TalkWave

The Chat App

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TALKWAVE

Introduction

DEEGHAYU ADHIKARI – PS/2019/094

Existing chat apps are limited in their functionality and capabilities.

Project Summary

Talkwave is a Web-based chat app that allows users to connect with friends and family through text, voice, and video messaging. It is designed to be easy to use and accessible to everyone, regardless of their location or technical expertise.

TalkWave has a user-friendly interface that is easy to navigate, even for first-time users
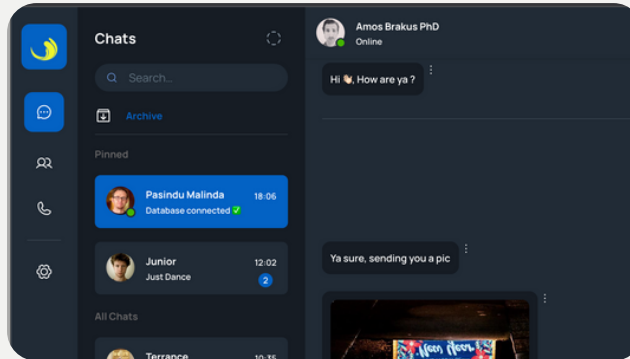
Goals:

- To create a chat app that is easy to use, accessible, and secure.
- To provide users with a variety of fun and engaging features.
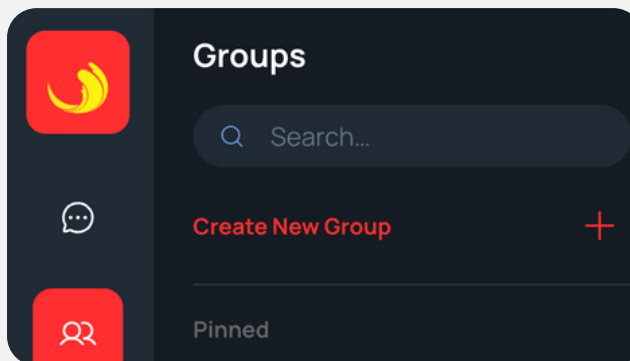- To focus on building communities and connecting people with shared interests.
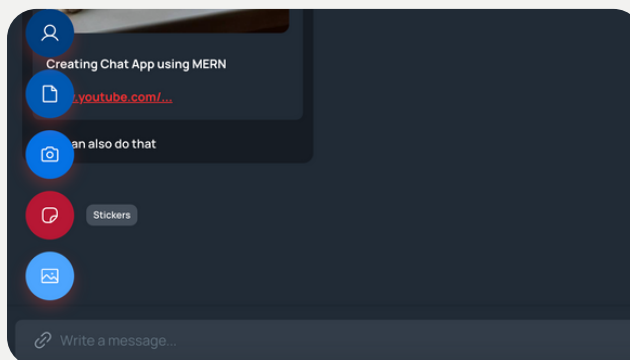
Key Features

O1

Real–time messaging:

This is the core feature of our chat app, allowing users to send and receive messages in real time.

O2

Group chats:

This feature allows users to chat with multiple people at once. This is useful for coordinating group projects, planning events, or simply staying in touch with a large group of friends.
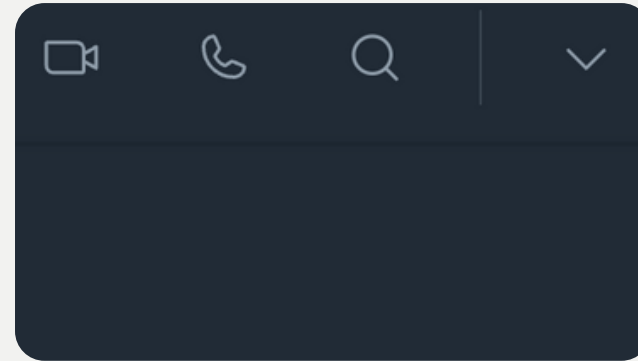

O3

File sharing:

This feature allows users to share files, such as images, videos, and documents, with each other. This is useful for collaborating on work projects, sending files to friends and family, or sharing media content.
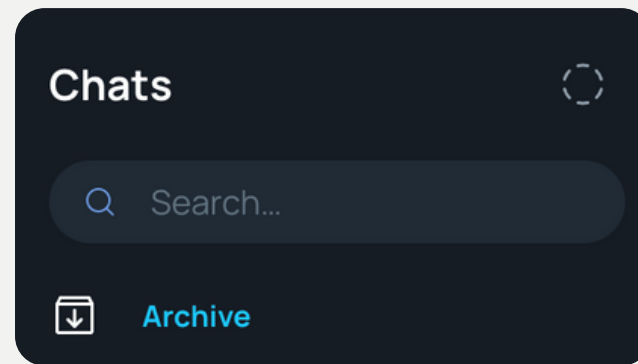
NEXT

Key Features Cont.

04

Voice and video calls:

his feature allows users to make voice and video calls to each other. This is useful for having more personal conversations, conducting video meetings, or simply seeing each other's faces.

05

Message search:

This feature allows users to search their chat history for specific messages. This is useful for finding important information or conversations.
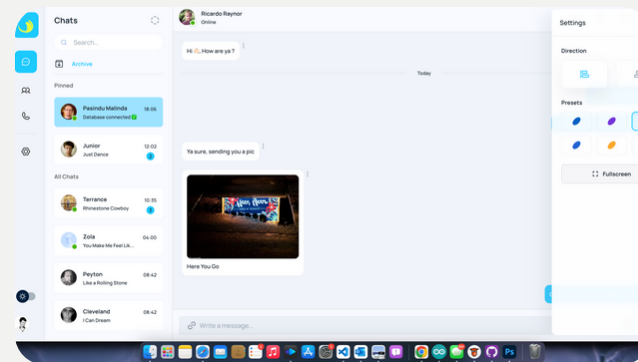
06

Customization:

This feature allows users to customize the chat app by changing the theme, colour, and side of the content. This makes the app more personal and enjoyable to use.

Key Features Cont.

07

Social login:

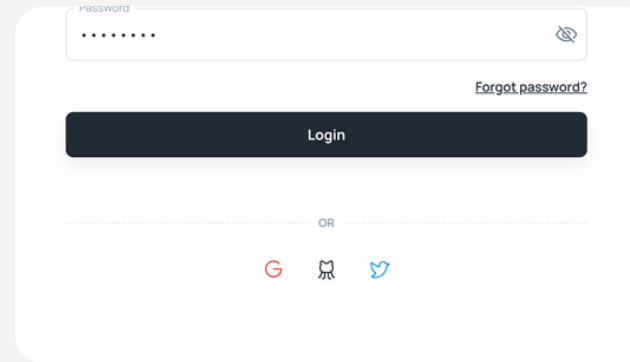his feature allows users to log in to your chat app using their existing social media accounts, such as Twitter, Google, or GitHub. This makes it easier for users to sign up and start using your app, as they do not need to create a new account.
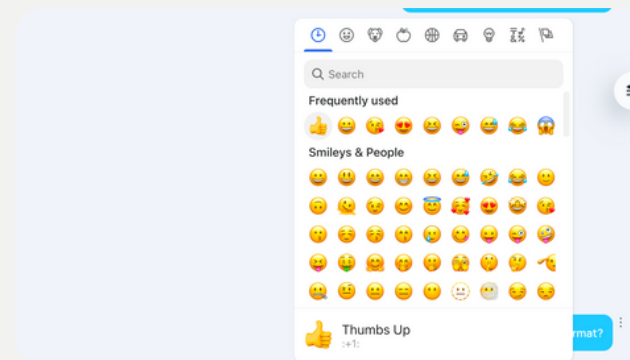
08

Emoji search window:

This feature allows users to search for emojis by name or keyword. This can make it easier to find and use the right emoji for the occasion.
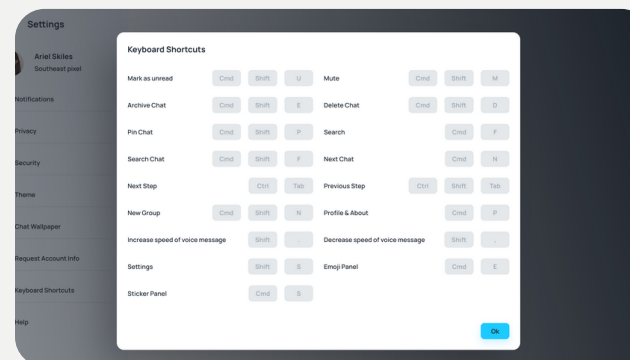
09

Keyboard shortcut support:

This feature allows users to use keyboard shortcuts to perform common actions in the chat app. This can help to speed up communication and make the chat app more efficient to use.

Other Features

01

End-to-end encryption:

This feature encrypts messages so that only the sender and receiver can read them. This is important for protecting user privacy and preventing unauthorized access to messages.

02

Status:

This feature allows users to set a status image or message that will be displayed to their contacts. This can be useful for letting people know if you are available to chat, or for sharing what you are up to.

03

Archived messages:

This feature allows users to archive messages that they want to keep for later, but do not need to access frequently. This can help to keep the chat app clutter-free and easier to use.

04

Reply and React:

This feature allows users to reply to individual messages and react to messages with emojis or other reactions. This is useful for keeping conversations organized and on trackand a fun and expressive way to interact with others in the chat.

Other Features Cont.

05

Chat Wallapers:

This feature allows users to customize the appearance of their chat app with different wallpapers. This can make the app more personal and enjoyable to use.

06

User profile windows:

This feature allows users to view and edit their user profile information, such as their name, avatar, and status message. This can help users to personalize their experience and to make it easier for others to get to know them.

07

Call and message logs:

This feature displays a log of all recent calls and messages. This can be useful for keeping track of your communication history or for troubleshooting problems.

08

Push notifications:

This feature sends notifications to users' devices when they receive new messages. This is useful for staying up-to-date on conversations, even when the app is not open.

Findings

Chat apps are most popular among millennials and Gen Z. Chat apps are used for a variety of purposes, including communication, entertainment, and shopping.
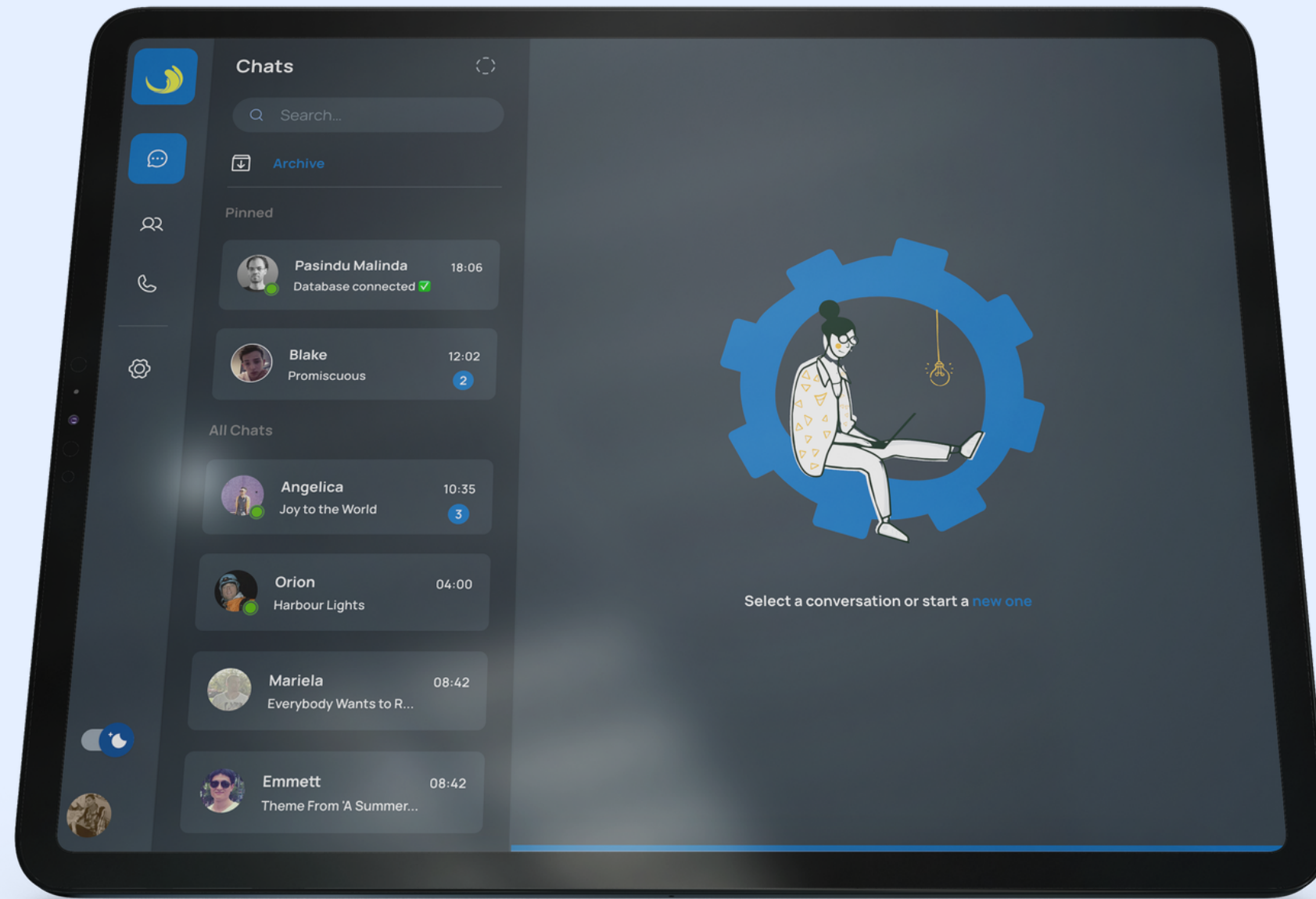
2B+

WhatsApp is the most popular chat app in the world, with over 2 billion active users

3.7B

The number of people using chat apps worldwide is expected to reach 3.7 billion by 2024

2H+

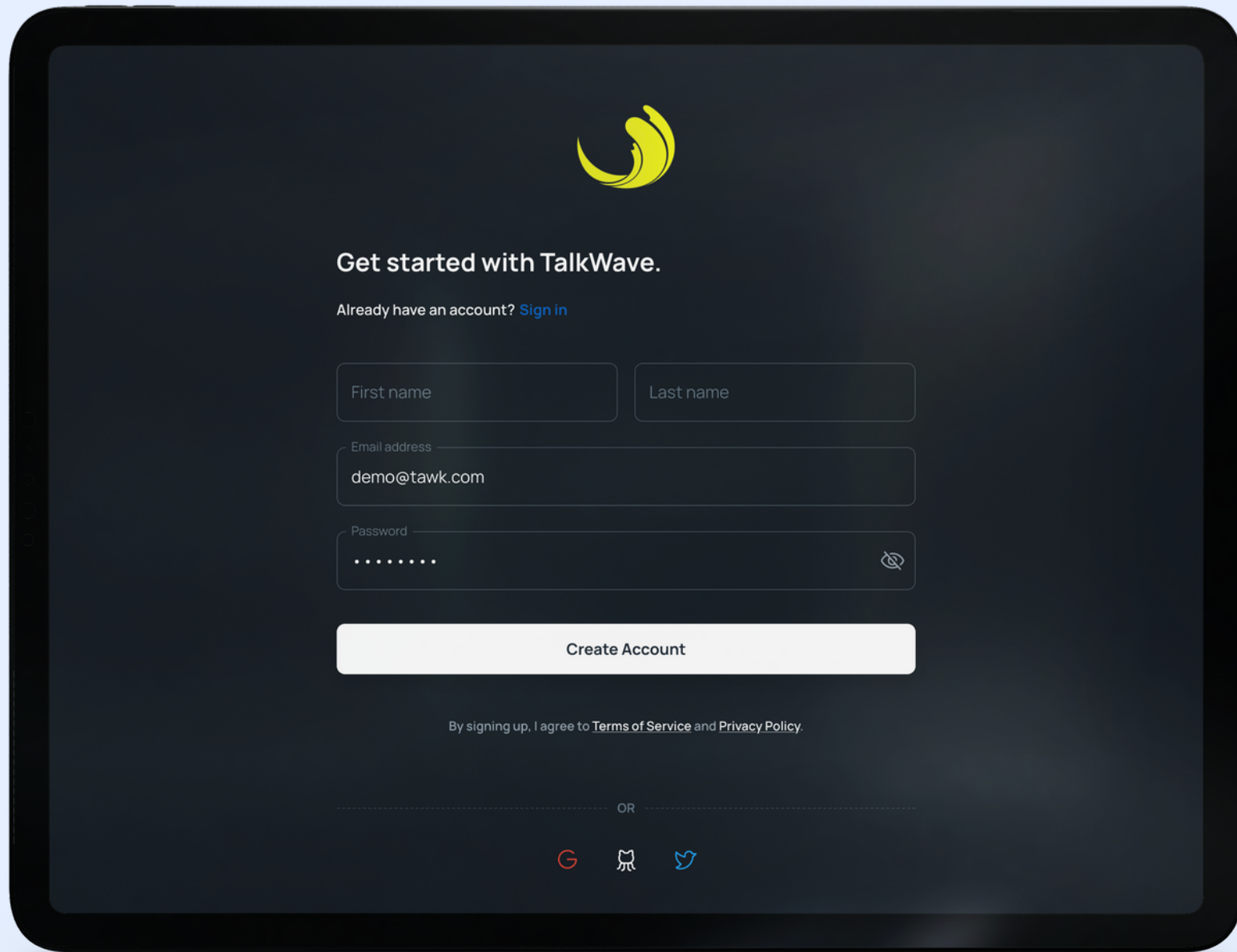**People spend over two hours per day using chat apps.**

Registeration UI

We want to make a great first impression with our registration UI, so we're keeping it simple and easy to use. We're only asking for the essential information that is needed to create an account, such as a name, email address, and password. We're also using clear and concise language, and we're validating the user's input to ensure that it is valid and complete.

We're also considering adding the following features to our registration UI:

- **Social login buttons –** This would allow users to sign up for Talkwave using their existing social media accounts. This could make it easier for users to sign up and start using our app.
- **Terms of service and privacy policy links –** It is important to let users know what they are agreeing to when they sign up for our app. We can do this by providing links to our terms of service and privacy policy.

NEXT

Login UI

We want to make it as easy as possible for our users to log in and start chatting. That's why we're designing a login UI that is both simple and user-friendly.

We're also considering adding the following features to our login UI:

- **Social login buttons –** this would allow users to log in to Talkwave using their existing social media accounts. This could make it easier for users to log in and start using our app, especially if they are already logged in to their social media accounts.
- **Automatic Remember me –** This checkbox would allow users to keep themselves logged in to Talkwave, so they don't have to enter their email address and password every time they want to use the app.
- **Two-factor authentication (2FA) –** 2FA adds an extra layer of security to users' accounts by requiring them to enter a code from their phone in addition to their password when logging in. We're considering adding 2FA as an optional feature for our users who want to add an extra layer of security to their accounts.

NEXT

Reset Password and New Password UIs

The reset password and new password UIs should be designed to be simple, clear, and easy to use. The goal is to help users reset their passwords quickly and easily, without any confusion or frustration.

- **Easy to submit the form –** The UIs should have a clear and visible submit button. The submit button should also be disabled until the user has filled in all of the required fields.
- **Provide feedback to the user –** Let the user know when they have successfully reset their password and when they have created a strong new password.
- **Password strength indicator –** This can help users create a strong password that meets your requirements.
- **Link to the forgotten password page –** This can be helpful for users who forget their email address.
- **Link to terms of service and privacy policy –** It is important to let users know what they are agreeing to when they reset their password or create a new account.

NEXT
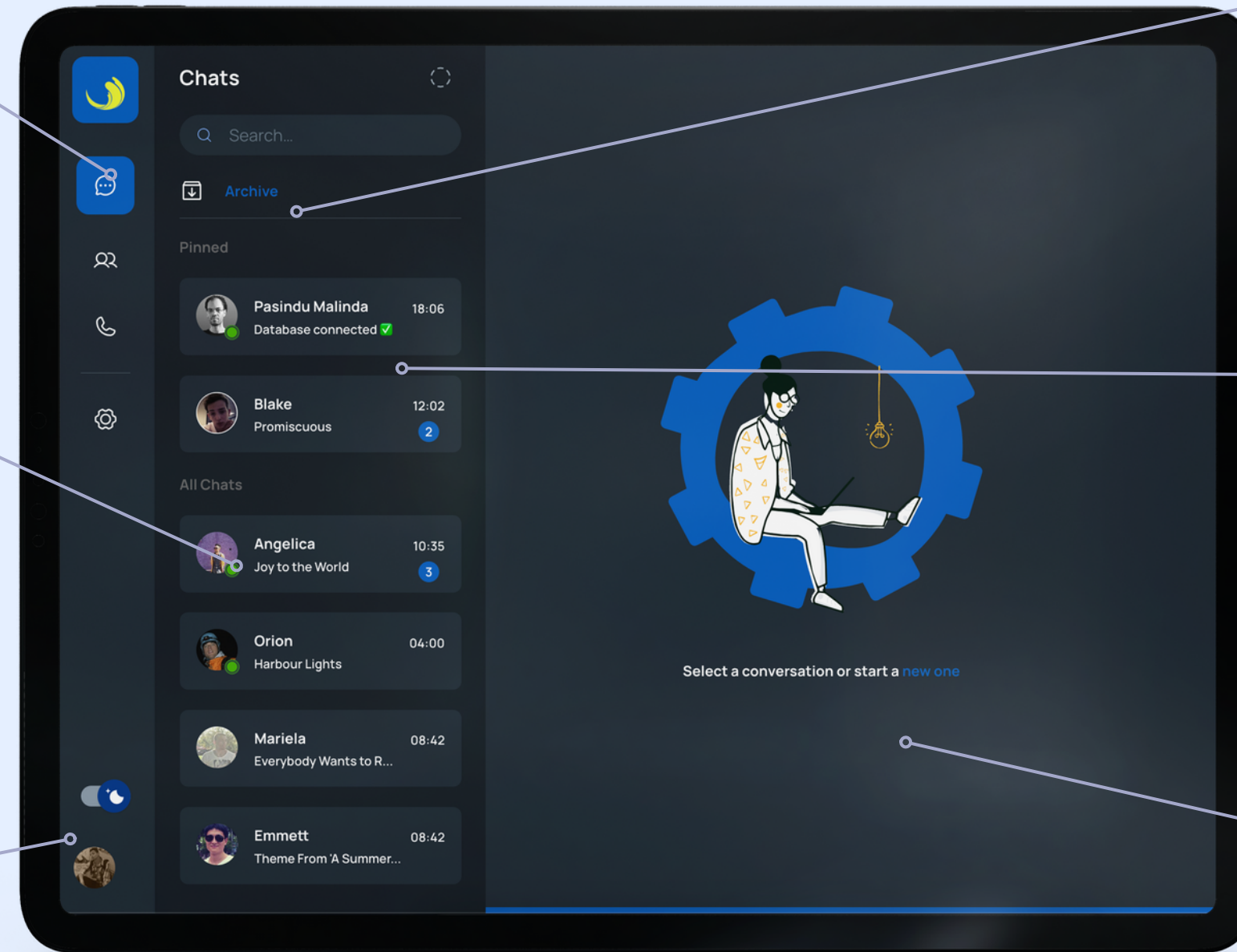
HomePage UI

Individual and group Chats and Call logs:

To view individual chats, group chats and calls easliy

Chat List:

This section shows a list of all recent conversations, sorted by time.

Theme Toggle and Settings icon:

This section allows users to toggle between dark mode and light mode and access other features and customization options.

Archive

To view chats which are important but not used frequently chat.

Pinned Chat:

To view most important chat quickly.

Chatting section:

This section allows users to chat with their friends and family, view their chat history, and access other messages.

Chats

Search...

Archive

Pinned

Pasindu Malinda   18:06
Database connected ✅

Blake   12:02
Promiscuous   2

All Chats

Angelica   10:35
Joy to the World   3

Orion   04:00
Harbour Lights

Mariela   08:42
Everybody Wants to R...

Emmett   08:42
Theme From 'A Summer...

Select a conversation or start a new one

Chat Section UI

To View Contact Info Menu

Add File to the chat

This section helps to add a contact, file, image, or sticker to the chat.

Theme Toggle and Settings icon:

This section allows users to toggle between dark mode and light mode and access other features and customization options.
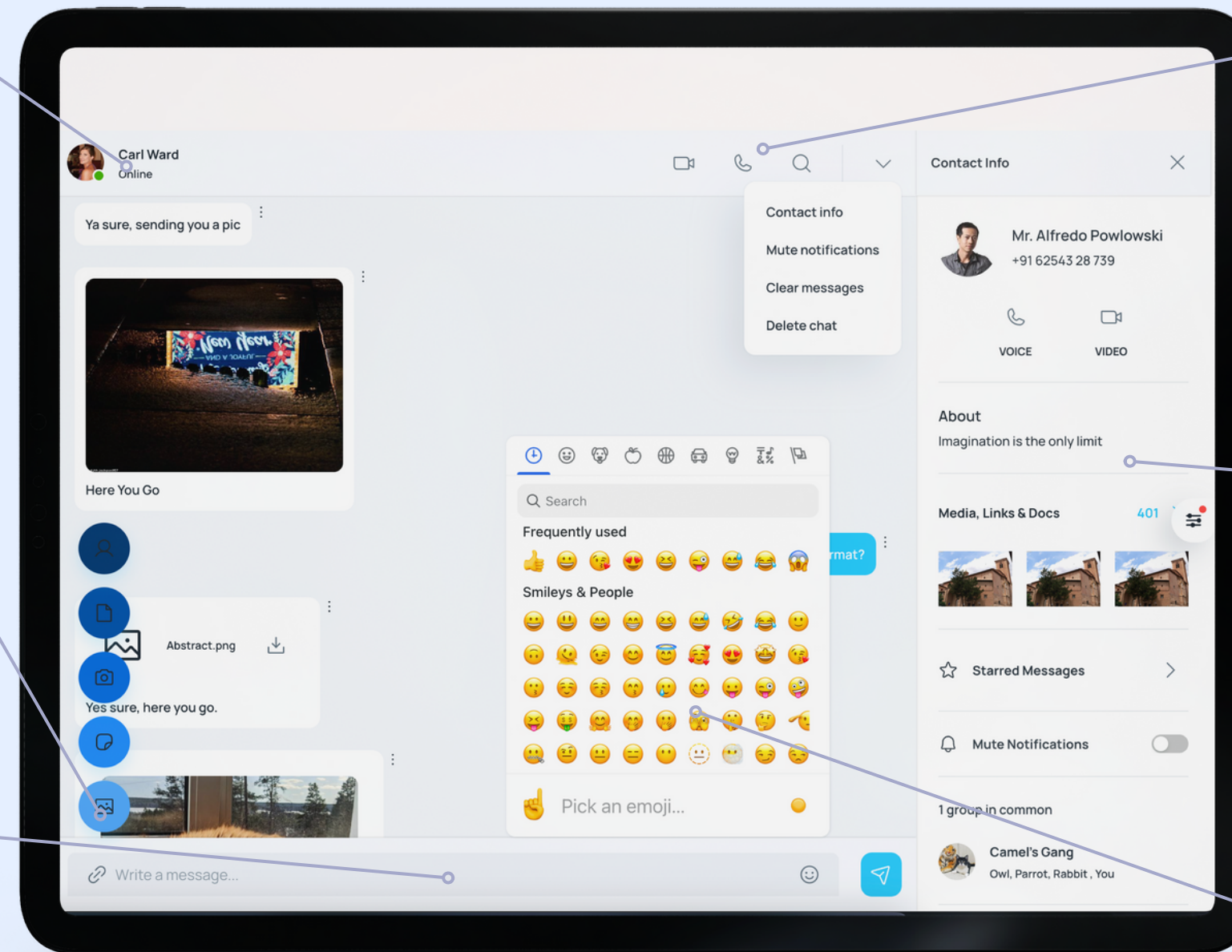
Video Call, Voice Call, Search, and More info menu

Contact Info Menu

It has Contact info such as name, email, voice or video call buttons, about section, media/links/docs section and few more settings.

Emoji Section

User can search emojis for easily.

Carl Ward
Online

Ya sure, sending you a pic

Here You Go

Abstract.png

Yes sure, here you go.

Write a message...

Contact info
Mute notifications
Clear messages
Delete chat

Contact Info

Mr. Alfredo Powlowski
+91 62543 28 739

VOICE   VIDEO

About
Imagination is the only limit

Media, Links & Docs   401

Starred Messages

Mute Notifications

1 group in common

Camel's Gang
Owl, Parrot, Rabbit , You

Search
Frequently used

Smileys & People

Pick an emoji...

Theme Selection

To select preferred theme and color.

Choose Theme

- ● Light
- ○ Dark
- ○ System Default

Cancel **Apply**

Settings

Direction

Presets

◻ Fullscreen
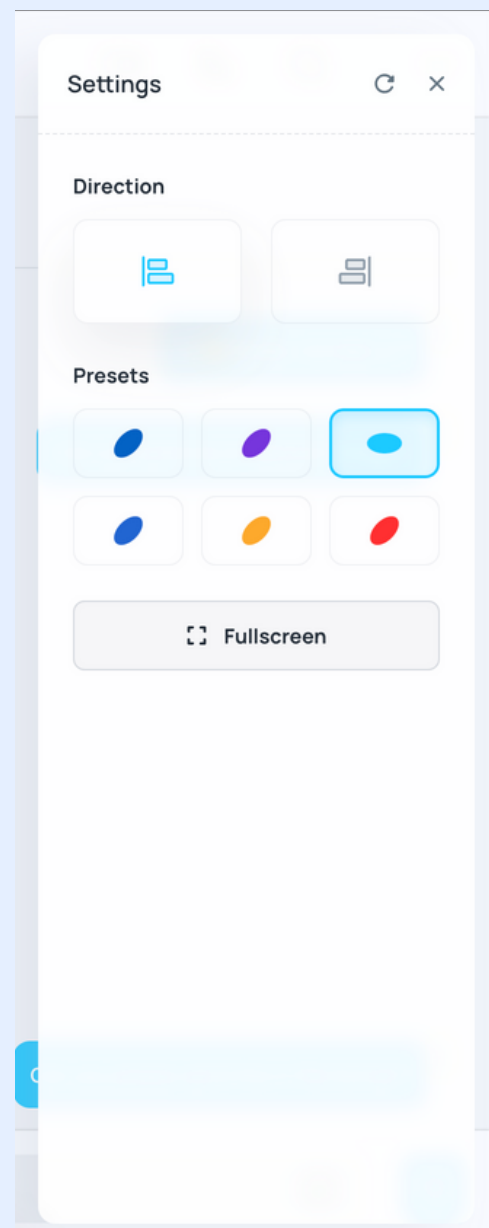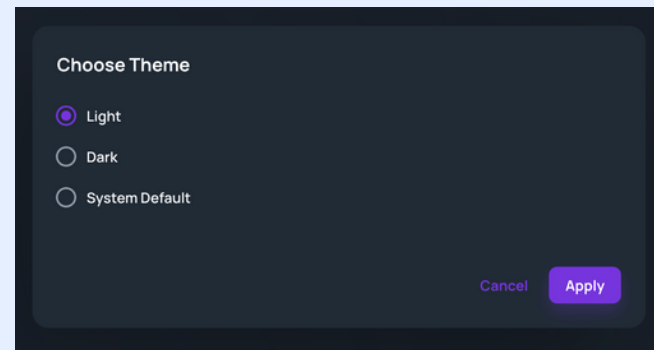
UI

Settings UI
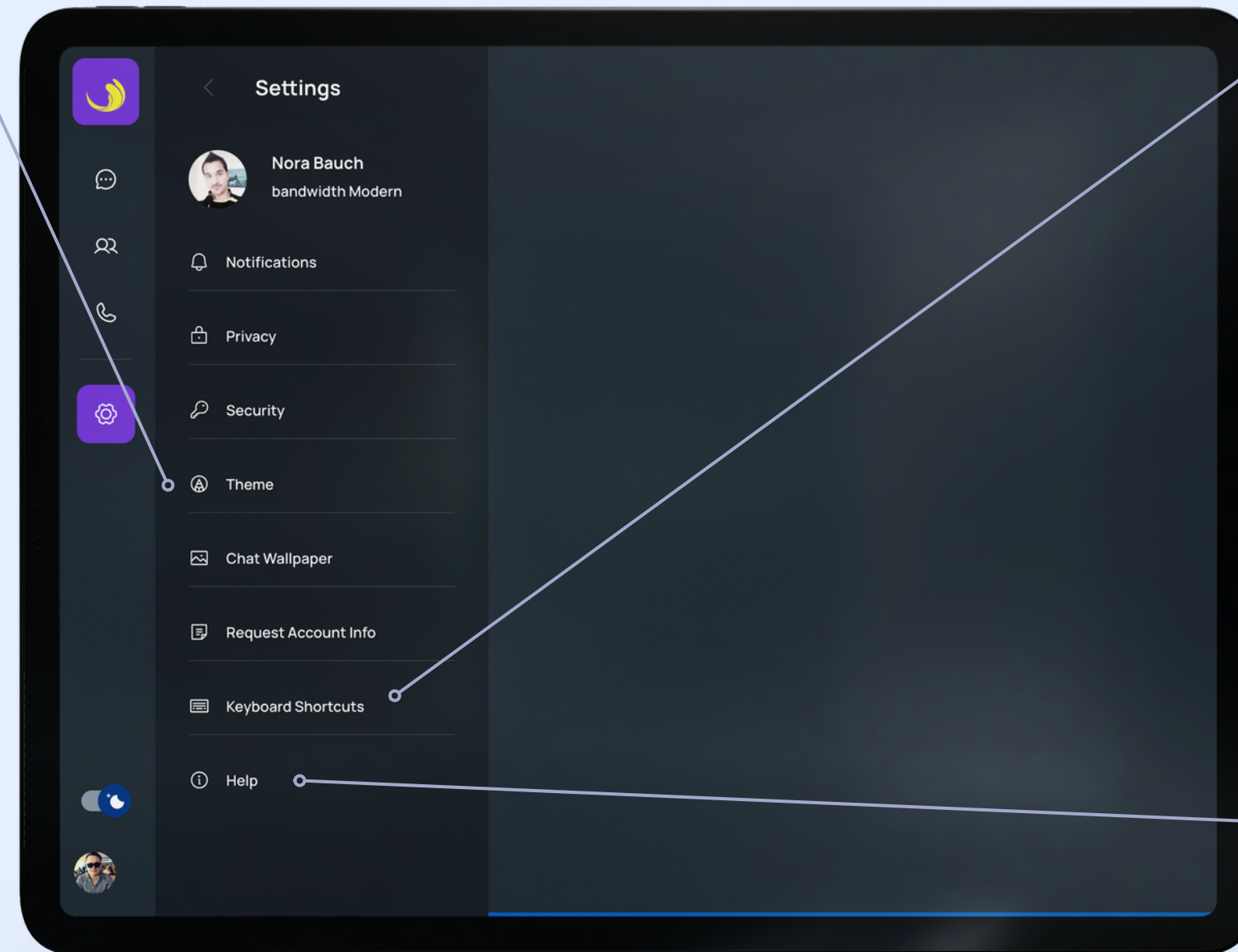
Keyboard Control

To improve the user experice for power users.

Keyboard Shortcuts

Mark as unread	Cmd Shift U	Mute Cmd Shift M
Archive Chat	Cmd Shift E	Delete Chat Cmd Shift D
Pin Chat	Cmd Shift P	Search Cmd F
Search Chat	Cmd Shift F	Next Chat Cmd F
Next Step	Ctrl Tab	Previous Step Ctrl Shift Tab
New Group	Cmd Shift N	Profile & About Cmd F
Increase speed of voice message	Shift	Decrease speed of voice message Shift
Settings	Shift S	Emoji Panel Cmd F
Sticker Panel	Cmd S	

Ok

Settings

Nora Bauch
bandwidth Modern

🔔 Notifications

🔒 Privacy

🔍 Security

Ⓐ Theme

🖼 Chat Wallpaper

📄 Request Account Info

⌨ Keyboard Shortcuts

ⓘ Help

Help

To learn more about the app
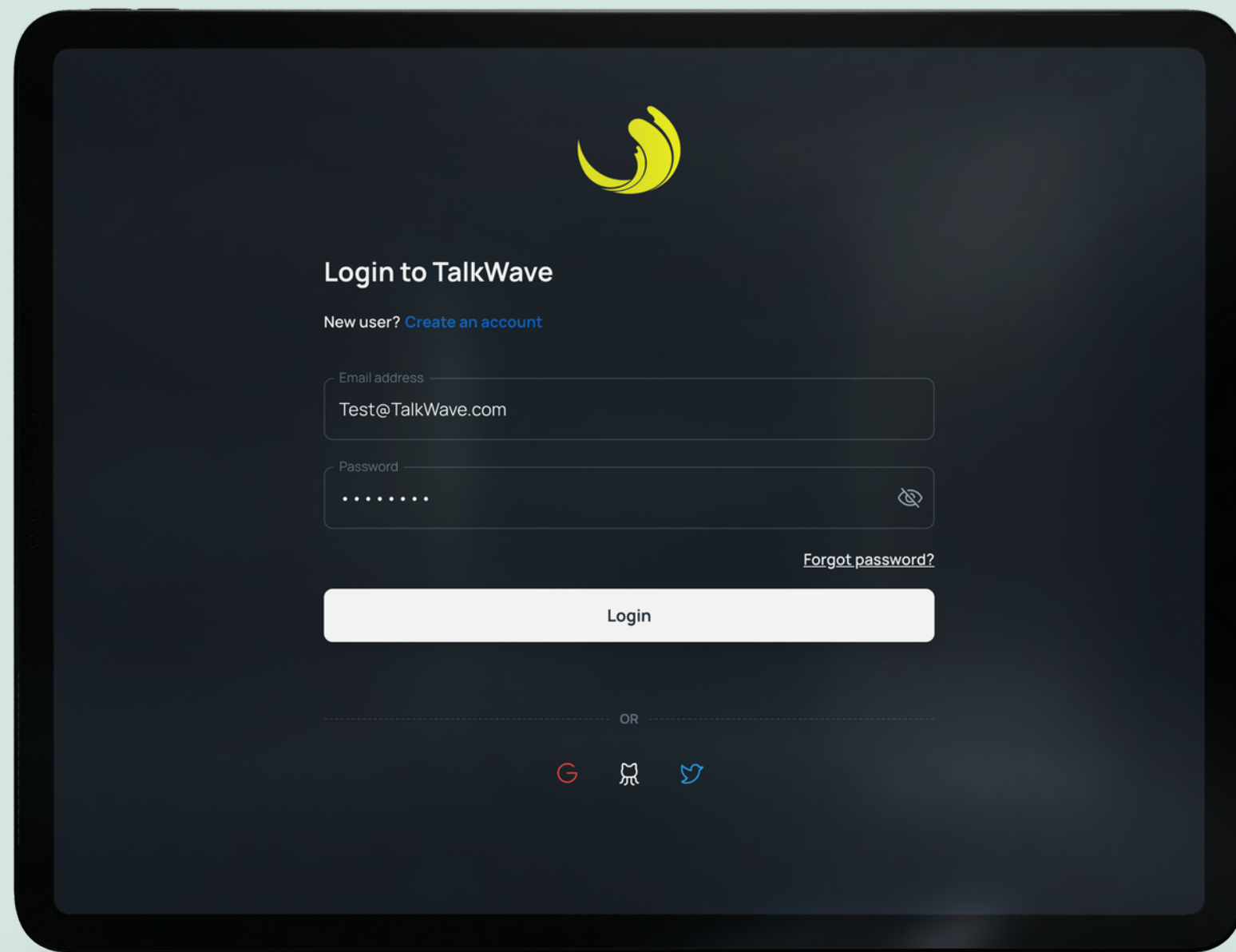
Event Handling

Event handlers are responsible for processing the events and taking appropriate actions.

- **User message handler:** Process user messages by parsing and processing them, using natural language processing to produce responses.
- **Handler for system updates and notifications:** Show notifications on the user interface.
- **User action handler:** Handles user activities such as button clicks, choice selections, and reaction sending. Update the chat interface's user presence state with the user presence handler.

Exception Handling

Exception handling is crucial to ensure that the app remains stable and resilient when unexpected errors occur.

- **Logging:** Log exceptions, including details like the event that triggered the exception, timestamp, user involved, and a description of the error. If someone has been logged in from an email and if another person tries to log in from the same email the system doesn't allow the second person to log into the app.

- **Retrying Operations:** Implemented back-off strategies and retried failed operations with a small delay in order to increase the delay between subsequent retries to prevent overloading services.

- **User-friendly error messages:** when an exception occurs user-friendly error messages are displayed. exposing technical details to the use has been avoided instead clear guidance of what the should do has been provided.
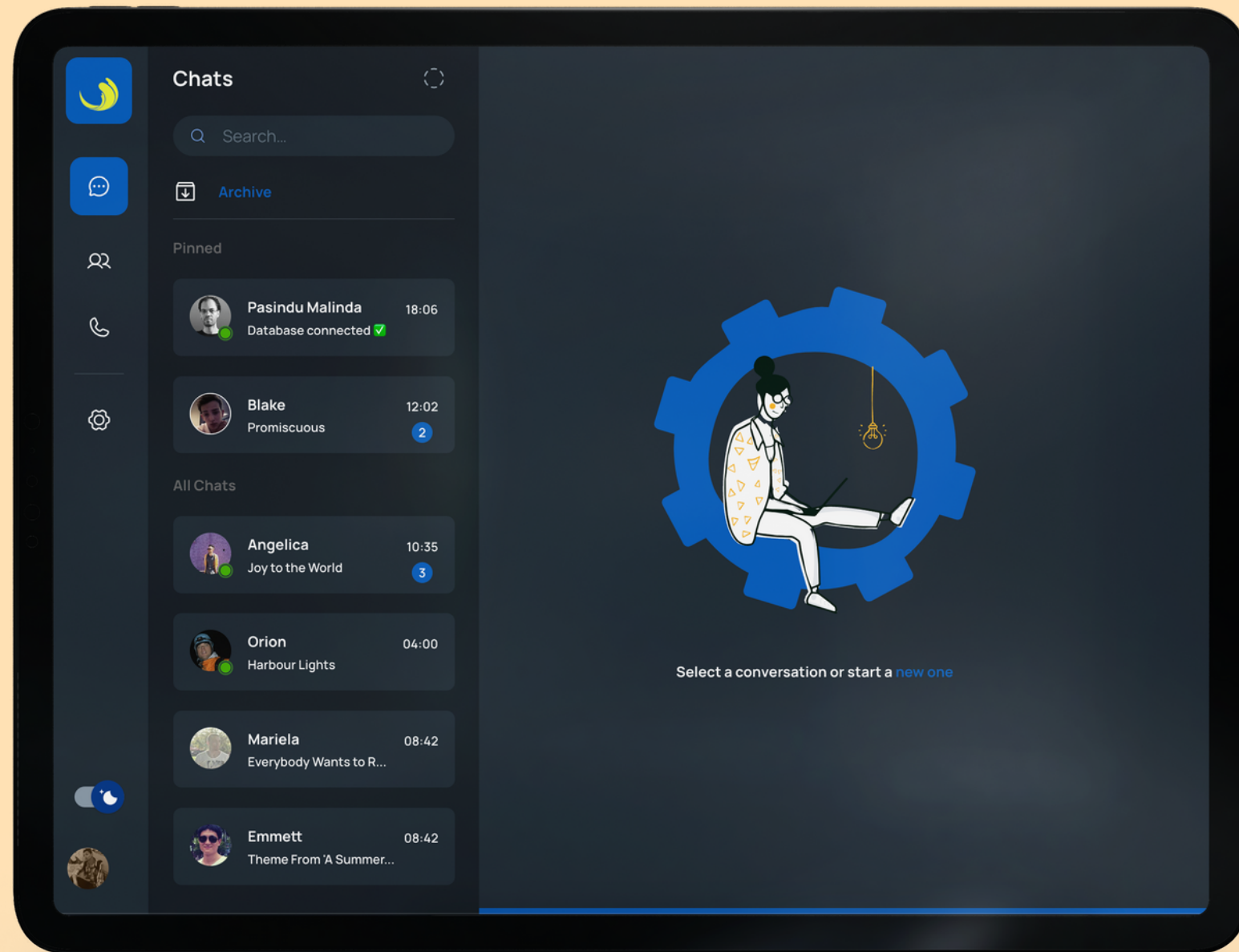
TALKWAVE

Architecture and Security

KASUN RASANJA – PS/2019/115

Authentication

- Password Management
- Multi-Factor Authentication
- Secure Login Page
- Account Lockout Policies

Encryption

- Data encryption and reset
- Data Encryption in Transit
- Encryption Algorithms Used

Authorization

- Authorization Policies
- Access Control to system functionalities

Auditing

- Auditing Framework
- Security Logs
- Audited Events

Authenticate Users
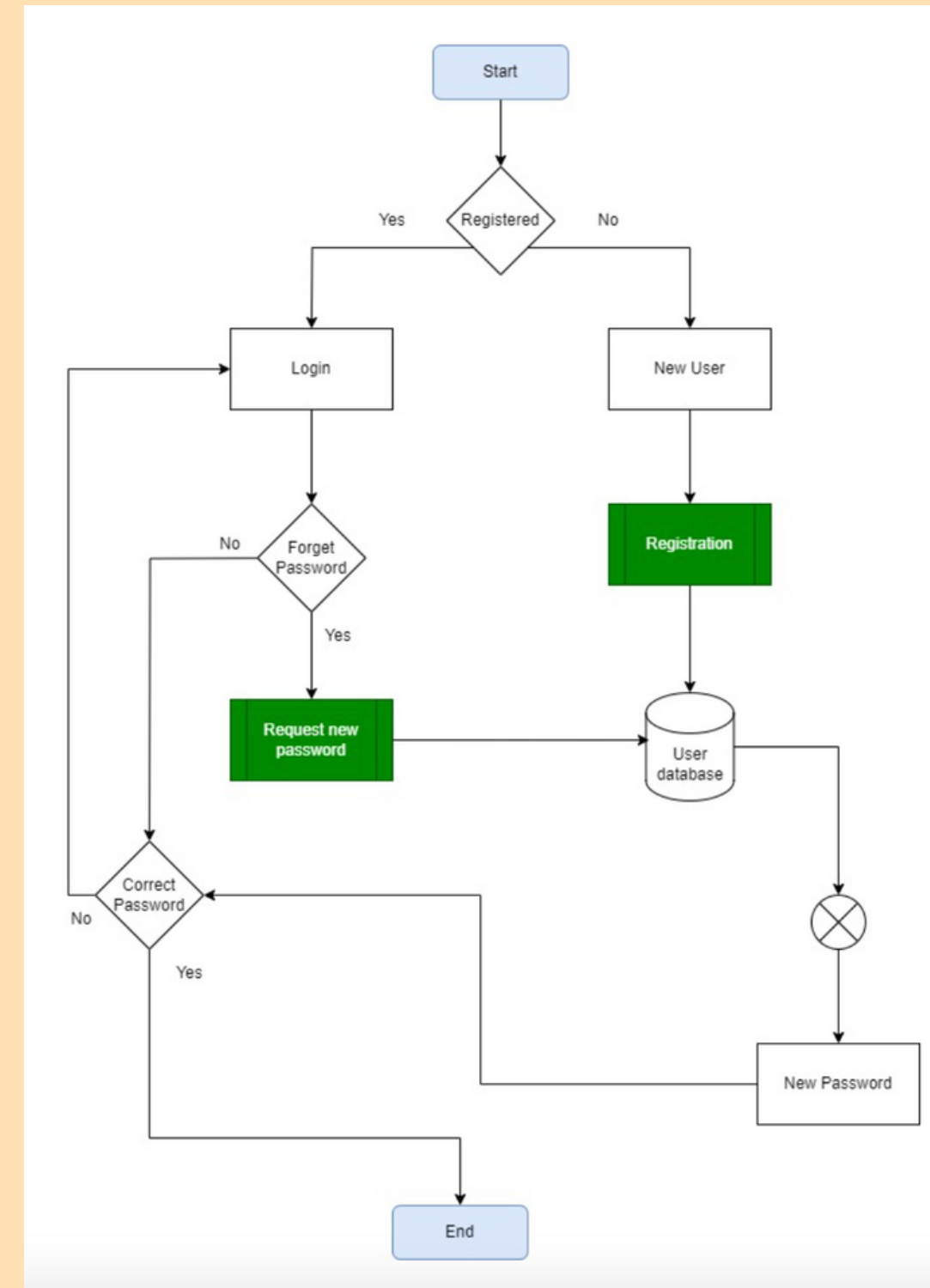
Thank You

For Your Time

TalkWave
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Kasun Rasanja – PS/2019/115
Ashen Dunuthilake – PS/2019/270
Navod Induwara – PS/2019/258