er

Last edited by **Duarte Manuel Gonçalves Marques** 3 weeks ago

ER: Requirements Specification Component

Connectify aims to revolutionize online social interactions by establishing a new paradigm in social networking that prioritizes user empowerment, trust, and community. We envision a platform where individuals can engage authentically, build meaningful relationships, and share their lives in a safe environment, ultimately creating a more connected and supportive digital world. Our commitment to user autonomy and privacy not only sets us apart but also inspires a movement towards more responsible and user-focused online experiences.

A1: Connectify

Connectify is a web-based system designed to provide individuals with a platform for connecting, sharing, and managing their online social interactions. The primary goal of Connectify is to develop a social networking platform that empowers users with control over their privacy and interactions, offering a secure and personalized space for users to connect with friends, create content, and manage their online presence effectively.

In today's landscape, dominated by major social media platforms such as Facebook and Instagram, users often feel their privacy is compromised and their autonomy is limited. Connectify seeks to address these concerns by offering a user-centric approach to social networking. The motivation behind Connectify is to create an environment where users can exercise control over who can access their posts, profiles, and group activities. By prioritizing privacy and user empowerment, Connectify aims to foster meaningful connections and enhance the overall online social experience without sacrificing user trust and security.

Connectify is designed with a range of features that enhance user interaction and social connectivity. The platform offers a robust user account system where users can log in, log out, register, and recover their passwords if necessary. Additionally, they have the option to permanently delete their accounts, ensuring they retain control over their personal data.

Once registered, users can create and manage profiles. These profiles can be either public or private, with private profiles visible only to approved friends. Users can view and edit their profiles, update personal information, and upload profile pictures. A notification system is also integrated, allowing users to stay updated with personal notifications, such as friend requests, comments on posts, or group invitations.

Connectify's search functionality is designed to be versatile and efficient. Users can search for content using exact match search or full-text search. The platform supports searching over multiple attributes, enabling users to filter and refine their search results based on various criteria such as user, content type, or date.

Administration is streamlined with the introduction of administrator accounts that have elevated privileges. Administrators can manage user accounts, including the ability to search, view, edit, and even create new user accounts. Additionally, administrators can block or unblock users who violate community guidelines, and they also have the authority to delete user accounts if necessary.

To assist users in navigating the platform, Connectify includes helpful features like form input placeholders, contextual error messages, and specific help resources that appear in context to guide users in completing actions.

For product information, Connectify offers users insight into its mission, key features, and contact information for support or inquiries. The platform's main features include the ability to create posts (including text, images, and links), with the option to edit or delete them as needed. Connectify also integrates with external services like Google and Facebook for easy registration and authentication, making onboarding more seamless.

One of the standout features of Connectify is its group functionality. Users can create, join, and manage groups that revolve around specific interests or topics. These groups can be public or private, with group owners having full control over membership and content visibility. The platform's notification system keeps users engaged by alerting them to important events such as new friend requests or reactions to posts.

Connectify also employs a structured access system that differentiates between unauthenticated and authenticated users. Unauthenticated users can browse public content but must register to access interactive features. Once authenticated, users gain full access to features like creating posts, commenting on content, and managing friend requests, fostering meaningful social connections.
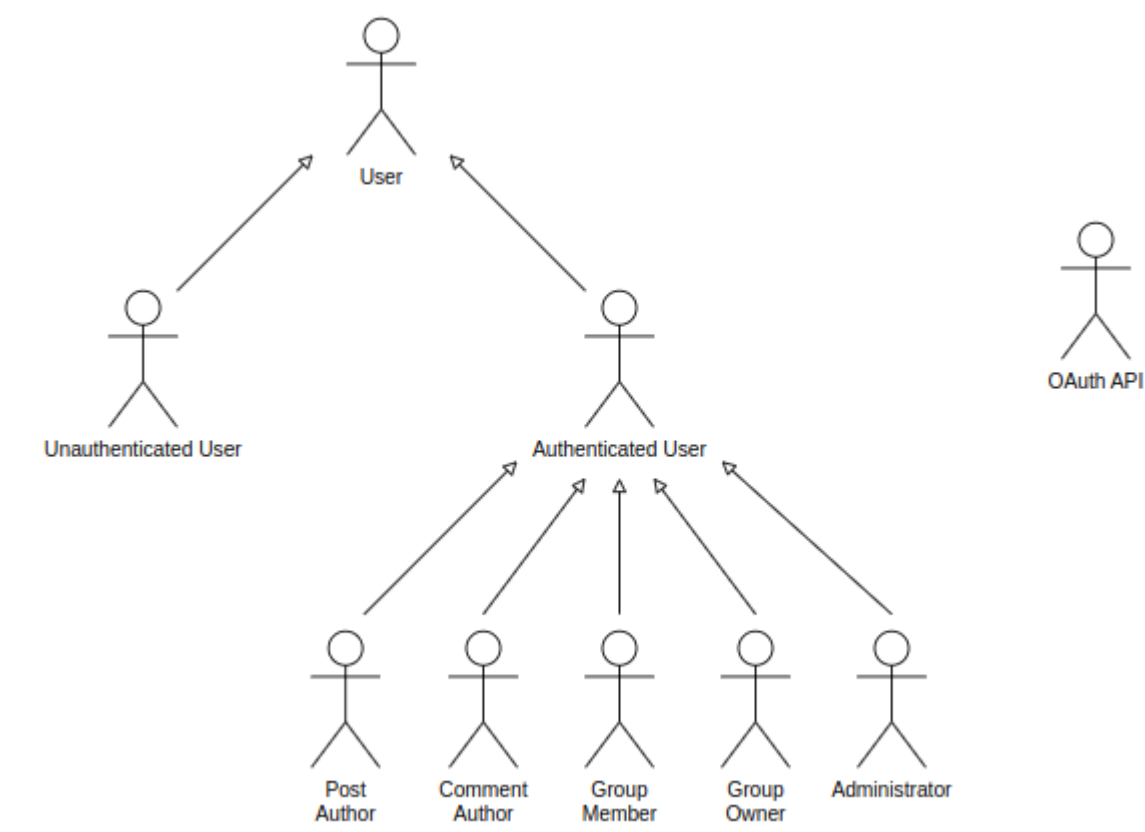
Post authors, who are authenticated users, retain control over the visibility of their posts, and they can edit or delete their content. Similarly, comment authors can manage their comments, maintaining control over their contributions to discussions. Group members can engage in discussions and share content within groups, while group owners enjoy enhanced permissions to manage group settings, membership, and content visibility.

Administrators play a crucial role in maintaining the integrity of the platform by managing user accounts and moderating content to ensure that community standards are upheld. This well-structured approach to user access and content management fosters a safe, engaging, and user-friendly online environment, allowing Connectify to prioritize both user autonomy and privacy.

A2: Actors and User stories

In this artifact, key actors, user stories, and system requirements are defined to guide secure and effective platform development.

1. Actors

User Roles and Descriptions

Identifier	Description
User	A generic entity that represents any person interacting with the system.
Unauthenticated User	A visitor who has not logged into the system. Can browse public content but cannot interact with features that require authentication, like posting or commenting. Can register itself.
Authenticated User	A registered user who has logged into the system. Has access to many features such as posting, commenting, react to posts, joining groups,view users profiles, etc.
Post Author	An authenticated user who has authored or published content in the system. Can create and manage their own posts.
Comment Author	A authenticated user who comments on posts. Can leave feedback or remarks on existing posts.
Group Member	A authenticated user who has joined a group. Can participate in group discussions, view group content, and contribute as a member.
Group Owner	A authenticated user who manages a group. Can control group membership, modify group settings, and oversee group content.
Administrator	A user with administrative privileges. Can manage users, moderate content, and perform supervisory tasks across the system.
OAuth API	An external service that allows users to authenticate or register via OAuth (e.g., using Google, Facebook, etc.).

Table 1: Actor's description.

2. User Stories

2.1 Unauthenticated User

Identifier	Name	Priority	Description	Responsible
US11	Sign-in	High	As an Unauthenticated User, I want to authenticate into the system so that I can access public or restricted content.	Marta Cruz
US12	Sign-up	High	As an Unauthenticated User, I want to register an account so that I can start using the platform.	Marta Cruz
US13	View Public Timeline	High	As an Unauthenticated User, I want to see the public timeline so that I can view posts shared by others.	Duarte Marques
US14	View Public Profiles	High	As an Unauthenticated User, I want to view other users' public profiles so that I can see their interests and posts.	Duarte Marques

Identifier	Name	Priority	Description	Responsible
US15	Exact Match Search	High	As an Unauthenticated User, I want to perform an exact match search for public users, posts, or comments so that I can quickly find specific content or individuals that match my search criteria without sifting through unrelated results.	Duarte Marques
US16	Full Text Search	High	As an Unauthenticated User, I want to utilize full-text search to explore public users, posts, or comments so that I can find relevant content based on keywords, phrases, or topics of interest, allowing for a more comprehensive search experience.	Bruna Scafutto
US17	Recover password	Medium	As an Unauthenticated User, I want to recover my password so that I can regain access to my account if I forget my login credentials.	Marta Cruz
US18	Search Over Multiple Attributes	Medium	As an Unauthenticated User, I want to search across multiple attributes (such as username, post content, and comment text) simultaneously, so that I can find relevant public users, posts, or comments more efficiently and easily navigate through the results.	Maria Vieira
US19	Search Filters	Medium	As an Unauthenticated User, I want to apply search filters (such as date, category, or relevance) to my search results, so that I can refine my search and quickly locate the most pertinent public content.	Maria Vieira
US110	Placeholders in Form Inputs	Medium	As an Unauthenticated User, I want to see placeholders in form inputs so that I can easily understand what information is required.	Maria Vieira
US111	Contextual Error Messages	Medium	As an Unauthenticated User, I want to receive contextual error messages when filling out forms so that I can correct my input mistakes.	Bruna Scafutto
US112	Contextual Help	Medium	As an Unauthenticated User, I want access to contextual help on the form pages so that I can get guidance while completing my registration or login.	Bruna Scafutto
US113	View About Us Page	Medium	As an Unauthenticated User, I want to be able to visualize a About Us page, so I can decide if I want to sign into the application.	Maria Vieira
US114	View Main Features	Medium	As an Unauthenticated User, I want to see the main features of the platform so that I can assess its usefulness.	Bruna Scafutto
US115	Support contacts	Medium	As an Unauthenticated User, I want to access the contact information so that I can inquire about the platform before registering.	Marta Cruz
US116	OAuth API Sign-up	Medium	As an Unauthenticated User, I want to sign up using my Google or Facebook account, so that I can create an account without needing to manually enter my personal information.	Bruna Scafutto
US117	OAuth API Sign-in	Medium	As an Unauthenticated User, I want to sign in using my Google or Facebook account so that I can access my account without needing to enter a separate password.	Bruna Scafutto

Table 2: Unauthenticated User stories.

2.2 Authenticated User

Identifier	Name	Priority	Description	Responsible
US21	View Personalized Timeline	High	As an Authenticated User, I want to see my personalized timeline so that I can view posts related to my interests and posts from my friends.	Duarte Marques
US22	View User Profiles	High	As an Authenticated User, I want to view user profiles so that I can see their posts and interests.	Duarte Marques
US23	Exact Match Search	High	As an Authenticated User, I want to perform an exact match search for public users, posts, groups or comments so that I can quickly find specific content or individuals that match my search criteria without sifting through unrelated results.	Duarte Marques
US24	Full Text Search	High	As an Authenticated User, I want to utilize full-text search to explore public users, posts, groups or comments so that I can find relevant content based on keywords, phrases, or topics of interest, allowing for a more comprehensive search experience.	Bruna Scafutto

Identifier	Name	Priority	Description	Responsible
US25	Create Post	High	As an Authenticated User, I want to create posts so that I can share my own content with friends or publicly.	Maria Vieira
US26	View My Own Profile	High	As an Authenticated User, I want to view my own profile so that I can see my personal details and posts.	Marta Cruz
US27	Edit My Own Profile	High	As an Authenticated User, I want to edit my own profile so that I can update my personal information.	Marta Cruz
US28	Log out	High	As an Authenticated User, I want to log out so that I can end my session and secure my account.	Maria Vieira
US29	Search Over Multiple Attributes	Medium	As an Authenticated User, I want to search across multiple attributes (such as username, post content, and comment text) simultaneously, so that I can find relevant public users, posts, groups or comments more efficiently and easily navigate through the results.	Maria Vieira
US210	Search Filters	Medium	As an Authenticated User, I want to apply search filters (such as date, category, or relevance) to my search results, so that I can refine my search and quickly locate the most pertinent public content.	Maria Vieira
US211	Send Friend Requests	Medium	As an Authenticated User, I want to send friend requests so that I can connect with friends.	Marta Cruz
US212	Manage Friend Requests	Medium	As an Authenticated User, I want to manage received friend requests so that I can accept or reject them.	Marta Cruz
US213	Manage Friends	Medium	As an Authenticated User, I want to manage my friends so that I can see who I'm friends with and remove them.	Marta Cruz
US214	Comment on Posts	Medium	As an Authenticated User, I want to comment on the posts of other users or mine so that I can express my opinion about that post.	Maria Vieira
US215	Create Group	Medium	As an Authenticated User, I want to create groups so that users who share my specific interests can join in.	Bruna Scafutto
US216	View Friends' Feed	Medium	As an Authenticated User, I want to see a feed of my friends' posts so that I can view only the content shared by them.	Duarte Marques
US217	Profile Picture	Medium	As an Authenticated User, I want to upload a profile picture so that I can personalize my profile and make it visually recognizable to others.	Marta Cruz
US218	Placeholders in Form Inputs	Medium	As an Authenticated User, I want to see placeholders in form inputs when updating my profile so that I know what information to provide.	Maria Vieira
US219	Contextual Error Messages	Medium	As an Authenticated User, I want to receive contextual error messages when submitting forms (e.g., creating posts or comments) so that I can easily identify and fix issues.	Bruna Scafutto
US220	Contextual Help	Medium	As an Authenticated User, I want access to contextual help within the application so that I can better understand the features available to me.	Bruna Scafutto
US221	Delete Account	Medium	As an Authenticated User, I want to delete my account so that I can permanently remove my profile and data from the platform.	Duarte Marques
US222	View About Us Page	Medium	As an Authenticated User, I want to view the "About Us" page so that I can learn about the platform and its creators..	Maria Vieira
US223	View Main Features	Medium	As an Authenticated User, I want to see the main features of the platform so that I can understand its capabilities.	Bruna Scafutto
US224	Support contacts	Medium	As an Authenticated User, I want to access the contact information so that I can reach out to the platform's support team.	Marta Cruz
US225	Save Posts	Medium	As an Authenticated User, I want to save posts so that I can easily access them later.	Duarte Marques
US226	View Saved Posts	Medium	As an Authenticated User, I want to view my saved posts so that I can revisit content of interest.	Duarte Marques

Identifier	Name	Priority	Description	Responsible
US227	Remove Saved Posts	Medium	As an Authenticated User, I want to remove posts from my saved list so that I can manage my saved content effectively.	Duarte Marques
US228	React to Post	Medium	As an Authenticated User, I want to react to posts so that I can share my thoughts on that post.	Maria Vieira
US229	React to Comments	Medium	As an Authenticated User, I want to react to comments so that I can share my feelings about the content of that post.	Maria Vieira
US230	Tag Friends in Posts	Low	As an Authenticated User, I want to tag my friends in posts so that I can accurately mention who was involved.	Bruna Scafutto
US231	View Tagged Posts	Low	As an Authenticated User, I want to be able to view posts my friends tagged me so that I can easily see posts my friends recommends me	Bruna Scafutto
US232	Request to Join Public Group	Medium	As an Authenticated User, I want to request to join a public group so that I can share my content and interact with the posts from the other members.	Duarte Marques
US233	Receive notifications of likes	Medium	As an Authenticated User, I want to receive notifications when someone likes my post so that I can stay informed about the users that are interested in the content I share.	Marta Cruz
US234	Receive notifications of comments	Medium	As an Authenticated User, I want to be notified when someone comments on my post so that I can respond to them.	Marta Cruz
US235	Receive notifications of friend requests	Medium	As an Authenticated User, I want to receive notifications when I get friend requests so that I can accept or reject them.	Marta Cruz
US236	View Groups	Medium	As an Authenticated User, I want to view the groups that I'm in, so that I can have access to the one I want.	Duarte Marques
US237	View reactions of posts	Medium	As an authenticated user, I want to see who and how many reacted to a post so that I can understand who engaged with it and their reactions.	Maria Vieira
US238	View reactions of comments	Medium	As an authenticated user, I want to see how many reacted to a comment so that I can understand what was the engagement of the comment.	Maria Vieira
US239	Request to Join Private Group	Medium	As an Authenticated User, I want to request to join a private group so that I can share my content and interact with the posts from the other members.	Maria Vieira

Table 3: Authenticated User stories.

2.3 Post Author

Identifier	Name	Priority	Description	Responsible
US31	Delete Post	High	As a Post Author, I want to delete my post so that it is no longer visible to other users.	Maria Vieira
US32	Edit Post	High	As a Post Author, I want to edit my post so that I can update the information.	Maria Vieira

Table 4: Post Author stories.

2.4 Comment Author

Identifier	Name	Priority	Description	Responsible
US41	Delete Comment	Medium	As a Comment Author, I want to delete my comments on posts so that I can remove comments that I think are no longer appropriate.	Bruna Scafutto
US42	Edit Comment	Medium	As a Comment Author, I want to edit my comments so that I can correct or update them.	Bruna Scafutto

Table 5: Comment Author stories.

2.5 Group Member

Identifier	Name	Priority	Description	Responsible
US51	Post on Group	Medium	As a Group Member, I want to post content in the group so that I can share my ideas with the other members.	Marta Cruz
US52	View Group Members	Medium	As a Group Member, I want to view the list of users in the group so that I can keep track of all members participating in it.	Marta Cruz
US53	Leave Group	Medium	As a Group Member, I want to leave a group so that I no longer participate in it.	Marta Cruz
US54	View Group Posts	Medium	As a Group Member, I want to be able to see the posts of the group so that I can see the ideas that the others members are sharing.	Duarte Marques

Table 6: Group Member stories.

2.6 Group Owner

Identifier	Name	Priority	Description	Responsible
US61	Remove Member	Medium	As a Group Owner, I want to remove a member so that they no longer have access to the group content.	Duarte Marques
US62	Add to Group	Medium	As a Group Owner, I want to add my friends to the group so that I can share the content of the group with more people.	Duarte Marques
US63	Remove Post From Group	Medium	As a Group Owner, I want to remove posts so that I can eliminate inappropriate content.	Duarte Marques
US64	Change Group Visibility	Low	As a Group Owner, I want to change the group's visibility so that I can make it public or private.	Bruna Scafutto
US65	Edit Group Info	Low	As a Group Owner, I want to edit and update the group information so that I can keep the group details accurate and up-to-date.	Maria Vieira
US66	Manage Join Requests	Medium	As a Group Owner, I want to manage join requests so that I can decide who can participate in the group.	Bruna Scafutto

Table 7: Group Owner stories.

2.7 Administrator

Identifier	Name	Priority	Description	Responsible
US71	Administer User Accounts	High	As an Administrator, I want to search, view, edit, and create user accounts so that I can manage users and assist them with account-related issues.	Marta Cruz
US72	Manage User Content	Medium	As an Administrator, I want to manage and remove inappropriate content so that I can maintain community guidelines.	Maria Vieira
US73	Block and Unblock User Accounts	Medium	As an Administrator, I want to block or unblock user accounts so that I can manage access for users who violate platform policies or reinstate access after issues are resolved.	Bruna Scafutto
US74	Delete User Account	Medium	As an Administrator, I want to permanently delete user accounts so that I can remove users who are no longer allowed to use the platform.	Duarte Marques
US75	Promote user to administrator	Medium	As an Administrator, I want to promote users to administrators so that I can delegate responsibilities and manage the platform more effectively.	Maria Vieira
US76	Remove Post From Group (Administrator)	Medium	As an Administrator, I want to remove posts so that I can eliminate inappropriate content.	Duarte Marques

Table 8: Administrator stories.

3. Supplementary Requirements

3.1. Business rules

Identifier	Name	Description
BR01	Profile Visibility	Private profiles can only be viewed by users who have been approved as friends by the profile owner. Public profiles can be viewed by any user, whether authenticated or not.
BR02	Friendship Requests	A user cannot send more than one friend request to the same person unless the previous request was declined or canceled.
BR03	Group Membership	Group owners control group membership and must approve all requests to join private groups. Public groups allow any user to join without approval. Once a member leaves or is removed from a group, their posts and interactions remain in the group unless specifically deleted by the group owner.
BR04	Reaction Limits	Users can react to a post or comment with one reaction at a time. Reactions can be changed, but users cannot add multiple reactions to the same post.
BR05	Account deletion	Upon account deletion, shared user data (e.g. comments, reviews, likes) is kept but is made anonymous.
BR06	User Liking/Reacting/Commenting on Own Content	A user can like/react/comment on their own posts or comments to express satisfaction or agreement with their own content.

Table 9: Business Rules.

3.2. Technical requirements

Identifier	Name	Description
TR01	**Security**	**The system must ensure secure access, implementing user authentication, data encryption, and protection against cyber threats. Security is paramount in safeguarding user data and maintaining trust. The guarantee of this requirements allows users to trust and use the system**
TR02	Scalability	The system must be scalable, supporting an increasing number of users without compromising performance.
TR03	Location	The system must able to run in Portugal at minimum, with the potential to extend to other regions if possible.
TR04	**User data**	**The system must safely store all user data, including timestamps for every modification made in the system. Safely storing user data and tracking modifications is essential for accountability and data management. This requirement ensures that user information is handled responsibly and can be audited if necessary.**
TR05	Data Integrity	The system must ensure data accuracy, preventing unauthorized modifications or corruption of stored data, using validation and integrity constraints.
TR06	Privacy Policy	The system must comply with the privacy policy, ensuring that user data is not used for any unauthorized external purposes.
TR07	Backup and Recovery	The system must provide automatic daily backups of all critical data and have a recovery process in case of data loss or system failure, ensuring minimal downtime and data loss.
TR08	Compatibility	The system should be compatible with different platforms and browsers, supporting modern versions of Chrome, Firefox, Safari, Edge, as well as mobile devices (iOS and Android).
TR09	API Integration	The system should offer RESTful APIs to allow integration with third-party applications (such as google authentication), ensuring ease of interoperability and extensibility.
TR10	Logging and Monitoring	The system must include logging of user actions and system events, providing real-time monitoring tools and alerts for unusual activity or performance issues.
TR11	Password Complexity	The system must enforce password rules requiring a minimum of 6 characters. Passwords must include at least one uppercase letter, one number, and one special character to enhance security.
TR12	Password Security	The system must securely store user passwords using a cryptographic hashing algorithm to prevent plain text password storage.
TR13	Real-Time Updates	The system must support real-time updates for content and notifications, using WebSocket protocol to ensure that users receive up-to-date information
TR14	Performance	The system should have a response time shorter than 2 s.
TR15	Usability	The system should be simple and intuitive to use.

Identifier	Name	Description
TR16	**Accessibility**	**The system must ensure that all types of users can access the page using the internet. Ensuring accessibility allows all users, regardless of their abilities or disabilities, to interact with the system effectively. This requirement promotes inclusivity and compliance with accessibility standards, making the system usable for a diverse audience.**
TR17	Web application	The system should be implemented as a web application.

Table 10: Technical Requirements.

3.3. Restrictions

Identifier	Name	Description
C01	Password	The system must have a strong password policy and enforce minimum password strength using at least 8 characters, including uppercase, lowercase, numbers, and special characters.
C02	Registering	Prevent users from registering multiple accounts using the same email.
C03	Login attempts	Apply rate limiting on login attempts to prevent brute force attacks.
C04	Expiration limit	Set token expiration limits.
C05	Permissions	As listed before, different types of users must have different types of permissions over the application.
C06	Posts	The system is projected to impose restrictions on the size and type of posts allowing only images and texts.

A3: Information Architecture

This document outlines the information architecture for Connectify. The primary objectives of this artifact are to:

- Identify and articulate user requirements while discovering new needs as the platform evolves;
- Visualize and evaluate the user interface (UI) early in the development process to ensure it meets user expectations;
- Facilitate rapid iterations on UI design, allowing for adjustments based on user feedback and usability testing.
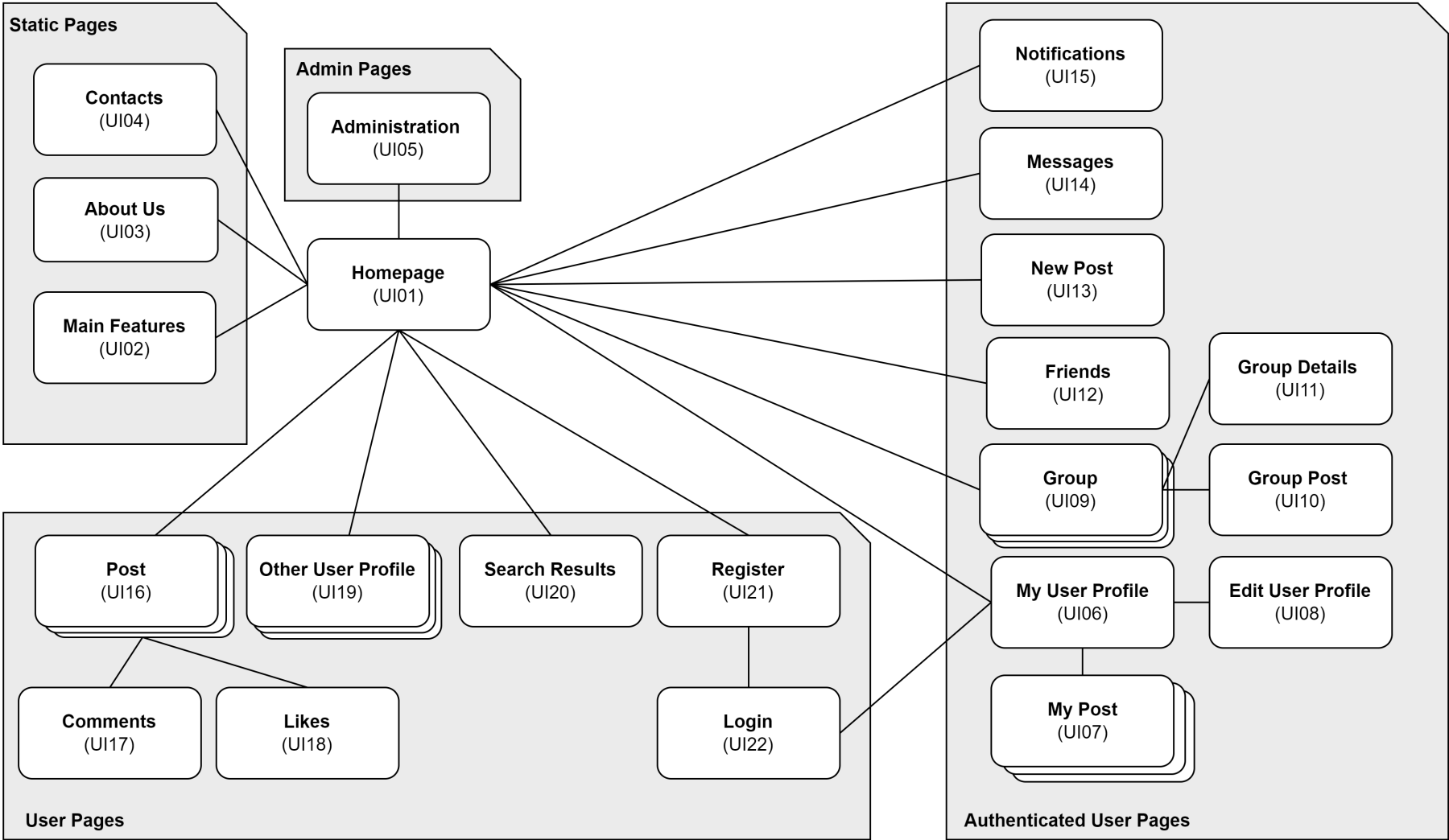
1. Sitemap

Image 1: Sitemap of Connectify.

2. Wireframes

UI01: Main Page

Image 2: Wireframe of Homepage.

UI06: User Profile

Image 3: Wireframe of User Profile.

1. **Connectify**: Button that redirects the user to the Main Page.
2. **Search**: Input field and button that allows users to search for users, groups, and other content.
3. **My Profile**: Navigation link that redirects the user to their personal profile page, displaying their posts and personal information.
4. **Settings**: Button that provides access to account or application settings, enabling customization and management of user preferences.
5. **Username**: Button that redirects to the profile page of the user of the post.
6. **Post**: A dynamic content block that displays multimedia content (text, images, or both) shared by users in posts. By pressing it, it will expand, showing the likes, comments, and more information about the post.
7. **Main Page**: Button to access the main page, where the user can view content that is public but also from friends.
8. **Friends Page**: Button to access the friends page, where the user can view content only from friends.
9. **Messages**: Shortcut to the private messaging interface, where users can send and receive direct messages from other users.
10. **Notifications**: Button that opens the notifications panel, where alerts regarding user interactions (e.g., likes, comments, friend requests) are displayed.
11. **New Post**: Action button to create a new post, allowing the user to upload content (text, images, etc.) to share with their network.
12. **Saved**: Button to access all posts the user has saved for future reference.
13. **Friends**: A section displaying a grid or list view of the user's friends, including their profile pictures. By clicking on it, it will show a list of all your friends.
14. **Friend**: Clickable profile images of friends, which navigate the user to the respective friend's profile page upon interaction.
15. **Groups**: Section displaying the user's group memberships, providing a quick overview of groups they are involved in.
16. **Group**: Visual representation of each group; clicking the icon redirects to the group's page, displaying group activities and discussions.
17. **Like**: Button that allows users to like a post.
18. **React**: Button that provides users with a range of emoji-based reactions (e.g., love, laugh, surprise) so they can react to the post.
19. **Comment**: Button that opens a text input field, enabling users to leave written responses or feedback on the post.
20. **Send**: Button that allows users to share the post via direct message or external methods (e.g., email), sending the content to specific individuals or groups.
21. **Save**: Button that allows users to save the post to a personal collection for later reference, enabling easy access to content they wish to revisit or keep track of.
22. **Interest**: Text-based labels representing the user's declared interests; these may be clickable, linking to content or topics related to the interest.
23. **Edit Profile**: Button that grants access to the profile editing interface, where the user can modify their personal information, such as profile picture, etc.
24. **My Posts**: Section that aggregates and displays all the posts authored by the user, organized in a grid or list format.

Revision history

Changes made to the first submission:

- 21/10/2024: Adding Responsible column to User Stories.
- 30/10/2024: Assigning the users stories to each member in the Responsible column.
- 31/10/2024: Change responsible table from number of group member to name.
- 02/11/2024: Added logout to user stories, identified editor, put Restrictions in correct format and artifact goals in A2.
- 16/11/2024: Updated user stories priority - High priority should be for the ones to implement on the vertical prototype (A8).
- 9/12/2024: Deleted US33 (manage post visibility), as a private account has all posts private and a public account has all posts public.
- 18/12/2024: Added user stories to view reactions (US237, US238) and promote user to administrator (US75).
- 23/12/2024: Change in the user story "Add to Group" (US62) - I want to add **new members** to the group(...) -> I want to add **my friends** to the group(...), Added user story 54 - View Group Posts, changed user stories related to tagging users to low priority, added user story 239 - Request to Join Private Group.

GROUP2453, 06/10/2024

- Group member 1 Maria Vieira, up202204802@g.uporto.pt
- Group member 2 Marta Cruz, up202205028@g.uporto.pt
- Group member 3 Bruna Scafutto, up202402704@g.uporto.pt
- Group member 4 Duarte Marques [editor], up202204973@g.uporto.pt