



Project Report

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Introduction

This report comprehensively details the development and implementation of SocialConnect, a groundbreaking social media platform engineered to transcend the limitations inherent in conventional networking applications. To achieve this, SocialConnect deploys a meticulously crafted suite of innovative features. Intelligent social matching algorithms, powered by machine learning, facilitate connections based on shared interests, values, and preferences, promoting deeper and more meaningful interactions. A dynamic content discovery engine ensures users are consistently presented with relevant and engaging content, tailoring recommendations to their individual preferences and activity history.

SocialConnect places user privacy at the forefront. Granular controls empower users to precisely manage the visibility of their profile, posts, and interactions. Additionally, the platform offers seamless multimedia sharing, enriching communication with photos, videos, and other expressive formats. SocialConnect fosters community building with tools for creating and participating in interest-based groups and events. Real-time collaboration features streamline project coordination and discussion. Accessibility is championed through inclusive design, allowing users with diverse needs to fully engage. Finally, AI-driven content moderation and reporting systems maintain a respectful and secure online environment.

Project Rationale

The SocialConnect project was initiated in response to the growing demand for social media platforms that prioritize user experience, meaningful connections, and enhanced control over personal data. These core objectives were informed by several factors:

- **Limitations of Existing Platforms:** While conventional social media platforms have revolutionized connectivity, their underlying business models often hinge on maximizing user engagement and data collection. This focus on metrics can lead to several negative consequences for the user. Content feeds may be flooded with irrelevant or even algorithmically promoted divisive content that prioritizes reactivity over quality. Connections may feel superficial, driven by fleeting interactions rather than shared values. Privacy controls can be opaque or difficult to navigate, leaving users feeling like their data is out of their control. SocialConnect seeks to offer a clear alternative, realigning the platform's incentives with those of the user.
- **The Value of Authentic Connections:** Research underscores the importance of meaningful social connections for individual well-being and societal cohesion. Instead of prioritizing fleeting interactions, SocialConnect seeks to facilitate genuine human connection by employing intelligent matching algorithms that prioritize compatibility and shared interests. This deeper level of alignment creates the potential for more rewarding and enriching interactions.
- **Empowering User Control:** Concerns surrounding data privacy and online safety have eroded trust in some social media platforms. SocialConnect aims to repair this trust by providing users with robust tools to manage their visibility and interaction preferences. This means not only clear privacy settings but an underlying ethos of transparency, fostering a greater sense of security and agency for the user.

- **Accessibility and Inclusivity:** Social media should be a space where everyone can connect and express themselves. SocialConnect incorporates accessibility features from the ground up to ensure individuals with diverse needs can fully participate. This commitment extends beyond compliance to championing true inclusivity, actively working against the digital exclusion that can marginalize certain communities.
- **Evolving Social Needs:** The ways in which people connect and collaborate are continuously evolving. SocialConnect's dynamic features, such as community building, multimedia sharing, and real-time collaboration tools, position the platform to support this evolution. The goal is to facilitate not just the online interactions of today, but to create a flexible framework for the enriching social experiences of the future.

Project Architecture

The SocialConnect architecture is designed around principles of scalability, security, user experience, and adaptability, leveraging a robust .NET ecosystem for optimal integration.

1. Client-Side (Front-End)

- **Technology Stack:** SocialConnect adopts a cross-platform approach. The core web application could utilize ASP.NET MVC or Web API with either a JavaScript framework like React, Angular, or Vue.js, or alternatively, technologies like Blazor for building rich interactive interfaces using primarily C#. Native mobile applications can still be developed with React Native or Xamarin for cross-platform deployment.
- **User Interface (UI) and User Experience (UX):** Emphasis remains on intuitive navigation, clean aesthetics, and seamless content discovery. Accessibility features are baked in, leveraging ASP.NET's accessibility helpers and ARIA for supporting assistive technologies.
- **Offline Functionality:** Progressive caching and Service Workers (or similar) can still enable some functionality with limited connectivity.

2. Server-Side (Back-End)

- **Technology Stack:** The back-end is built with ASP.NET Core, providing a modern, cross-platform framework for web applications and APIs. C# is the core development language.
- **Database:** MySQL is used as the relational database management system. Entity Framework Core (EF Core) serves as the Object-Relational Mapper (ORM), streamlining interactions between C# code and the database.
- **API Layer:** A well-designed RESTful API, built with ASP.NET Web API, acts as the communication bridge between client and server. Authentication and authorization likely use token-based mechanisms or ASP.NET's built-in Identity framework.

- **Search and Recommendation Engine:** Technologies like Lucene.NET or Solr can be integrated into the .NET environment. Alternatively, Azure Cognitive Search or similar cloud-based solutions can provide powerful machine learning-driven search and recommendation capabilities.

3. Supporting Services

- **Cloud Infrastructure:** SocialConnect can leverage cloud services (ideally Azure for optimal .NET integration, but AWS or Google Cloud are viable alternatives) for scalability, reliability, and cost-efficiency.
- **Media Storage and Processing:** Azure Blob Storage or similar services are well-suited for storing images and videos, with on-demand processing pipelines for resizing, optimization, and transcoding. Libraries like ImageSharp can be used for processing tasks.
- **Real-time Communication:** ASP.NET SignalR provides a framework for real-time communication features like chat, notifications, and collaboration updates.
- **Moderation and Safety:** AI-powered content moderation tools within the Azure ecosystem (like Content Moderator) can be integrated, alongside user reporting mechanisms. Human moderation teams supplement these systems.

4. Security and Privacy

- **Data Encryption:** Data is encrypted both at rest (using database-level encryption features) and in transit (using HTTPS/TLS).
- **Access Controls:** ASP.NET Identity's role-based access control system (RBAC) manages permissions, with multi-factor authentication as an optional enhancement.
- **Privacy by Design:** Privacy principles are upheld throughout the development process, with clear, granular controls for user data.
- **Regular Audits:** Security audits and penetration testing are conducted regularly to identify and address potential vulnerabilities.

User Stories

User Story: 1

| |
|--|
| Title: Intelligent Social Matching |
| User Story As a user I want to be intelligently matched with like-minded individuals so that I can build meaningful connections. |
| Acceptance Criteria Given that I have provided my interests, preferences, and optionally other relevant profile data, When the matching algorithm processes my information, Then I should be presented with recommendations of individuals who share similar interests and values. |

User Story: 2

| |
|---|
| Title: Personalized Content Recommendations |
| User Story As a user I want to discover dynamic and personalized content so that I can stay engaged with relevant topics. |
| Acceptance Criteria Given that I am logged into SocialConnect and have a history of interactions (likes, comments, follows, etc.), When I browse my feed or content discovery sections, Then I should see content recommendations tailored to my interests and engagement patterns. |

User Story: 3

| |
|---|
| Title: Customizable Privacy Settings |
| User Story As a user I want granular privacy controls So that I can manage my visibility and sharing preferences effectively. |
| Acceptance Criteria Given that I navigate to my account settings, When I access the privacy controls section, |

| |
|--|
| Then I should be able to customize the visibility of my profile information, individual posts, and interactions with other users (|
|--|

User Story: 4

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|--|
| Title: Secure and Efficient Login |
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|-------------------|
| User Story |
|-------------------|

As a user

I want to easily log in to my account

so that I can access the platform seamlessly.

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|----------------------------|
| Acceptance Criteria |
|----------------------------|

Given that I navigate to the SocialConnect login page,

When I enter my correct email address (or username) and password,

Then I should be authenticated and redirected to my dashboard without any errors.

User Story: 5

| |
|--------------------------------------|
| Title: New User Profile Setup |
|--------------------------------------|

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|-------------------|
| User Story |
|-------------------|

As a user

I want to create a profile

so that others can learn more about me and I can personalize my experience.

| |
|----------------------------|
| Acceptance Criteria |
|----------------------------|

Given that I am a new user on SocialConnect,

When I navigate to the profile creation page or am guided through the onboarding process,

Then I should be able to input my personal information and successfully save my profile.

User Story: 6

| |
|---------------------------------------|
| Title: Share Posts and Updates |
|---------------------------------------|

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|-------------------|
| User Story |
|-------------------|

As a user

I want to post content

so that I can share my thoughts, experiences, and media with others.

| |
|----------------------------|
| Acceptance Criteria |
|----------------------------|

Given that I am logged into SocialConnect and have a text input field or multimedia upload options available,

When I compose a post and select my desired audience settings,

Then upon clicking "Post", my content should be successfully published and become visible to my chosen audience.

User Story: 7

Title: Explore Current Trends

User Story

As a user

I want to explore trending topics
so that I can stay updated with current events and discussions.

Acceptance Criteria

Given that I navigate to a designated "Trending" or "Discover" section on SocialConnect,
When the section loads,
Then I should see a dynamically updated list of topics with high engagement or those recently gaining popularity on the platform.

User Story: 8

Title: Build Connections by Following

User Story

As a user

I want to follow other users
so that I can stay connected with their updates and content.

Acceptance Criteria

Given that I am viewing another user's profile,
When I click a clearly visible "Follow" button,

Then I should be subscribed to their updates, and their posts should begin appearing in my feed.

User Story: 9

Title: Stay Informed with Notifications

User Story

As a user

I want to receive notifications
so that I can stay informed about interactions on my content and other relevant activity.

Acceptance Criteria

Given that another user interacts with my content,
When I am logged into SocialConnect,
Then I should receive a timely and clear notification about the activity.

User Story: 10

| |
|--|
| Title: Find Content and Users |
| User Story As a user I want to search for specific content or users so that I can easily find what I'm looking for. |
| Acceptance Criteria Given that I access the SocialConnect search bar or a dedicated search function, When I enter keywords, phrases, or usernames, Then I should be presented with a list of results that closely match my search query, including relevant posts, profiles, communities, etc. |

User Story: 11

| |
|---|
| Title: Share Photo Albums |
| User Story As a SocialConnect user I want to effortlessly share a series of photos from my recent trip so that I can enhance the storytelling aspect of my digital communication. |
| Acceptance Criteria Given that I have selected multiple photos within SocialConnect, When I choose the "Share" (or similar) option, Then the platform should seamlessly upload the photos and display them as an album or gallery, with options for captions or additional context. |

User Story: 12

| |
|---|
| Title: Share Video Content |
| User Story As a content creator I want to showcase my latest video creation on SocialConnect so that I can receive feedback and engagement from the community. |
| Acceptance Criteria Given that I have a video file in a supported format, When I upload and share the video on SocialConnect, Then the video should be processed for optimal playback on the platform, and users should be able to easily view it with standard playback controls and engage with it through likes, comments, and shares. |

User Story: 13

| |
|---|
| Title: Visual Content Sharing |
| User Story As a visual learner, I want to share educational infographics and visual content with my study group on SocialConnect, so that we can collaborate more effectively. |
| Acceptance Criteria Given that I have an infographic or visual resource When I share it with my study group on SocialConnect, Then the file should be displayed clearly, allowing my group members to view, discuss, and potentially annotate the content |

User Story: 14

| |
|---|
| Title: Discover and Join Communities |
| User Story As a user I want to join a community on SocialConnect based on my specific interests, so that I can connect with like-minded individuals and foster a sense of belonging. |
| Acceptance Criteria Given that I have access to a community search or discovery function, When I search using relevant keywords or browse suggested communities, Then I should see a list of communities matching my interests. I should be able to join a public community with ease or potentially request to join a private community. |

User Story: 15

| |
|---|
| Title: Launch a New Community |
| User Story As a user, I want to create a new community on SocialConnect for a niche interest, so that I can bring together individuals with a shared passion. |
| Acceptance Criteria Given that I have access to a "Create Community" function, When I provide essential details Then the platform should successfully create the community, designate me as the administrator, and allow me to begin customizing its settings and inviting members. |

User Story: 16

| |
|--|
| Title: Engage in Community Events |
|--|

User Story

As a user,

I want to participate in events organized within my SocialConnect community, so that I can engage with fellow members and strengthen the sense of community.

Acceptance Criteria

Given that I am a member of a SocialConnect community and navigate to its designated Events section,

When I discover an upcoming event that interests me,

Then I should be able to easily RSVP, express interest, or purchase tickets (if applicable). I should also receive reminders and updates about the event.

User Story: 17

Title: Seamless Team Collaboration

User Story

As a user,

I want to collaborate with my colleagues in real-time on SocialConnect, so that we can work efficiently and seamlessly share updates on our ongoing projects.

Acceptance Criteria

Given that I have access to a dedicated project collaboration space within SocialConnect,

When I initiate or join a project,

Then the platform should provide features like shared document editing (with version control), real-time chat, task boards, or similar tools that facilitate efficient teamwork.

User Story: 18

Title: Seamless Team Collaboration

User Story

As a user,

I want to collaborate with my colleagues in real-time on SocialConnect, so that we can work efficiently and seamlessly share updates on our ongoing projects.

Acceptance Criteria

Given that I have access to a dedicated project collaboration space within SocialConnect,

When I initiate or join a project,

Then the platform should provide features like shared document editing (with version control), real-time chat, task boards, or similar tools that facilitate efficient teamwork.

User Story: 19

Title: Accessible User Experience

User Story

As a user with diverse needs,

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|--|
| I want SocialConnect to provide accessibility features so that I can navigate and interact with the platform easily. |
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| Acceptance Criteria |
|----------------------------|

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|---|
| Given that I use assistive technologies (e.g., screen readers, magnifiers), When I use SocialConnect, Then the platform should be compatible with assistive technologies, have clear and logical navigation, use ARIA attributes appropriately, provide alt text for images, and offer sufficient color contrast options. |
|---|

User Story: 20

| |
|---|
| Title: Personalized Accessibility Settings |
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|-------------------|
| User Story |
|-------------------|

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| As a user with specific accessibility needs, I want the ability to customize accessibility settings according to my preferences, so I have the best possible experience on the platform. |
|---|

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| Acceptance Criteria |
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| Given that I navigate to a dedicated Accessibility section within my user settings, When I access the options, Then I should be able to adjust font sizes, toggle high-contrast mode, control animations or flashing content, and potentially set preferences for keyboard navigation. |
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User Story: 21

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| Title: Prioritize Accessibility Through Testing |
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| User Story |
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| As a developer, I want to ensure that the app is accessible to users with diverse needs by conducting thorough accessibility testing. |
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| Acceptance Criteria |
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| Given that I have a development or testing environment set up, When I use accessibility testing tools (screen readers, keyboard-only navigation, color contrast checkers), Then I should be able to identify potential accessibility issues within the SocialConnect application and create a plan to address them. |
|---|

User Story: 22

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| Title: Safe and Respectful Online Community |
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| User Story |
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| As a platform user, I want the app to employ AI-driven content moderation to ensure a safe and respectful online environment. |
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|----------------------------|
| Acceptance Criteria |
|----------------------------|

Given that SocialConnect has content moderation systems in place,
When potentially harmful content (hate speech, bullying, graphic content, etc.) is posted,
Then the AI-powered moderation tools should automatically detect and flag it for review (or potentially remove it directly in clear-cut cases).

User Story: 23

Title: Empower Users to Report Inappropriate Content

User Story

As a user witnessing inappropriate behavior or content,
I want a simple and efficient reporting mechanism to notify moderators.

Acceptance Criteria

Given that I encounter content or user behavior that violates SocialConnect's community guidelines,
When I access the reporting function (easily located near the content or user profile),
Then I should be able to select a report category, provide context, and submit the report for review by moderators.

User Story: 24

Title: Efficient Moderation Management

User Story

As a platform administrator,
I want a moderation dashboard to efficiently manage reported content and user accounts.

Acceptance Criteria

Given that I have moderator or administrator privileges on SocialConnect,
When I access the Moderation Dashboard,
Then I should have a centralized view of reported content, the ability to take actions (remove content, warn users, ban accounts), and track moderation metrics.

User Story: 25

Title: Trust Through Transparency

User Story

As a user concerned about platform safety,
I want transparency and accountability in the moderation process to trust the platform.

Acceptance Criteria

Given that I am a SocialConnect user,
When I access the Community Guidelines (or a similar resource),

Then I should find clear explanations of what content is prohibited, an outline of the moderation process, and a mechanism to appeal moderation decisions or provide feedback.

Sprint 01:

SocialConnect_Sprint01

Workspace visible


Board

Power-Ups

Automation

Filter

Project Resource



SocialConnect

Building the Application

Team: Shuja, Abdullah, Fawad

Share Holders

Review Members

+ Add a card

Questions

How to improve the user experience?

Which framework should we be working on?

Expected Deadline?

+ Add a card

TO DO

Home Page

Welcome Page

Database Implementation

UI for all pages

+ Add a card

Pending Tasks

Database Implementaion

Welcome Page

+ Add a card

Done

Home Page

UI for all pages

+ Add a card

Sprint 02:


SocialConnect_Sprint02

Workspace visible

Board

Power-UpsAutomationFilter

Project Resource



SocialConnect

Building the Application

Team: Shuja, Abdullah, Fawad

Share Holders

Review Members

+ Add a card

Questions

Is there any issue with the color contrast of our UI?

How much time will our project take?

What are the expected errors we can face in database implementation?

+ Add a card

TO DO

Home Page

Welcome Page

Database Implementation

UI for all pages

Login /Signup Page

Post Sharing Feature

Building Connection Feature

Updating Status

Testing

+ Add a card

Pending Tasks

Database Implementaion

Updating Status

Post Sharing Feature

Building Connection Feature

Testing

+ Add a card

Done

Home Page

UI for all pages

Welcome Page

Login/Signup Page

+ Add a card

Sprint 03:

SocialConnect_Sprint03

Workspace visible


Board

Power-Ups

Automation

Filter

Project Resource



SocialConnect

Building the Application

Team: Shuja, Abdullah, Fawad

Share Holders

Review Members

+ Add a card

Questions

How much time did it take to complete the backend?

Are there any features left to implement?

What are the errors that we can get while testing the project?

How to present our project?

+ Add a card

TO DO

Home Page

Welcome Page

Database Implementation

UI for all pages

Login /Signup Page

Post Sharing Feature

Building Connection Feature

Updating Status

Testing

Final Report for the project

Presentation Slides

+ Add a card

Pending Tasks

Testing

Presentation Slides

+ Add a card

Done

Home Page

UI for all pages

Welcome Page

Login/Signup Page

Database Implementation

Updating Status

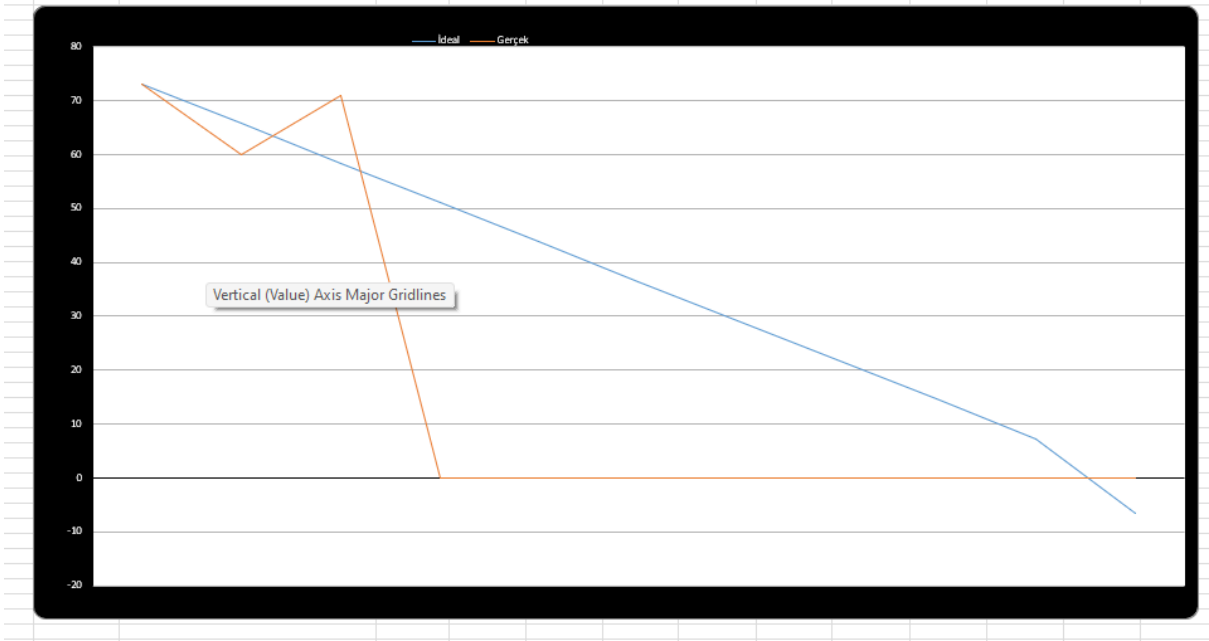
Post Sharing Feature

Build Connection Feature

Report

+ Add a card

Burndown Chart:



Gantt Chart:

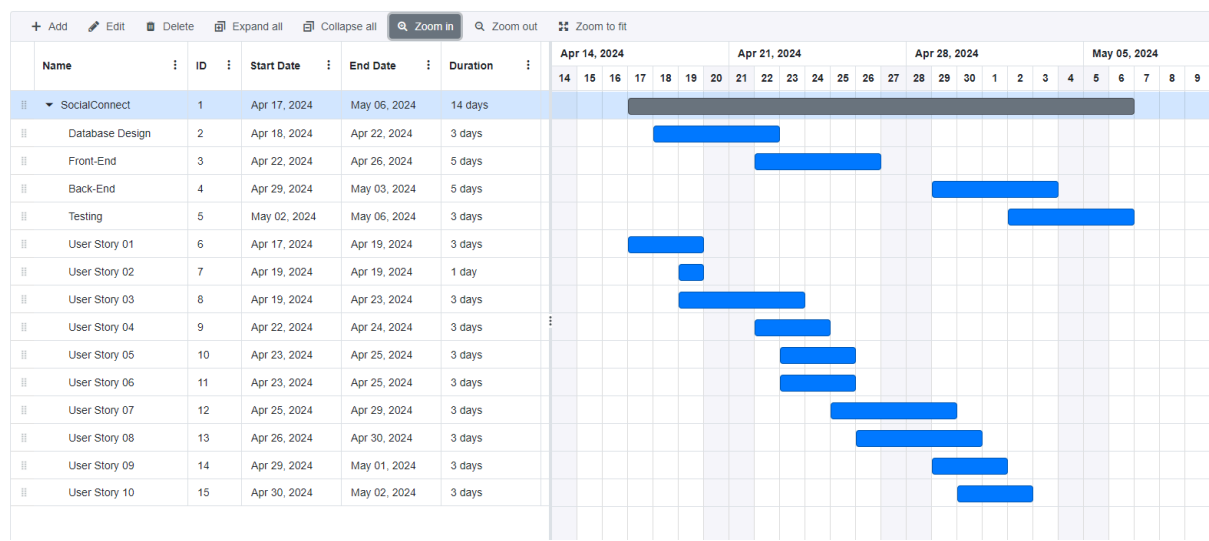


Figure: 01

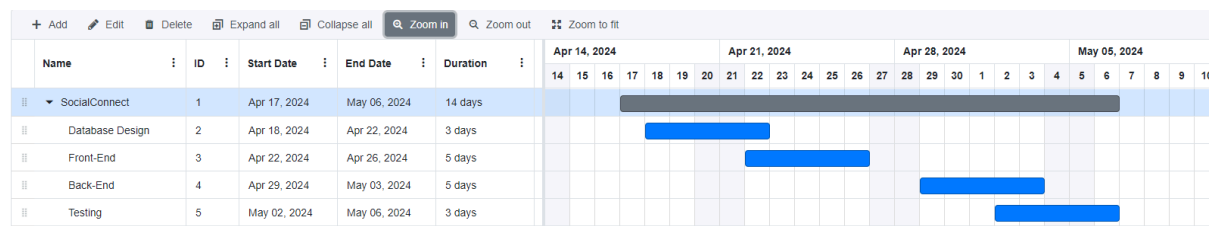


Figure: 02

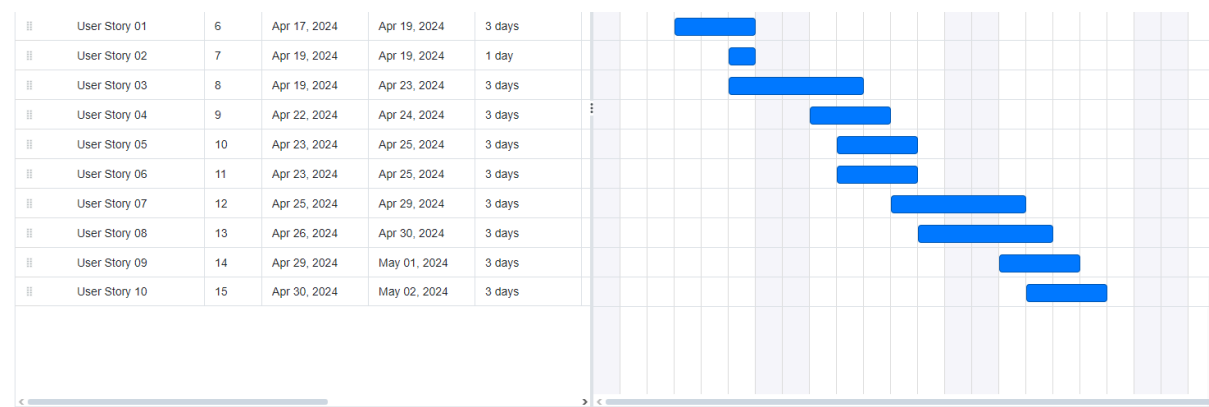


Figure: 03

GUI of the Application

Welcome Page:



Login Page:



Signup Page:



A screenshot of the 'Social Connect' signup page. The background is a gradient of purple and orange with abstract wavy lines. The title 'Social Connect' is in white and orange text. On the right, there are four input fields labeled 'Name', 'Email', 'Username', and 'Password'. Below these fields is an orange 'Sign Up' button. On the bottom left, there is a purple 'Back' button.

Social Connect

Name

Email

Username

Password

Sign Up

Back

Validity Check:



A screenshot of the 'Social Connect' login/signup page showing a validity check. A modal dialog box is open in the center-left, displaying the message 'Invalid username or password. Please try again.' with an 'OK' button. On the right, the 'Username' field contains 'Abdullah007' and the 'Password' field contains '12345'. Below these fields are two buttons: a purple 'Sign In' button and an orange 'Sign Up' button. The background and title are the same as the previous screenshot.

Social Connect

Invalid username or password. Please try again.
OK

Username
Abdullah007

Password
12345

Sign In **Sign Up**

Home Page:



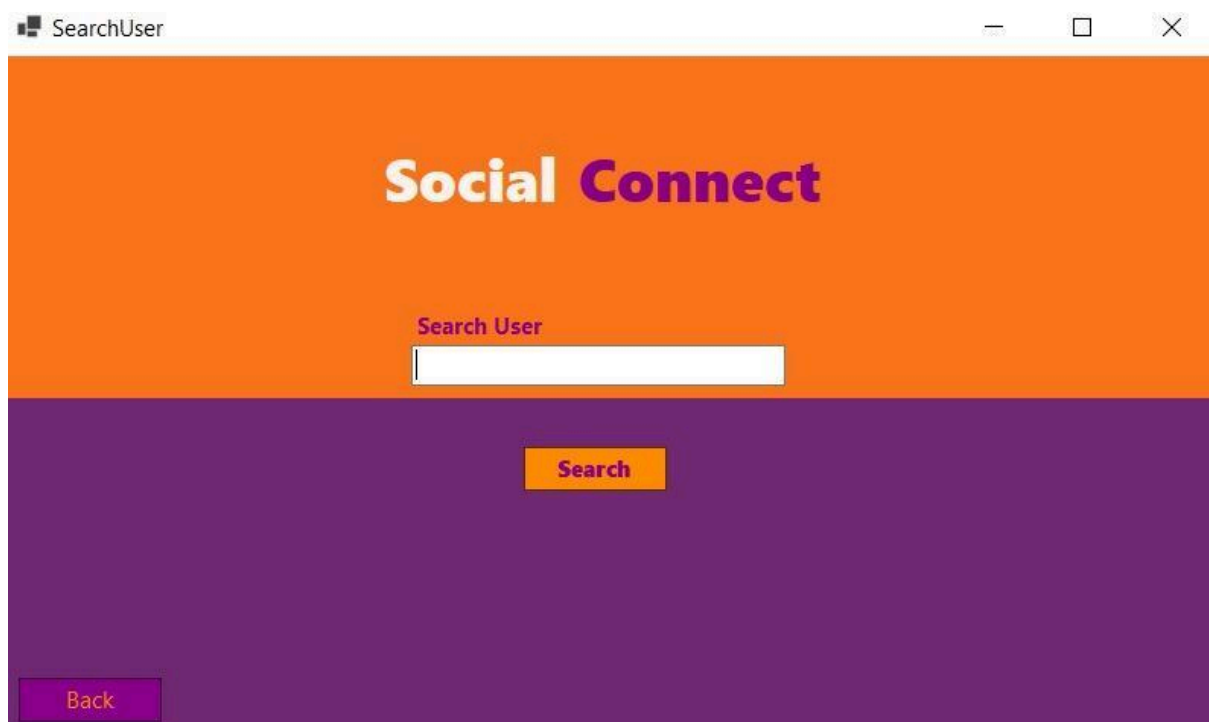
Trending:



Trending Results:



Search User:

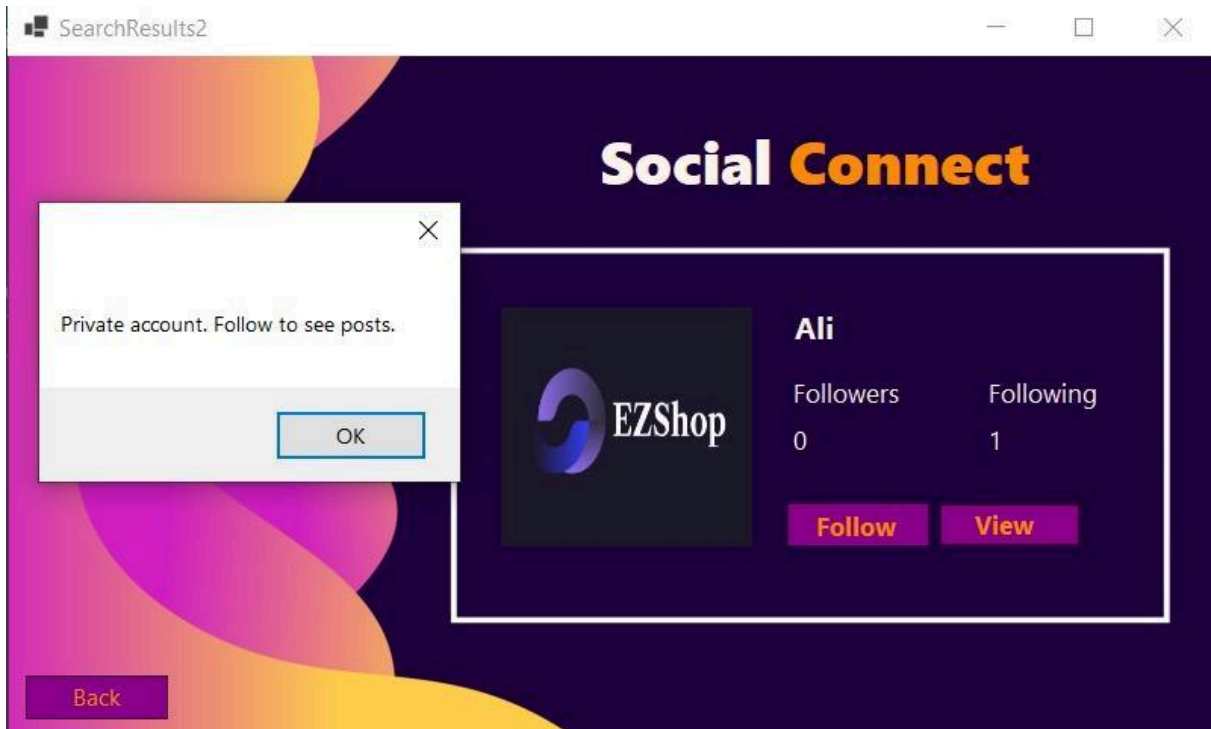


Search Results:

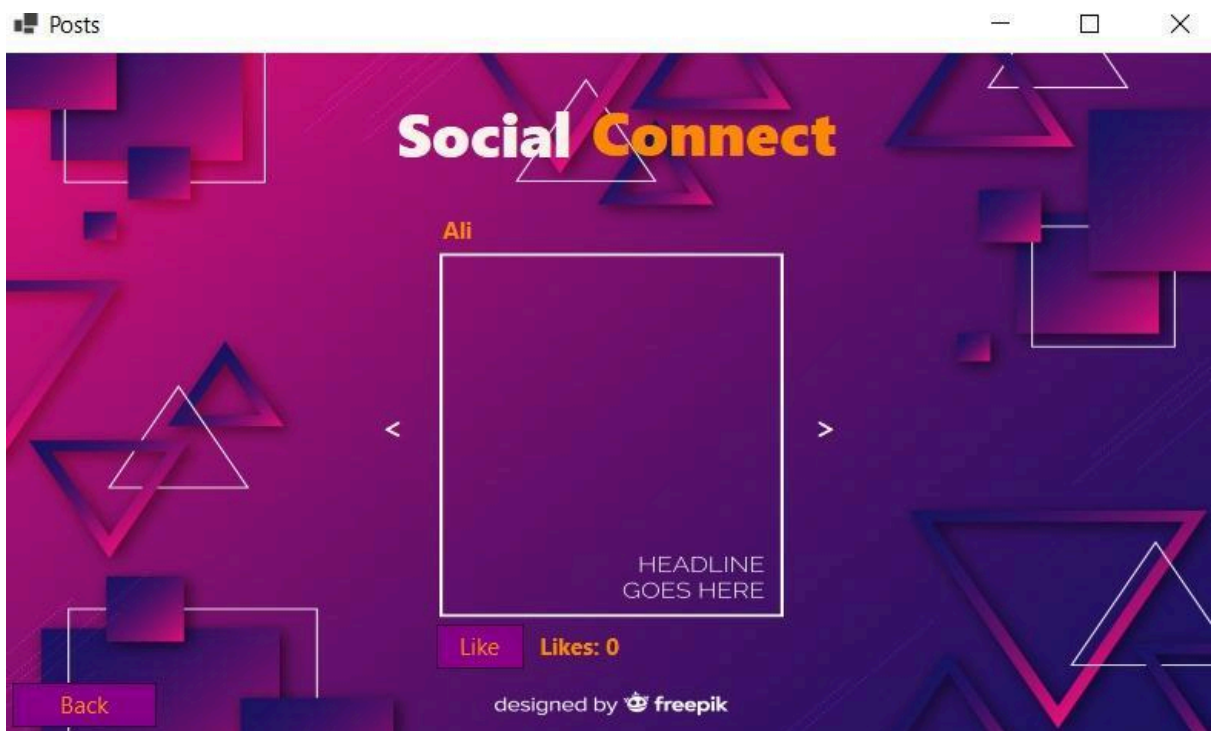


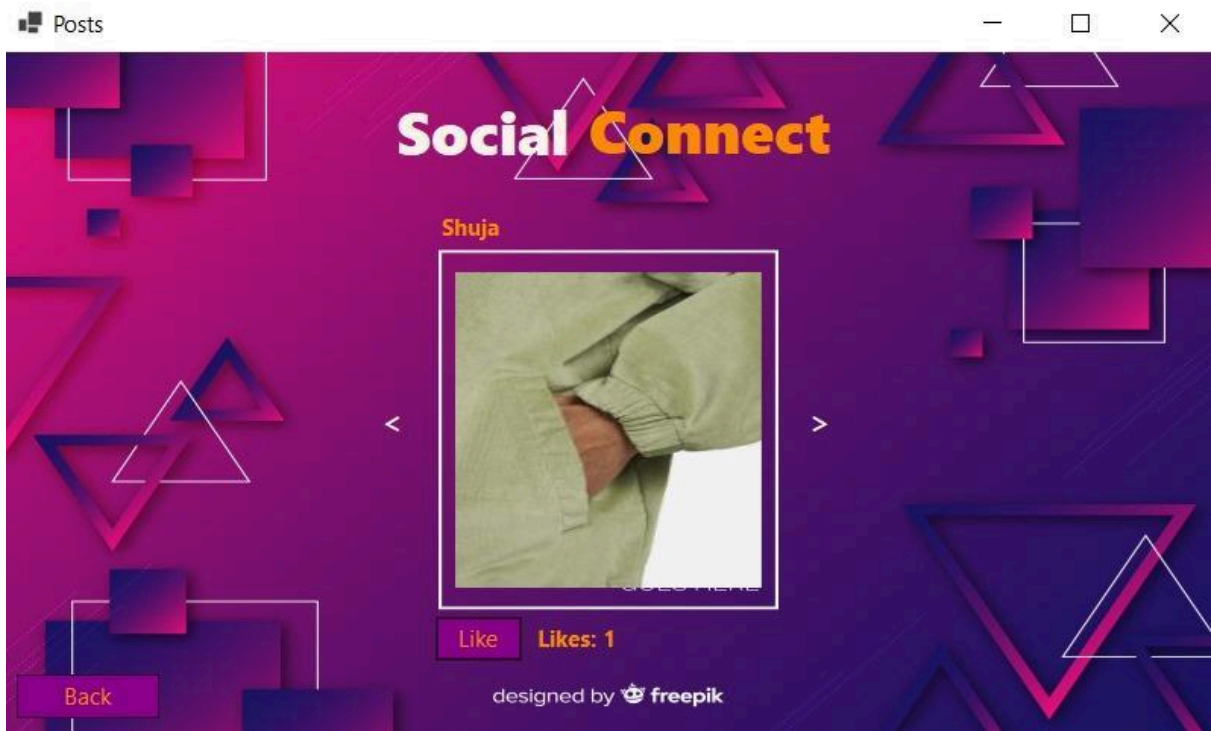
Search Results 2:





Posts:

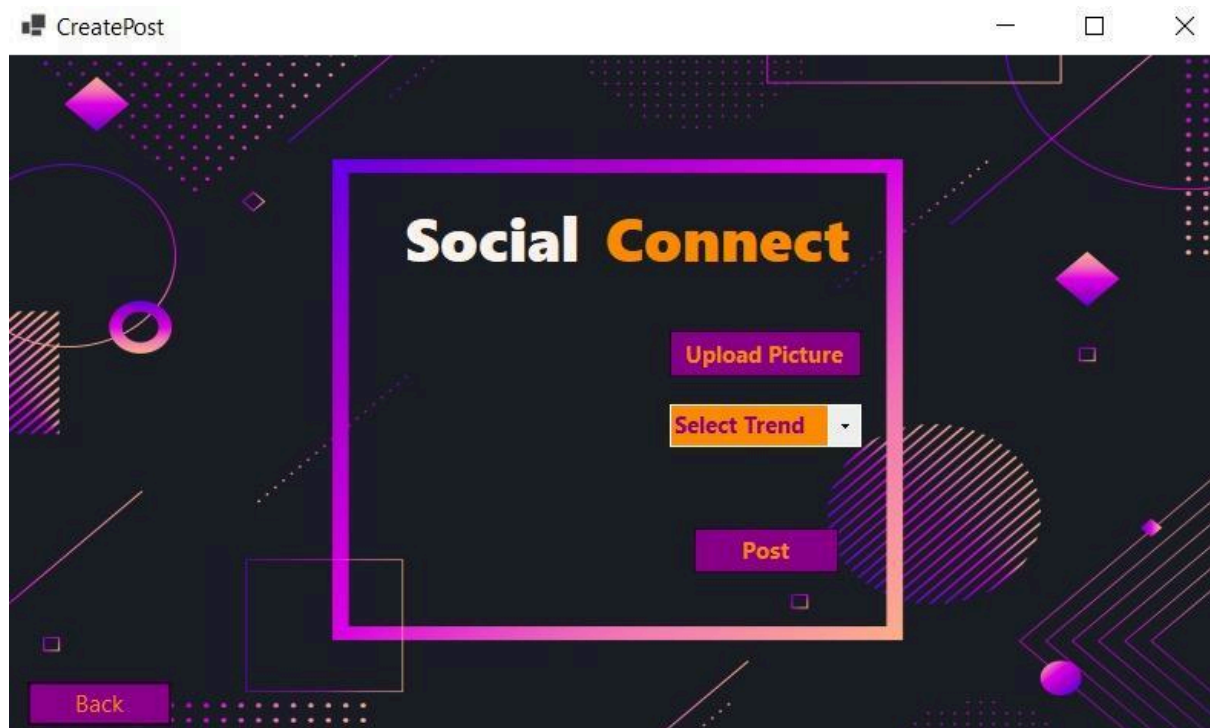
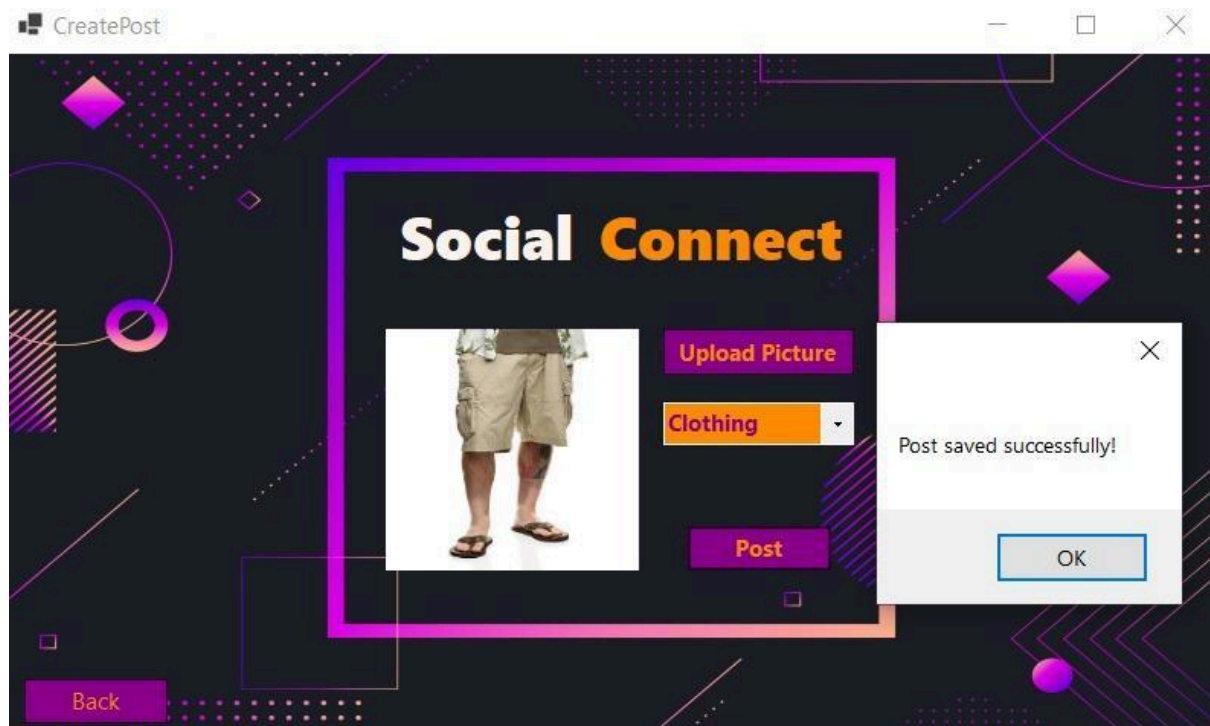




Notifications:



Create Post:



Profile:



Equivalence Class Partitioning and Boundary Value Analysis

User Story 1: Intelligent Social Matching

Key Input: User interests and preferences

Equivalence Classes:

- **Valid:** Interests expressed in a format the platform understands
- **Invalid:** Gibberish text, extremely long input, unsupported characters.

Boundary Values:

- Minimum number of interests required (if applicable).
- Maximum number of interests allowed (if applicable).

User Story 2: Dynamic Content Discovery

Key Inputs: User's logged-in status, past engagement history

Equivalence Classes

- **Logged-in User with History:** User is authenticated, and the system has sufficient data on their interests.
- **Logged-in User without History:** User is authenticated but is new or has limited engagement data.
- **Not Logged-in:** User is not logged into the platform.

Boundary Values:

If the system requires a minimum amount of engagement history, those boundaries apply.

User Story 3: Granular Privacy Controls

Key Inputs: Selections within the privacy settings menu

Equivalence Classes:

- **Valid:** Privacy settings that the system recognizes and can apply (e.g., "Public", "Friends Only", "Custom").
- **Invalid:** Attempting to modify settings that don't exist, or entering nonsensical data.

Boundary Values:

This one is less about boundaries and more about ensuring all possible valid settings are testable.

User Story 4: Seamless Login

Key Inputs: Email address (or username) and password.

Equivalence Classes:

- **Valid Credentials:** Correct email/username and password combination.
- **Invalid Email/Username:** Incorrect or non-existent email/username.
- **Invalid Password:** Valid email/username but incorrect password.

Boundary Values:

- Minimum and maximum password lengths (if applicable).
- Any specific password complexity requirements (special characters, etc.).

User Story 5: Profile Creation

Key Inputs: This likely involves multiple fields: name, bio, profile picture, etc.

Equivalence Classes (we'll focus on two fields):

- **Name (Valid):** Names within typical character sets and lengths.
- **Name (Invalid):** Extremely long names, names with unsupported characters, blank names.
- **Profile Picture (Valid):** Supported image formats (JPEG, PNG, etc.), image size within limits.
- **Profile Picture (Invalid):** Unsupported file types, corrupt images, images exceeding size limits.

Boundary Values:

- Min/max length for the name field.
- Min/max image resolution or file size for profile pictures.

User Story 6: Content Creation (Posting)

Key Inputs: Post text, multimedia uploads, audience selection.

Equivalence Classes

- **Text (Valid):** Text within supported character limits, typical content.
- **Text (Invalid):** Empty post, exceeding character limits, unsupported characters.

- **Image (Valid):** Supported formats (JPEG, PNG), within size and resolution limits.
- **Image (Invalid):** Unsupported formats, corrupt files, exceeding size limits.
- **Audience (Valid):** Valid options the platform offers (Public, Friends, Specific Groups)
- **Audience (Invalid):** Selecting options that don't exist.

Boundary Values:

- Maximum text post length
- Minimum/maximum image file size or resolution.

User Story 7: Trending Topics

Key Inputs: Likely none from the user side (trending topics are likely dynamically generated based on platform-wide activity).

Equivalence Classes

- **User Logged In:** Topics could be personalized to the user's interests or location.
- **User Not Logged In:** Trending topics might be more generic.

Boundary Values:

This story is less about input boundaries and more about ensuring the trending algorithm itself functions correctly (which might be a separate testing area).

User Story 8: Follow Users

Key Input: Selecting another user's "Follow" button.

Equivalence Classes

- **Valid Follow:** The user being followed exists, has a public profile or accepts follow requests, is not already followed by you.
- **Invalid Follow:** Attempting to follow a non-existent user, attempting to re-follow someone, attempting to follow with privacy restrictions in place.

Boundary Values:

If there's a maximum number of users a person can follow, that would be a boundary.

User Story 9: Activity Notifications

Inputs: Primarily driven by platform events (other users interacting with your content).

Equivalence Classes

- **Supported Notification Types:** Ensure notifications trigger as expected for likes, comments, shares, follows, etc.
- **Undeliverable Notification:** (If applicable) Notifications attempted when a user is offline or has them disabled.

Boundary Values:

If there's a limit to the number of notifications displayed at once, that's a boundary.

User Story 10: Search Functionality

Key Input: Search query (text entered by the user)

Equivalence Classes

- **Valid Search:** Queries with terms likely to return results.
- **Invalid Search:** Empty searches, extremely long queries, unsupported characters.
- **Zero Results Search:** Queries likely to have no matching content.

Boundary Values

Any character limits on the search field.

User Story 11: Effortless Photo Sharing

Key Inputs: Multiple photos selected for upload, optional captions/descriptions.

Equivalence Classes

- **Photos (Valid):** Supported image formats (JPEG, PNG, etc.), image sizes within acceptable limits, a reasonable number of photos for upload.
- **Photos (Invalid):** Unsupported file types, corrupt images, exceeding file size limits, attempting to upload an excessive number of photos.
- **Captions (Valid):** Text within character limits, appropriate content.
- **Captions (Invalid):** Excessively long captions, unsupported characters.

Boundary Values

- Minimum/maximum individual image file size.
- Maximum total size for a multi-photo upload.
- Maximum caption lengths (if applicable).

User Story 12: Video Creation Showcase

Key Input: Video file upload

Equivalence Classes

- **Video (Valid):** Supported formats (MP4, MOV, etc.), within file size and duration limits.
- **Video (Invalid):** Unsupported formats, corrupt files, exceeding size or duration limits.

Boundary Values

- Minimum/maximum video file sizes.
- Minimum/maximum video durations.

User Story 13: Sharing Infographics for Collaboration

Key Input: Infographic file upload.

Equivalence Classes

- **Infographic (Valid):** Supported file types (PNG, JPEG, PDF), files within size limits, clear and readable content.
- **Infographic (Invalid):** Unsupported file types, corrupt files, excessively large files, or extremely low-resolution infographics.

Boundary Values

Minimum/maximum supported file sizes.

User Story 14: Joining Communities

Key Input: Selecting a "Join" button on a community page.

Equivalence Classes

- **Public Community:** Community anyone can join.
- **Private Community:** Community with join requests or approval needed.
- **Full Community:** A community that has reached a maximum member limit (if applicable).
- **Invalid Community:** Attempting to join a non-existent community.

Boundary Values

If communities have member limits, that limit is a boundary value.

User Story 15: Creating Communities

Key Inputs: Community name, description, category, privacy settings.

Equivalence Classes

- **Name (Valid):** Names within length limits, using supported characters.
- **Name (Invalid):** Excessively long names, blank names, unsupported characters, duplicate names.
- **Description (Valid):** Descriptions within character limits.
- **Description (Invalid):** Excessively long descriptions.
- **Privacy (Valid):** Supported privacy options offered by the platform.
- **Privacy (Invalid):** Attempting to select non-existent privacy settings.

Boundary Values

Minimum/maximum lengths for community names and descriptions.

User Story 16: Community Event Participation

Key Inputs: RSVP, expressing interest, potentially ticket purchases.

Equivalence Classes

- **Valid RSVP:** Event exists, has open slots, user is a community member (if required).
- **Invalid RSVP:** Event doesn't exist, event is full, user not allowed, attempting to RSVP multiple times.
- **Ticket Purchase (Valid):** If applicable, the ticketing system functions correctly.
- **Ticket Purchase (Invalid):** If applicable, attempting to purchase more than the allowed number, etc.

Boundary Values

- Maximum number of attendees for an event.
- If tickets have limits, the maximum number one person can purchase.

User Story 17: Real-Time Project Collaboration

Key Inputs: Document edits, chat messages, task updates

Equivalence Classes: This story is complex; let's focus on one feature (document edits):

- **Valid Edits:** Changes within supported document types, collaborators have correct permissions.

- **Invalid Edits:** Attempting to edit without permissions, edits to unsupported file types.

Boundary Values:

- Character limits within documents
- Potentially file size limits, depending on how the collaboration space functions.

User Story 18: Community Discussions

Key Inputs: Creating discussion threads, comments, replies, upvotes (if applicable).

Equivalence Classes

- **Thread/Comment (Valid):** Text within limits, appropriate content, permissions to post.
- **Thread/Comment (Invalid):** Excessively long posts, unsupported characters, posting in a restricted area.
- **Upvotes (Valid):** Upvoting allowed, within limits (if applicable, like one upvote per post).
- **Upvotes (Invalid):** Attempting to upvote something not designated as votable.

Boundary Values

- Character limits on discussions posts and comments.
- Any limits on upvotes.

User Story 19: Inclusive Accessibility

Inputs: Primarily user interaction while using assistive technologies.

Equivalence Classes

- **User with Screen Reader:** Platform elements are correctly labeled with ARIA attributes, navigation is logical.
- **User with Magnification:** Content scales appropriately, remains readable when magnified.
- **User with Limited Color Vision:** Sufficient color contrast, no reliance solely on color to convey information.

Boundary Values:

This is less about boundaries and more about testing with various assistive technologies and ensuring compatibility.

User Story 20: Customizable Accessibility

Key Inputs: User selections within the accessibility settings menu.

Equivalence Classes

- **Valid Setting Changes:** Selecting supported options
- **Invalid Setting Changes:** Attempting to select settings that don't exist.

Boundary Values:

If font size changes have min/max, those are boundaries. This is mainly about ensuring each setting functions as intended.

User Story 21: Accessibility Testing

Inputs: Primarily the developer/tester interacting with the platform using assistive technologies and testing tools

Equivalence Classes

- **Pass:** Platform elements function correctly with screen readers, keyboard navigation works as expected, color contrast ratios meet guidelines, etc.
- **Fail:** Elements are missing labels or descriptions, navigation is broken for keyboard users, color contrast is insufficient, etc.

Boundary Values:

Specific color contrast ratios required by accessibility standards

User Story 22: AI-Driven Content Moderation

Inputs: Content posted by users that potentially violates community guidelines.

Equivalence Classes

- **Clear Violation:** Posts containing unambiguous hate speech, graphic content, etc.
- **Unclear Violation:** Potentially sensitive content, sarcasm, difficult to automatically categorize
- **False Positive:** Content incorrectly flagged as harmful.

Boundary Values:

This is less about boundaries and more about the accuracy of the AI model itself, which is a complex testing area.

User Story 23: User Reporting Mechanism

Key Input: User submitting a moderation report.

Equivalence Classes

- **Valid Report:** Report targets actual violating content or behavior, includes necessary details.
- **Invalid Report:** Attempts to report non-violating content, incomplete or nonsensical reports.

Boundary Values:

Any character limits on report descriptions.

User Story 24: Moderation Dashboard

Input: Moderators' actions on reported content (warnings, removals, etc).

Equivalence Classes

- **Valid Moderation Action:** Supported actions the platform allows (remove content, warn user, ban user, dismiss report).
- **Invalid Moderation Action:** Attempting to take actions the platform doesn't support.

Boundary Values:

This is primarily about ensuring each moderation action functions as intended.

User Story 25: Transparency in Moderation

Inputs: Users access to Community Guidelines, moderation appeal mechanisms.

Equivalence Classes

- **Clear Guidelines:** Guidelines are easy to find, written in understandable language, and cover the spectrum of prohibited content.
- **Unclear/Missing Guidelines:** Guidelines are difficult to locate, poorly written, or leave significant room for interpretation.
- **Functional Appeal Process:** The mechanism to appeal moderation decisions works as intended.
- **Non-functional Appeal Process:** The appeal mechanism is broken or non-existent.

Boundary Values:

This story is primarily about the clarity and functionality of processes rather than specific input boundaries.