit that helped her stay active and motivated in the past.

Nate

- Age: 24
- Occupation: Tech Support Specialist
- Fitness Background: Loves casual sports (Soccer, Basketball), not fond of formal leagues
- Challenges: Hard to gather enough players, scattered communications, no easy scoreboard or skill-level check

Scenario

- Nate recalls his high-school days when pickup sports were easy—just a few friends, a ball, and a local park. Now, living in a new city for work, he tries to recreate that same casual vibe.

- He sends out text messages to a handful of acquaintances, inviting them for a light soccer match on Saturday. Some respond late, others prefer using different chat apps, so the details get scattered.

- Without a centralized sign-up, Nate can't tell how many people are actually in. Some say "maybe," but no one logs a firm commitment. Come Saturday, he shows up at a local field. Only two other people arrive. They can't run a proper game, so they just shoot the ball around.

- Another time, he tries a local community center notice board. The interest sign-up sheet garners random names with no contact info, so real coordination never takes off.

- Nate longs for a single system where he can post a casual soccer or basketball event, tag it "friendly, mid-level," and see an actual headcount. He'd also love a basic scoreboard or mini-challenge feature, just enough to keep things interesting without a rigid league format.

2.2. Requirements Generation (Designer Analysis)

Below is a concise requirements list derived from the three personas (Carlos, Kate, and Nate) and their fictional but realistic scenarios. Each requirement addresses the user needs and challenges identified during our analysis.

1. Event Discovery & Creation

- **Flexible Event Types**: Accommodate short-notice pop-up events (e.g., a quick stroller-friendly walk) as well as structured group hikes or casual sports.

- **Category/Tag System**: Allow organizers to label events (e.g., moderate hike, baby-friendly, casual soccer) for clarity on difficulty or style.

- **Location & Time Filters**: Enable users to search by area, date, or skill level

2. RSVP & Participant Confirmation

- **Quick Yes/No/Maybe**: Users can see how many people plan to join (important for people to ensure enough players for a match).

- **Real-Time Event Updates**: Let organizers share last-minute changes (e.g., Switching to an alternate trail due to weather).

- **Capacity Indicators**: Show recommended group size or maximum spots available (relevant for limited field space or tight trail parking).

3. Communication & Group Chat

- **Dedicated Event Chat**: Consolidate all discussions (so participants don't have to juggle multiple apps).

- **Opt-In Notifications**: Help users stay informed about group messages, event updates, group chat mentions, or upcoming challenge deadlines without being overwhelmed.

4. Profile & Preferences

- **User Profiles**: Capture typical schedules, skill levels, or child-friendly needs (For eg, infant/stroller, casual sports, moderate-level hikes).

- **Personalized Activity Feed**: Show relevant events based on user-selected categories—family-friendly, pick-up sports, etc.

- **Calendar Integration**: Sync events with personal calendars to minimize scheduling conflicts.

5. Gamification & Motivation

- **Badges & Milestones**: Offer small achievements for event participation (e.g., different workout level badges).

- **Group Challenges**: Let participants create friendly challenges (distance or participation-based), that appeal to the user for light competition without strict leagues.

6. Safety & Reliability

- GPS-based location sharing, with the ability to disable or limit who can see it.
- Emergency contact sharing or check-in reminders for events.

2.3. Synthesis of Requirements Gathering and Generation

Combining insights from the user study results (Section 1) and the designer-driven requirements (Section 2), we created a final, prioritized list of requirements for ActiveCircle:

a. Must-Haves (High Priority)

- **Event Creation & Discovery**
  A single place to **create** or **find** activities (hikes, stroller walks, casual sports) with tags like moderate hike or baby-friendly.

- **RSVP & Quick Participant Confirmation**
  Simple yes/no/maybe for each event, so users immediately see enough players for sports or confirm safe group size for hikes.

- **Dedicated Event Chat**
  One integrated discussion thread to avoid scattered messaging across multiple apps or social pages.

- **User Profiles & Preferences**
  Basic user info (e.g., skill level, child-friendly status) that auto-filters relevant events or recommended feed items.

- **Safety/Check-In Tools**
  Options for route info, child-friendly labels, location sharing (during the event), and emergency contact references.

b. Should-Haves (Medium Priority)

- **Calendar Sync**
  Users can sync events with personal calendars, helping them avoid time conflicts.

- **Capacity Indicators**
  Show recommended or max spots per event (helpful for small fields or limited parking).

- **Real-Time Event Updates**
  Organizers can push last-minute changes if a trail closes or a soccer field is unavailable.

- **Notifications & Reminders**: Users receive push notifications for event updates, registration confirmations, or group chat mentions.

c. Could-Haves (Low Priority / Nice-to-Haves)

- **Light Gamification**
  Optional badges or milestone achievements (e.g., 5 Group Hikes Completed), keeping motivation high but not overwhelming.

- **Advanced Filtering / Tagging**
  More granular tags (e.g., evening hikes, dog-friendly, indoor sports for rainy days).

- **Enhanced Group Challenges**
  Monthly distance challenges or mini leaderboards for people who enjoy friendly competition.

- **Detailed Organizer Reputation System**
  Ratings for event hosts, beyond a simple feedback loop, for building robust trust and reliability.

3. Work Date/Hours Logs

Below are recent, detailed logs from each team member. It reflects the work since the beginning of the project to the latest ongoing work for **requirements gathering**, **requirements generation**, and **document finalization**.

Work Log – Lakshantha Dissanayake.

Date	Number of Hours	Work Done
Jan 22, 2024	3	Brainstormed ideas for the mobile app. Researched feasibility of different concepts.
Jan 25, 2025	0.5	Met with Priya to discuss app ideas and helped adjust the concept based on feedback.
Feb 05, 2025	2	Set up GitHub repository and structured project files for team collaboration.
Feb 06, 2025	3	Worked on proposal content, ensuring completeness and clarity.
Feb 09, 2025	2	Finalized and submitted the project proposal after incorporating all team contributions.
Feb 10, 2025	2.5	Conducted research on user behavior and expectations for the app.
Feb 12, 2025	1.5	Assisted in drafting user study objectives and survey questions.
Feb 14, 2025	2	Reviewed survey structure for clarity and comprehensiveness.
Feb 17, 2025	3	Led discussions on refining the survey to align with user research goals.
Feb 19, 2025	2	Organized participant recruitment strategy for user study.

Date	Number of Hours	Work Done
Feb 21, 2025	2.5	Coordinated team efforts in finalizing survey for user study outreach.
Feb 24, 2025	3	Managed user study data collection and monitored responses.
Feb 26, 2025	1.5	Began preliminary analysis of survey results.
Mar 01, 2025	2	Synthesized key insights from user study findings.
Mar 04, 2025	2	Started drafting personas and scenarios based on survey data.
Mar 06, 2025	2.5	Created the final persona/Scenario for Kate.
Mar 08, 2025	2	Drafted initial requirements based on personas and scenarios, identifying features that align with user needs.
Mar 11, 2025	2.5	Conducted an internal review session to validate the drafted requirements, ensuring consistency with user expectations.
Mar 15, 2025	2.5	Collaborated with the team to finalize requirement priorities and addressed feedback for refining high-priority features.
Mar 16, 2025	2	Conducted a final review of the requirements document for clarity and logical flow, ensuring readiness for submission.

Work Log - Pravesh Poudel.

Date	Number of Hours	Work Done
Jan 22, 2024	3	Brainstorm ideas for the mobile app. Initial discussions focused on identifying unique features and potential user needs.
Jan 25, 2025	0.5	Meet with Priya to share the app ideas and get feedback. Adjusted the concept based on her suggestions to improve feasibility.
Feb 05, 2025	2	Work on project proposal. Organized our ideas into a structured format and began drafting the proposal document.
Feb 06, 2025	3	Finalize the project proposal. Revised content for clarity and ensured all required sections were included.

Feb 07, 2025	2	Format and update the proposal for submission. Focused on document consistency, grammar, and structure.
Feb 10, 2025	2.5	Initial research on market competitors and inspiration apps. Compared ActiveCircle with existing solutions to identify gaps.
Feb 12, 2025	1.5	Brainstormed UI/UX ideas and explored design inspirations. Researched industry best practices to enhance usability.
Feb 14, 2025	2	Conducted detailed research on user expectations and requirements. Analyzed competitor app reviews to find pain points.
Feb 17, 2025	3	Drafted objectives for the user study to understand user behaviors and needs. Focused on gathering relevant qualitative insights.
Feb 19, 2025	2	Prepared an initial survey draft for user study and reviewed its effectiveness. Refined survey questions for better data collection.
Feb 21, 2025	2.5	Refined the user study approach based on feedback from team discussions. Ensured survey clarity and ease of participation.
Feb 24, 2025	3	Finalized the user study survey and started outreach for participants. Coordinated participant recruitment efforts.
Feb 26, 2025	1.5	Analyzed initial responses from user study participants. Identified key trends and early user feedback.
Mar 01, 2025	2	Compiled key insights from user research and discussed findings with the team. Began drafting personas based on findings.
Mar 04, 2025	2	Started drafting personas and scenarios based on user study results. Defined user goals and potential interaction patterns.
Mar 06, 2025	3	Created the final persona/Scenario for Carlos.
Mar 08, 2025	1.5	Meet up to have a look at the created Persona/Scenarios and collaborate on requirement generation, analyzing team personas/scenarios to create requirements.

Mar 11, 2025	2	Assisted in combining insights from requirements gathering and generation into a prioritized list.
Mar 15, 2025	3	Reviewed the requirements document draft and suggested refinements.
Mar 16 2025	2	Worked on final formatting and structuring of the requirements document.

Work Log – Rahul Kumar.

Date	Number of Hours	Work Done
Jan 22, 2024	3	Brainstorm ideas for the mobile app.
Jan 25, 2025	0.5	Meet with Priya to share the app ideas and get feedback.
Feb 05, 2025	2	Contributed to project proposal draft with a focus on background research and competitive analysis.
Feb 06, 2025	3	Reviewed and refined proposal sections to ensure alignment with project objectives.
Feb 07, 2025	2	Formatted and finalized project proposal for submission.
Feb 10, 2025	2.5	Conducted competitive analysis and documented key differentiating features.
Feb 12, 2025	1.5	Collaborated on drafting survey questions for user research.
Feb 14, 2025	2	Reviewed survey structure for clarity and comprehensiveness.
Feb 17, 2025	3	Assisted in defining metrics for analyzing user study responses.
Feb 19, 2025	2	Managed participant feedback collection during user study.

Feb 21, 2025	2.5	Started organizing user study responses into meaningful data sets.
Feb 24, 2025	3	Conducted deeper analysis on survey trends and findings.
Feb 26, 2025	1.5	Refined key insights for persona development.
Mar 01, 2025	2	Contributed to drafting detailed personas and their behavior patterns.
Mar 04, 2025	2	Started defining user scenarios based on survey responses.
Mar 06, 2025	3	Created the final persona/Scenario for Nate.
March 08, 2025	1.5	Developed initial drafts of user personas based on survey analysis.
March 11, 2025	2	Created and refined user scenarios/stories for requirement generation.
March 15, 2025	3	Collaborated on combining insights into final prioritized requirement list.
March 16, 2025	2	Assisted in final document formatting

4. Closing and References

We wish to acknowledge:

- **Instructor Priya**, for ongoing feedback and guidance on both how to create the survey form for requirements gathering and how to create personas and scenario for the requirements generation throughout the requirements process.

- **Survey Participants**, for giving us valuable insights into their motivations, constraints, and desired features.

5. References

1. Strava – https://www.strava.com

2. AllTrails – https://www.alltrails.com

3. Duolingo – https://www.duolingo.com

4. Meetup – https://www.meetup.com