Dharamsinh Desai University

Faculty of Technology

Department of Computer Engineering

B. Tech. CE Sem. V

Subject: Advanced Technologies (CE515)

Project Title: ChatWiz Online Chatting application

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Certificate

Dharamsinh Desai University, Nadiad

Faculty of Technology

Department of Computer Engineering

This is to certify that advanced technologies project entitled **“ChatWiz”** is the bona fide report work carried out by **Dev Rakesh Patel (18CEUOG126)** of Department of Computer Engineering, Semester V, academic year: 2020-2021, under our supervision and guidance by **Associate Prof. Prashant M. Jadav**, Associate Professor of Department of Computer Engineering, Dharamsinh Desai University, Nadiad

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Abstract

This Project report is based on an online Chatting application. Chatting is one of the foremost needs of the world. There are numerous service providers, companies that have successfully launched their chatting platforms, which are used by millions of people on daily basis. Potentially the need of chatting could arise at any platform. So in this project we make that job easier for user. No matter where ever the user, he/she can instantly connect with other users.

Introduction

Online Chatting application is a web application that provides users with service of messaging with another user, it also provides features such as group texting and even file transfer to multiple users and groups, managing your contacts either add or remove them, adding groups and each with different participants and many more. A new user must login through his email and then send up gradation mail to the developer for their new chat id through which user can access their messaging services.

Technologies used: Angular CLI 10.1.1, Node, Mongodb, Typescript, HTML5, CSS, Bootstrap, Auth0's API, CometChat's API

Platforms: Google chrome, Mozilla FireFox, Microsoft edge

Tools: Visual Studio Code, Auth0 and CometChat APIs and SDKs

Software Requirement Specifications

R.1.1 Manage User Authentication

This Module will handle user registration to user authentication to validate user, by default user will have non-premium plan with restricted access.

R.1.1.1 Register User

This module will register user to our web-app.

Input: User name, Email, password, gender, age etc.

Output: Acknowledgement that user registered and user id

R.1.1.2 User Login

This module will handle user validation

Input: Username, password

Output: Message about user validation, in case of success redirection to home page.

R.1.2 Manage User Details

This Module will manage user profile

R.1.2.1 Show User Details

This module will display user details to authenticated user

Input: User Selection

Output: User Details

R.1.2.2 Change User Details

This Module will change user details

Input: Updated user details

Output: Acknowledgement about the same

R1.2.3 Share User Details

This Module will be able to share user details to another user

Input: User Selection

Output: shareable link with user id

R.1.2.4 Manage Preferences

This module will save user preferences from available preferences

Input: User selection

Output: Acknowledgement and Changes reflected according to selection

R.1.3 Manage Friends

This module will manage friends of users

R.1.3.1 Add Friend

This sub module will allow user to add friends

Input: User id

Output: Acknowledgement of request sent to user.

R.1.3.2 Unfriend

This sub module will allow user to remove friends

Input: User selection

Output: Acknowledgement of friend removed.

R.1.3.3 Pending Requests

This sub module will allow user to accept or deny requests.

Input: User selection

Output: Acknowledgement about the same

R.1.4 Manage Chatting

This module manages chatting with another user

R.1.4.1 Chat with another friend

This module will allow user to chat with a friend

Input: User selection and message

Output: Reply and acknowledgement

R.1.4.2 Create A Group to chat

This module allows user to create chat group comprising of more than two friends

Input: Users to be added

Output: Acknowledgement

R.1.4.3 Delete a Group

This module allows user to delete an existing group

Input: User Selection

Output: Acknowledgement

R.1.4.4 Clear chat

This module allows user to clear a chat of a friend or a group

Input: User selection

Output: Acknowledgement and cleared chat

R.1.5 Share Resource

This module will allow user to share a resource (images, audio, video or document)

R.1.5.1 Upload resource

Will allow user to upload or send resource

Input: Friend and Resource

Output: Acknowledgement

R.1.5.2 Download resource

Will allow user to download resource

Input: User selection

Output: Acknowledgement

Database Tables

User Entity:

Email, password

Chat, Contacts and Group Entity:

Stored at server side of API used.

Design

User XML:

```
<?xml version="1.0" encoding="UTF-8"?>
<users>
        <email></email>
        <password></password>
</users>
```

Chat XML:

```
<?xml version="1.0" encoding="UTF-8"?>
<chats>

        <message></message>

        <timeOfArrival></timeOfArrival>

        <file></file>

</chats>
```

Group XML

```
<?xml version="1.0" encoding="UTF-8"?>
<groups>

        <chat></chat>

        <users></users>

</groups>
```

Contact XML

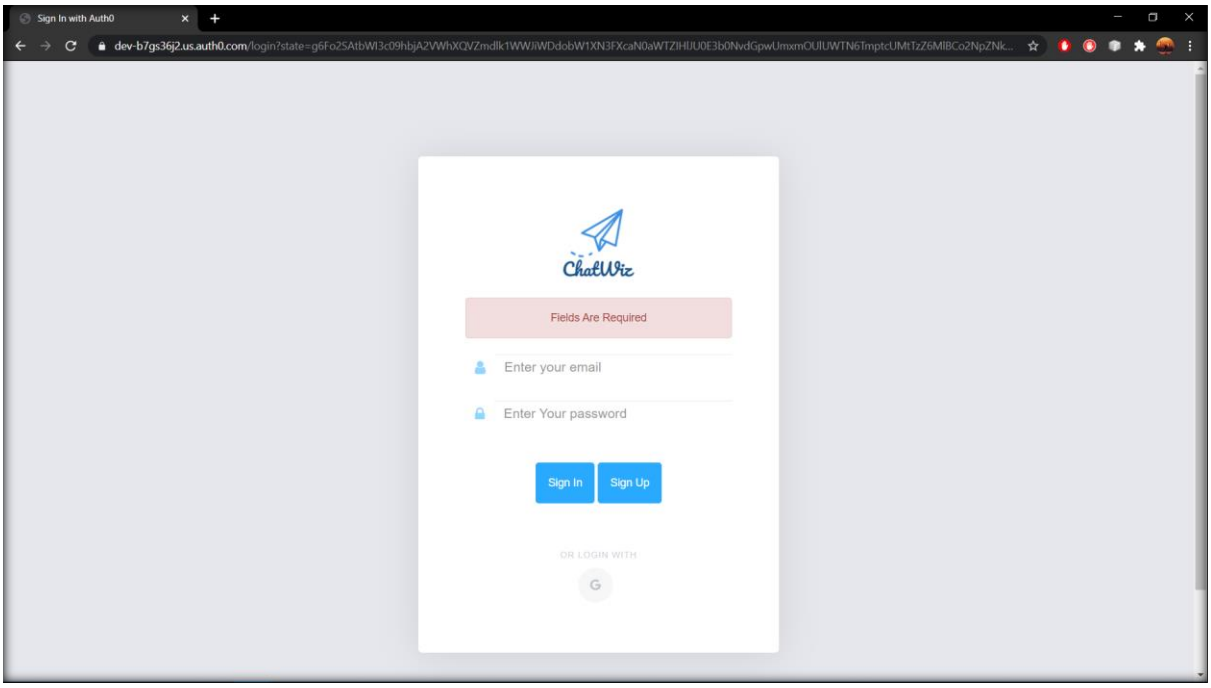
```
<?xml version="1.0" encoding="UTF-8"?>
<contacts>
	<users></users>
</contacts>
```

Implementation Details

- **Login Module:** This module uses IaaS (Identity as a service)'s Auth0 as an API to authenticate and validate user. It requires user's email and password to validate that user, also user can be validated using third party social connection such as Google.
- **Profile Module:** This module will represent user's data such as his/her profile picture, first name, last name etc.
- **Register Module:** This module also uses IaaS (Identity as a service)'s Auth0 as an API to register the users, also they can be registered using user's social connection such as Google with user's consent.
- **Chat Module:** For a non-premium user this module has accounts for demonstration of our services, using those accounts user can access their demo accounts that has a limited time access and will allow user to connect all its contacts via chatting.
- **Contact Module:** This module manages all the contacts of user, they can be added or removed by only a premium user.
- **Group Module:** This module allows its users to form a group and add the participants from user's contacts and provides support of chatting, file transfer, etc.
- **Conversation Module:** This module manages user's messages that are sent or received by user.

Testing

User was authenticated using form validators, below images show the validation of the user.

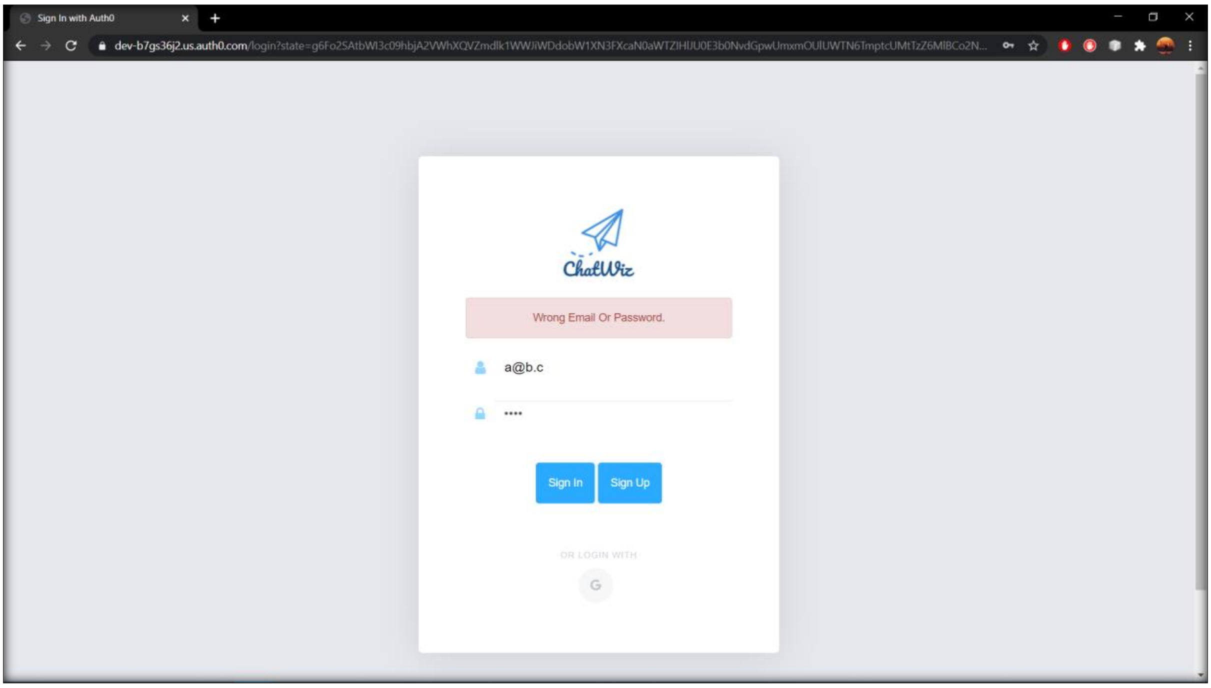


dev-b7gs36j2.us.auth0.com/login?state=g6Fo2SAtbWI3c09hbjA2VWhXQVZmdlk1WWJiWDdobW1XN3FXcaN0aWTZIHlJU0E3b0NvdGpwUmxmOUlUWTN6TmptcUMtTzZ6MlBCo2NpZNk...

Fields Are Required

Enter your email

Enter Your password



dev-b7gs36j2.us.auth0.com/login?state=g6Fo2SAtbWI3c09hbjA2VWhXQVZmdlk1WWJiWDdobW1XN3FXcaN0aWTZIHlJU0E3b0NvdGpwUmxmOUlUWTN6TmptcUMtTzZ6MlBCo2N...

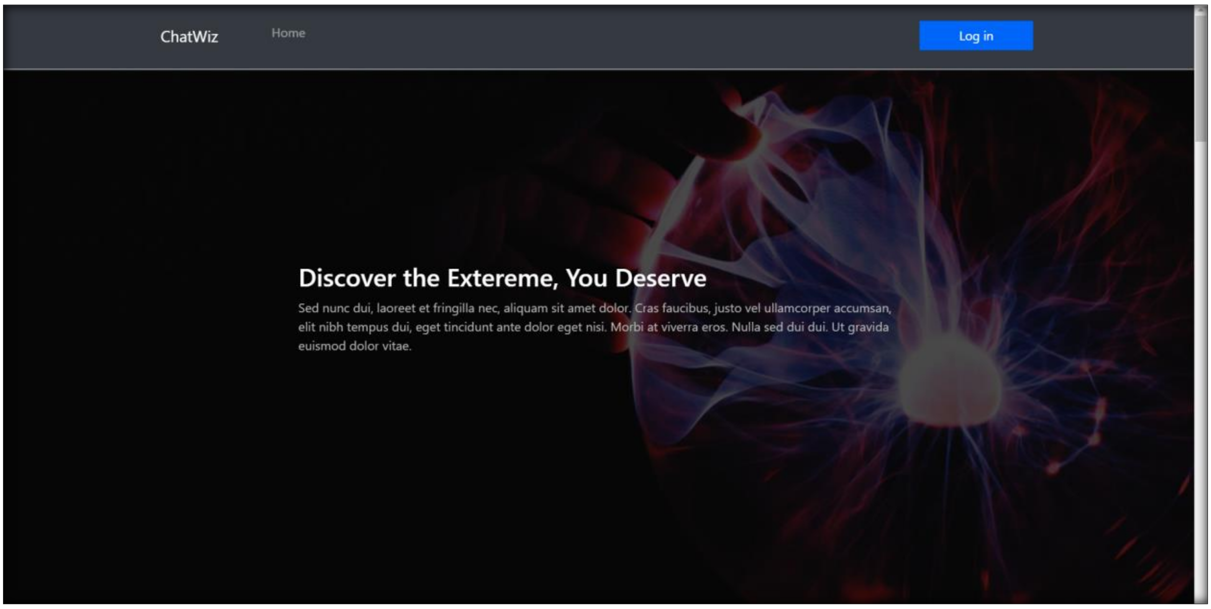
Wrong Email Or Password.

a@b.c

••••

Screenshots

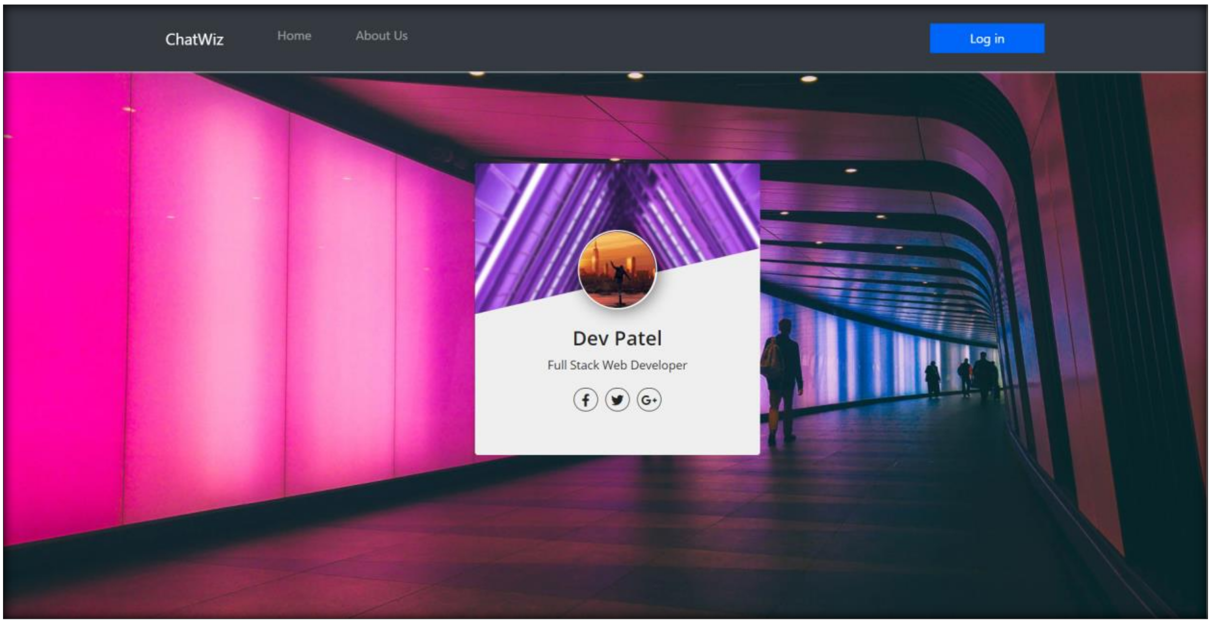
Home Page



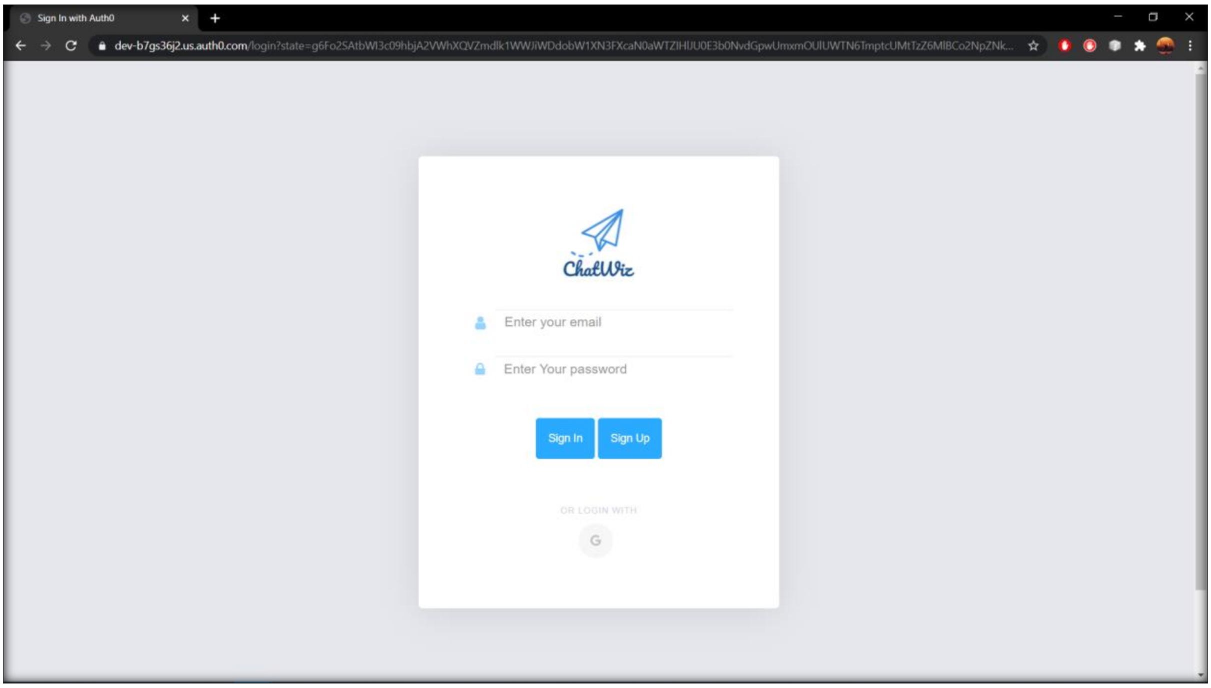
Discover the Extereme, You Deserve

Sed nunc dui, laoreet et fringilla nec, aliquam sit amet dolor. Cras faucibus, justo vel ullamcorper accumsan, elit nibh tempus dui, eget tincidunt ante dolor eget nisi. Morbi at viverra eros. Nulla sed dui dui. Ut gravida euismod dolor vitae.

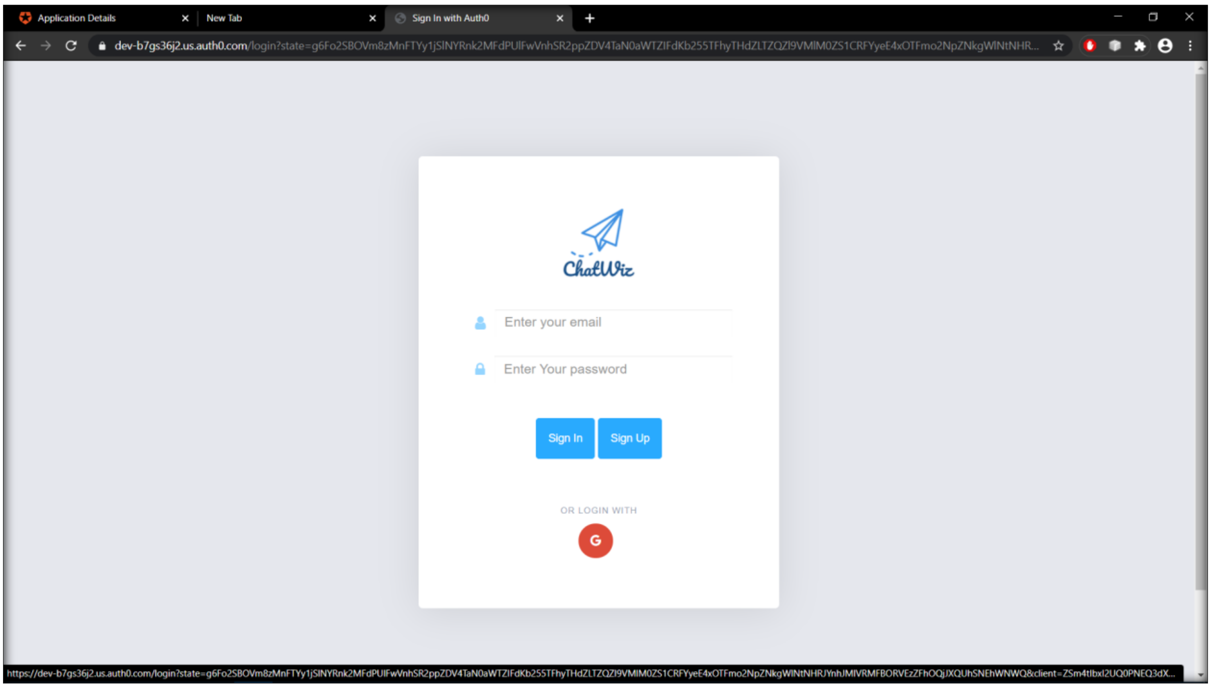
About the developer



Login/Sign Up page

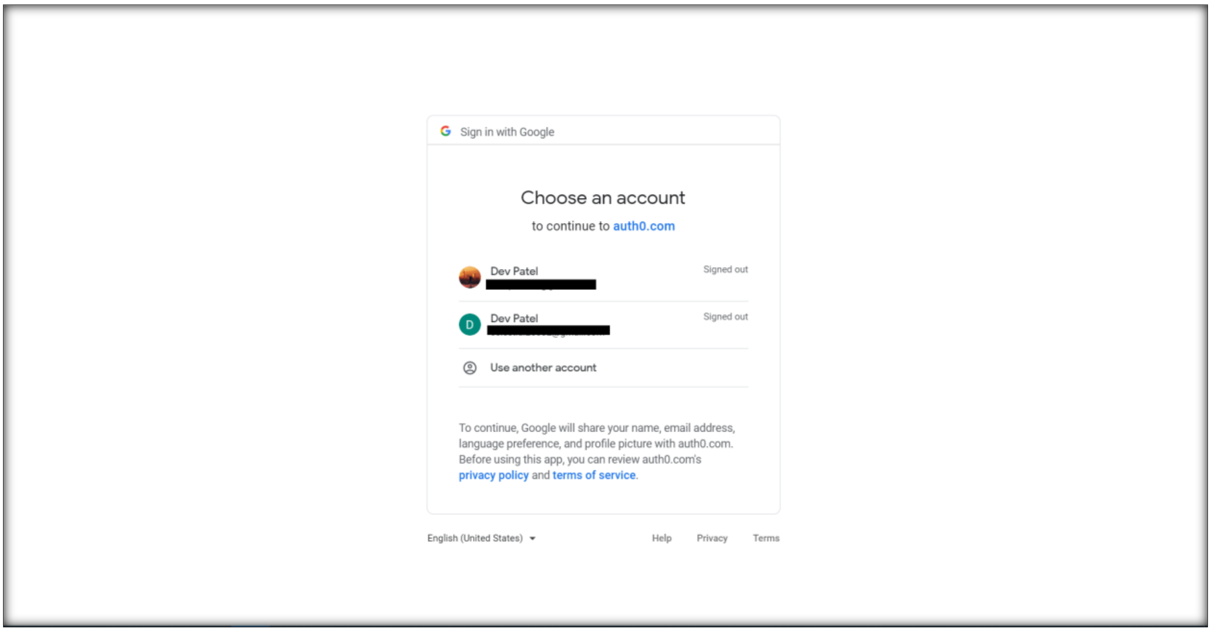


Sign In with Auth0
dev-b7gs36j2.us.auth0.com/login?state=g6Fo2SAtbWl3c09hbjA2VWhXQVZmdlk1WWJiWDdobW1XN3FXcaN0aWTZIHlJU0E3b0NvdGpwUmxmOUlUWTN6TmptcUMtTzZ6MlBCo2NpZNk...
ChatWiz
Enter your email
Enter Your password
Sign In
Sign Up
OR LOGIN WITH
G



Application Details
New Tab
Sign In with Auth0
dev-b7gs36j2.us.auth0.com/login?state=g6Fo2SBOVm8zMnFTYy1jSlNYRnk2MFdPUlFwVnhSR2ppZDV4TaN0aWTZIFdKb255TFhyTHdZLTZQZl9VMlM0ZS1CRFYyeE4xOTFmo2NpZNkgWlNtNHR...
ChatWiz
Enter your email
Enter Your password
Sign In
Sign Up
OR LOGIN WITH
G
https://dev-b7gs36j2.us.auth0.com/login?state=g6Fo2SBOVm8zMnFTYy1jSlNYRnk2MFdPUlFwVnhSR2ppZDV4TaN0aWTZIFdKb255TFhyTHdZLTZQZl9VMlM0ZS1CRFYyeE4xOTFmo2NpZNkgWlNtNHRJYnhJMlVRMFBORVEzZFhOQjlXQUhSNEhWNWQ&client=ZSm4tlbxI2UQ0PNEQ3dX...

Sign In With Google



Choose an account

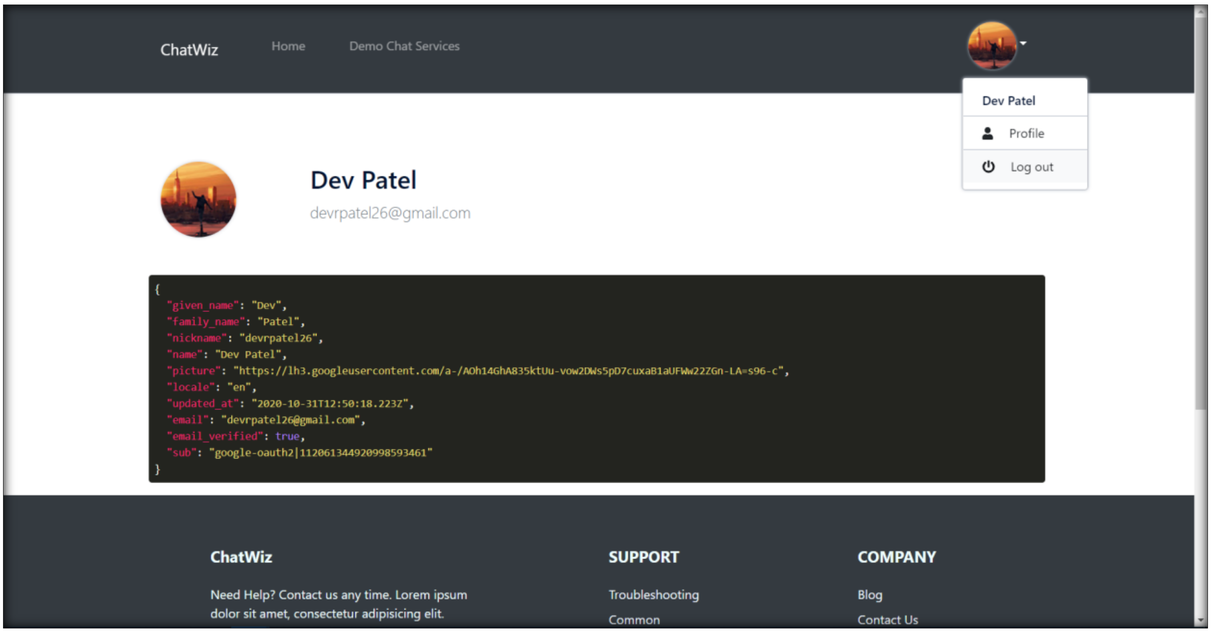
to continue to auth0.com

Dev Patel [redacted] Signed out

Dev Patel [redacted] Signed out

To continue, Google will share your name, email address, language preference, and profile picture with auth0.com. Before using this app, you can review auth0.com's privacy policy and terms of service.

User’s Profile



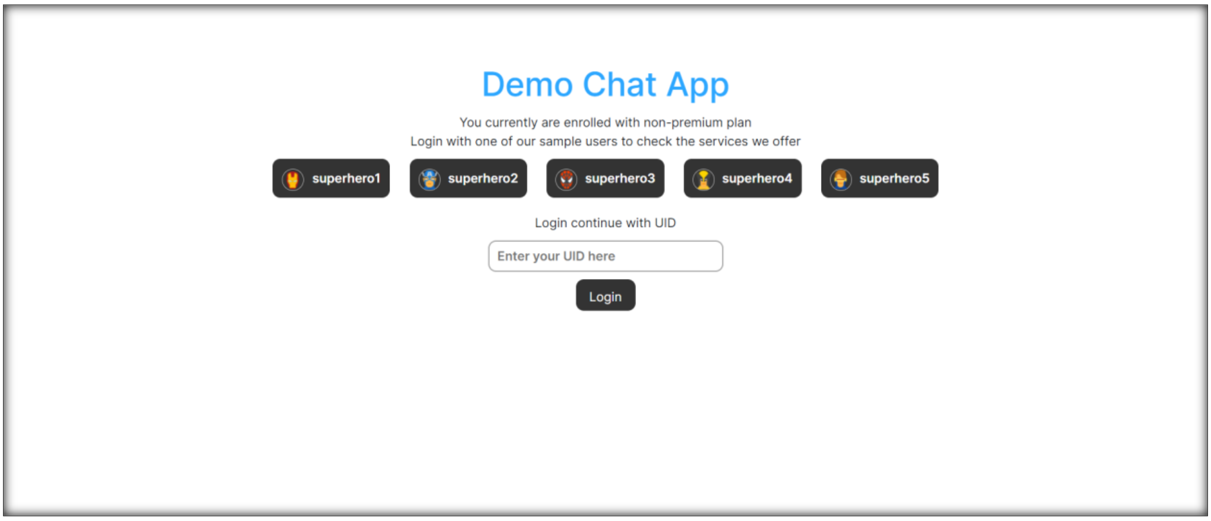
Dev Patel

devrpatel26@gmail.com

```
{
  "given_name": "Dev",
  "family_name": "Patel",
  "nickname": "devrpatel26",
  "name": "Dev Patel",
  "picture": "https://lh3.googleusercontent.com/a-/AOh14GhA835ktUu-vow2DWs5pD7cuxaB1aUFWw22ZGn-LA=s96-c",
  "locale": "en",
  "updated_at": "2020-10-31T12:50:18.223Z",
  "email": "devrpatel26@gmail.com",
  "email_verified": true,
  "sub": "google-oauth2|112061344920998593461"
}
```

Need Help? Contact us any time. Lorem ipsum dolor sit amet, consectetur adipisicing elit.

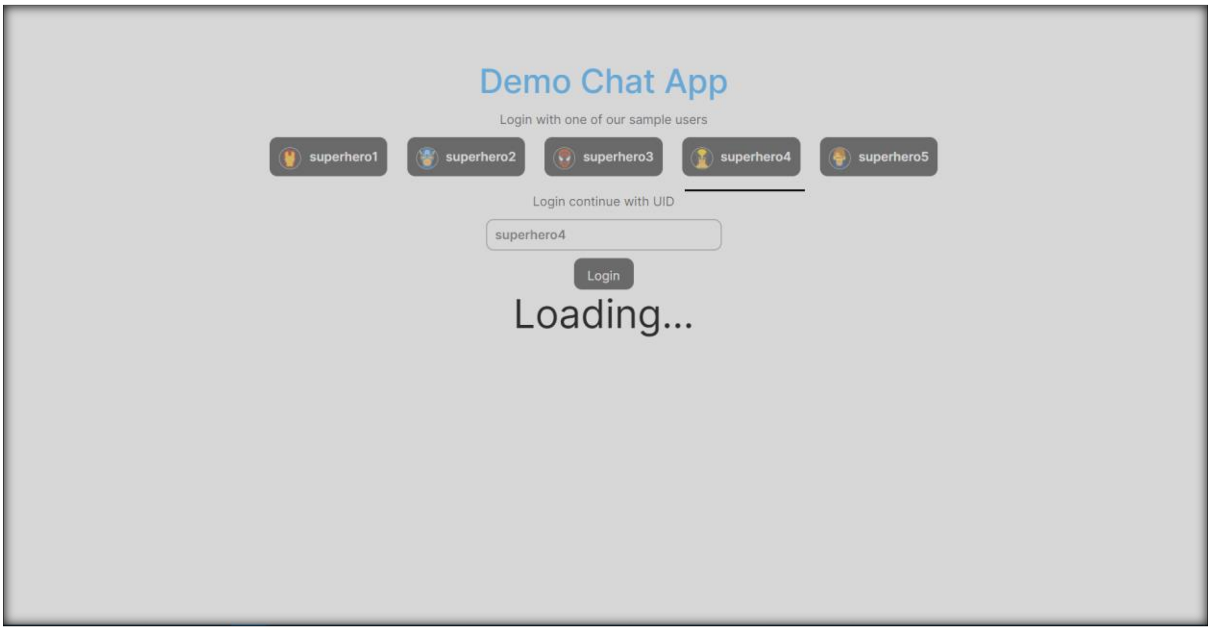
Demo Accounts for our non-premium users



Demo Chat App

You currently are enrolled with non-premium plan
Login with one of our sample users to check the services we offer

Logging concurrently from a different browser with different account.



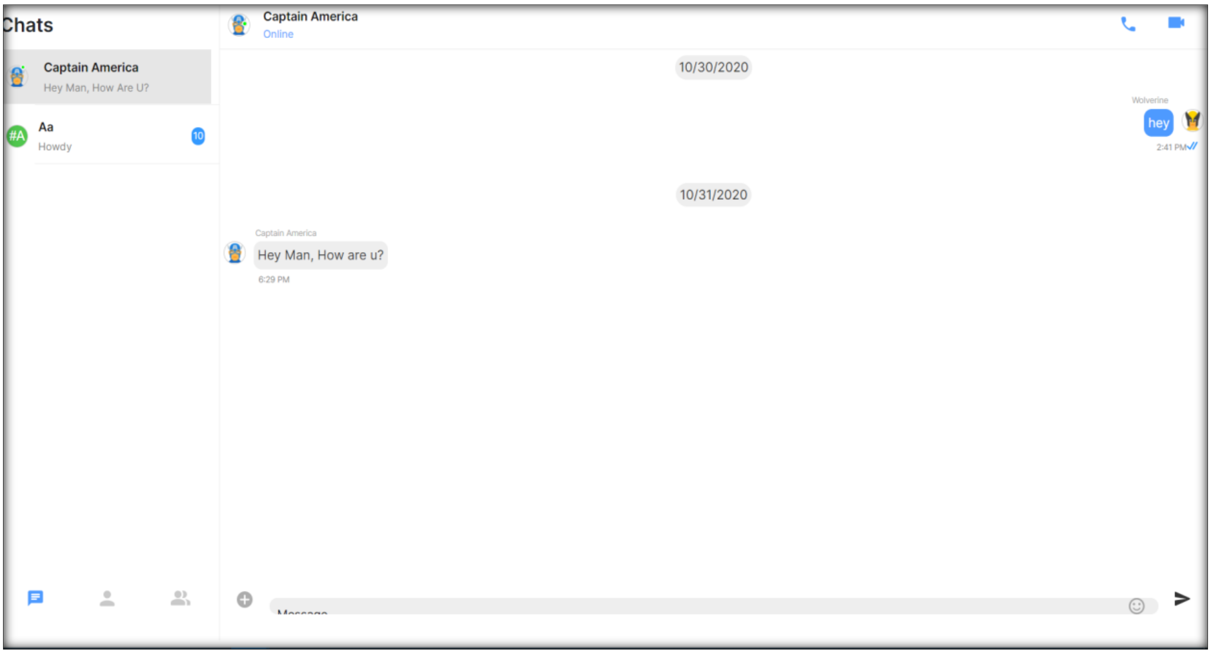
Demo Chat App

Login with one of our sample users

superhero4

Loading...

Sending message to concurrently logged in user



Chats

Captain America
Hey Man, How Are U?

Aa
Howdy

Captain America
Online

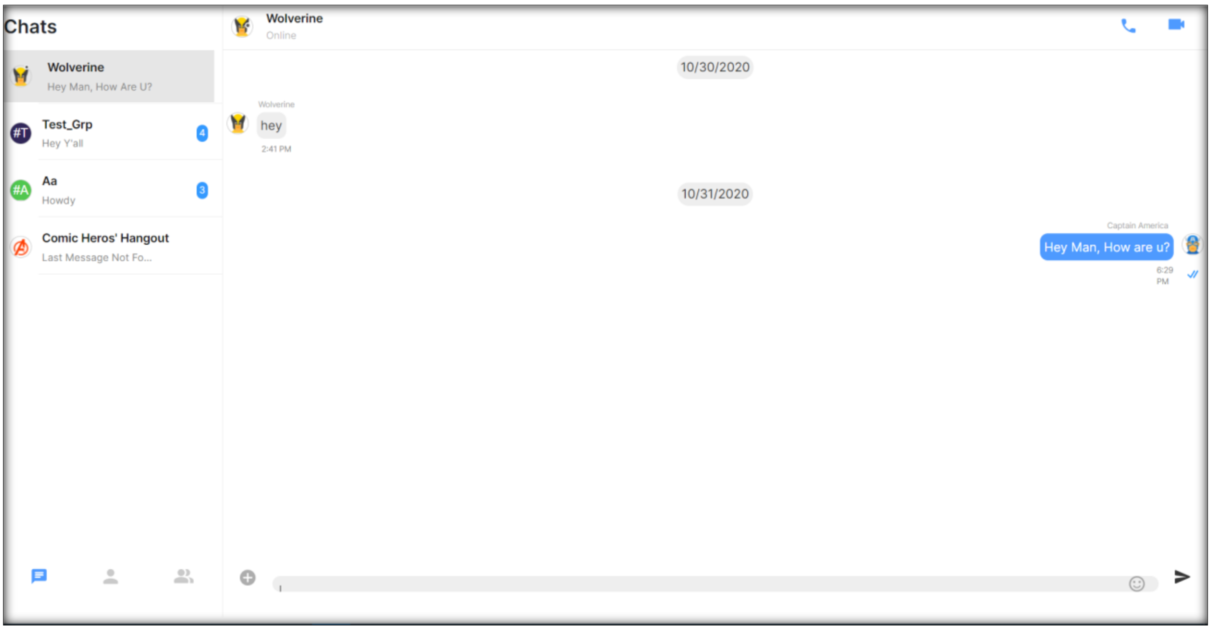
10/30/2020

Wolverine
hey
2:41 PM

10/31/2020

Captain America
Hey Man, How are u?
6:29 PM

Messages received.



Chats

Wolverine
Hey Man, How Are U?

Test_Grp
Hey Y'all

Aa
Howdy

Comic Heros' Hangout
Last Message Not Fo...

Wolverine
Online

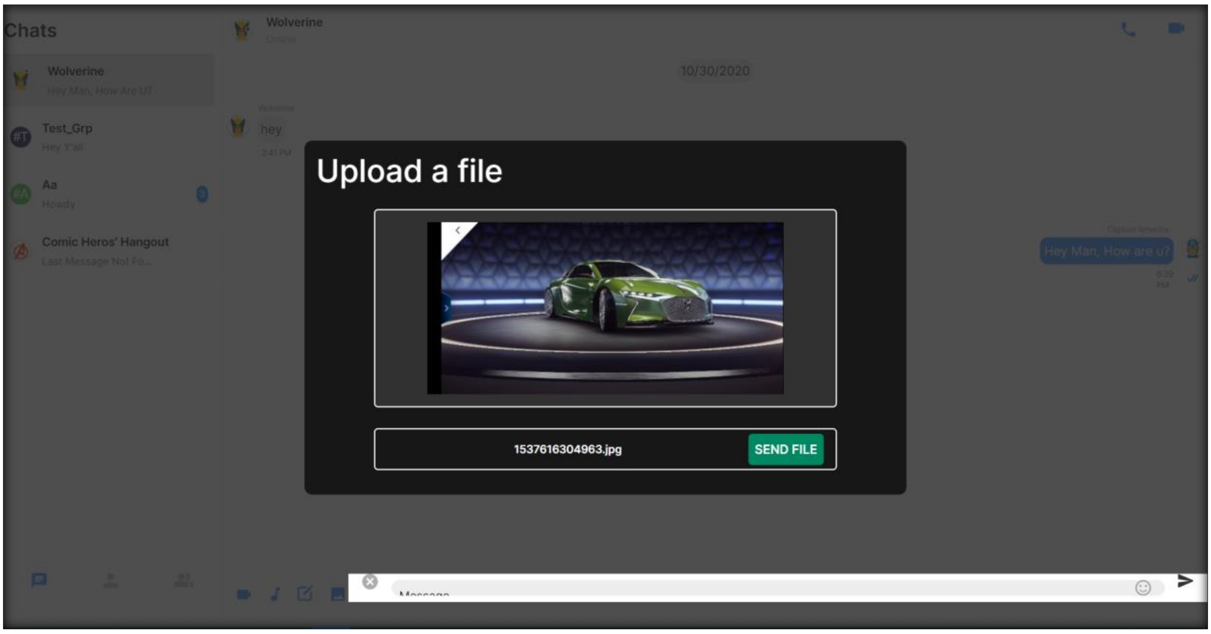
10/30/2020

Wolverine
hey
2:41 PM

10/31/2020

Captain America
Hey Man, How are u?
6:29 PM

Sending a file



Wolverine: Hey Man, How Are U?

Test_Grp: Hey Y'all

Aa: Howdy

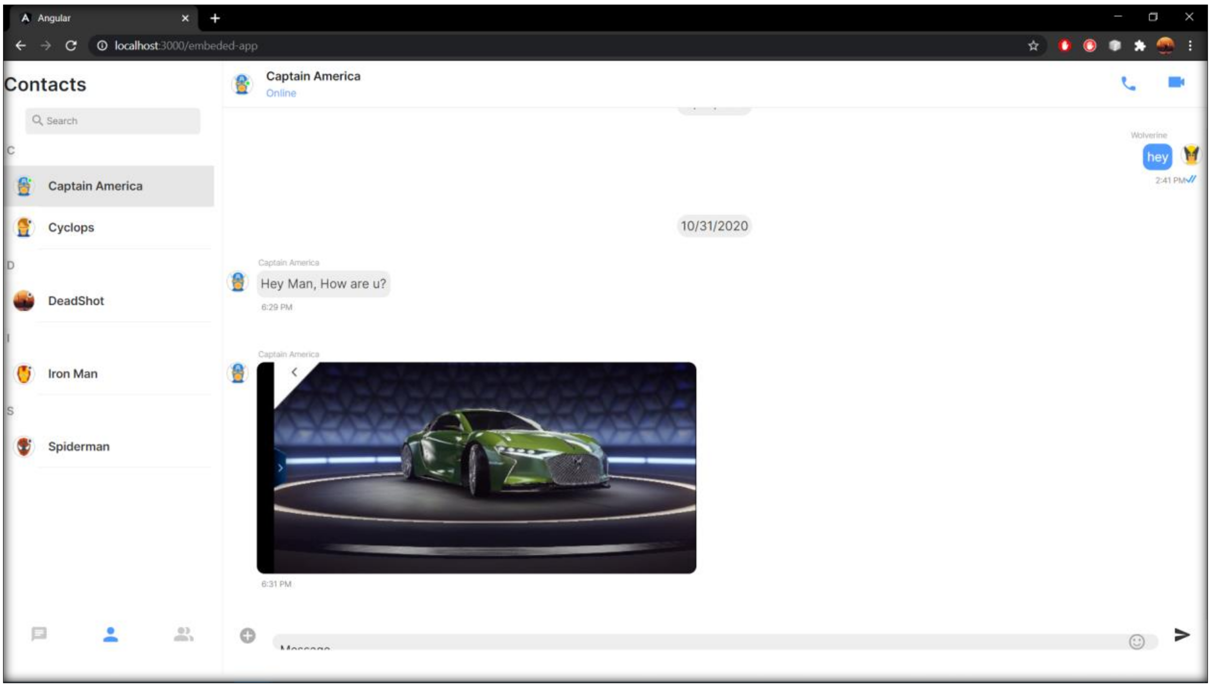
Comic Heros' Hangout: Last Message Not Fo...

10/30/2020

Wolverine: hey 2:41 PM

Captain America: Hey Man, How are u? 6:29 PM

File received.



Captain America (Online)

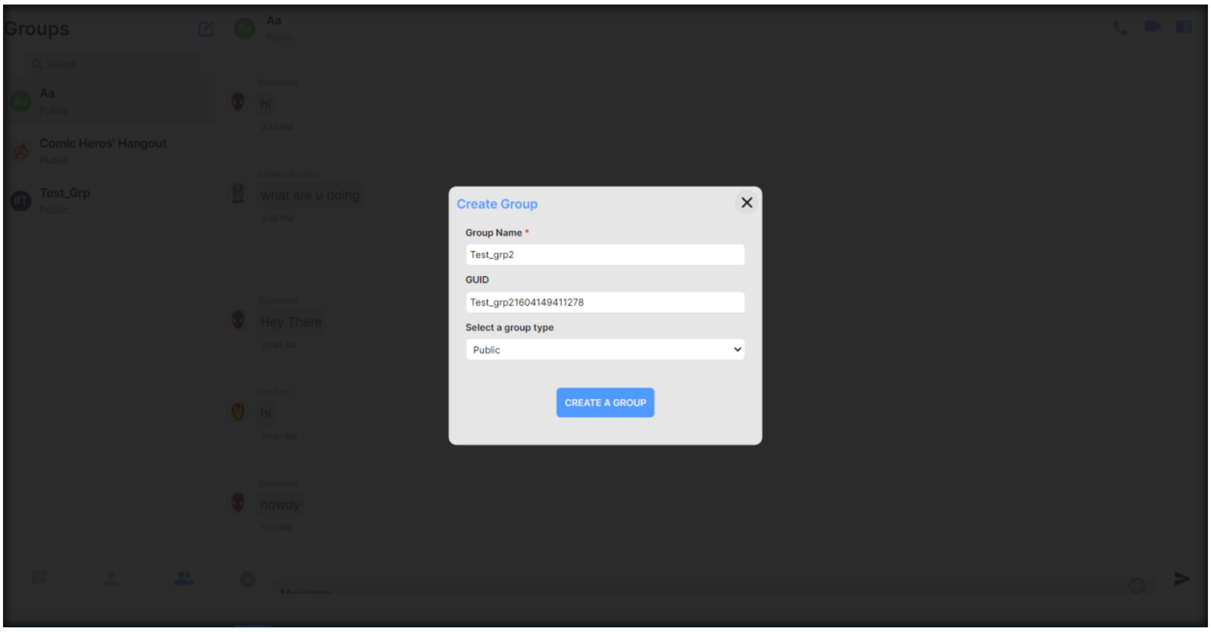
Wolverine: hey 2:41 PM

10/31/2020

Captain America: Hey Man, How are u? 6:29 PM

Captain America: 6:31 PM

Creating a group



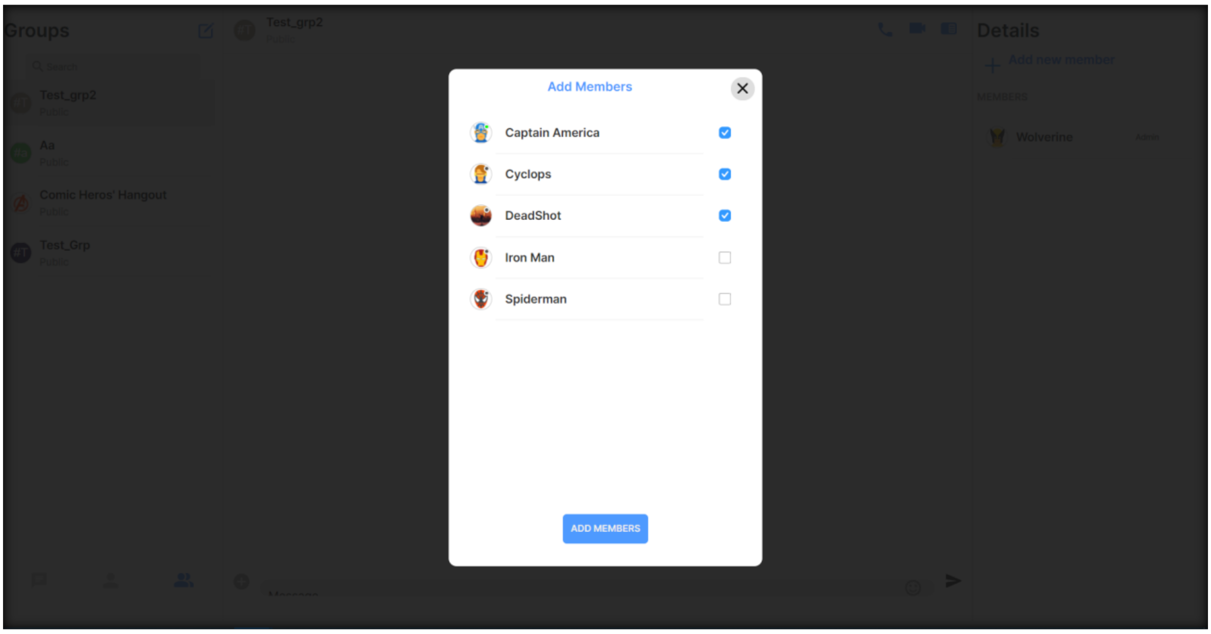
Create Group

Group Name * Test_grp2

GUID Test_grp21604149411278

Select a group type Public

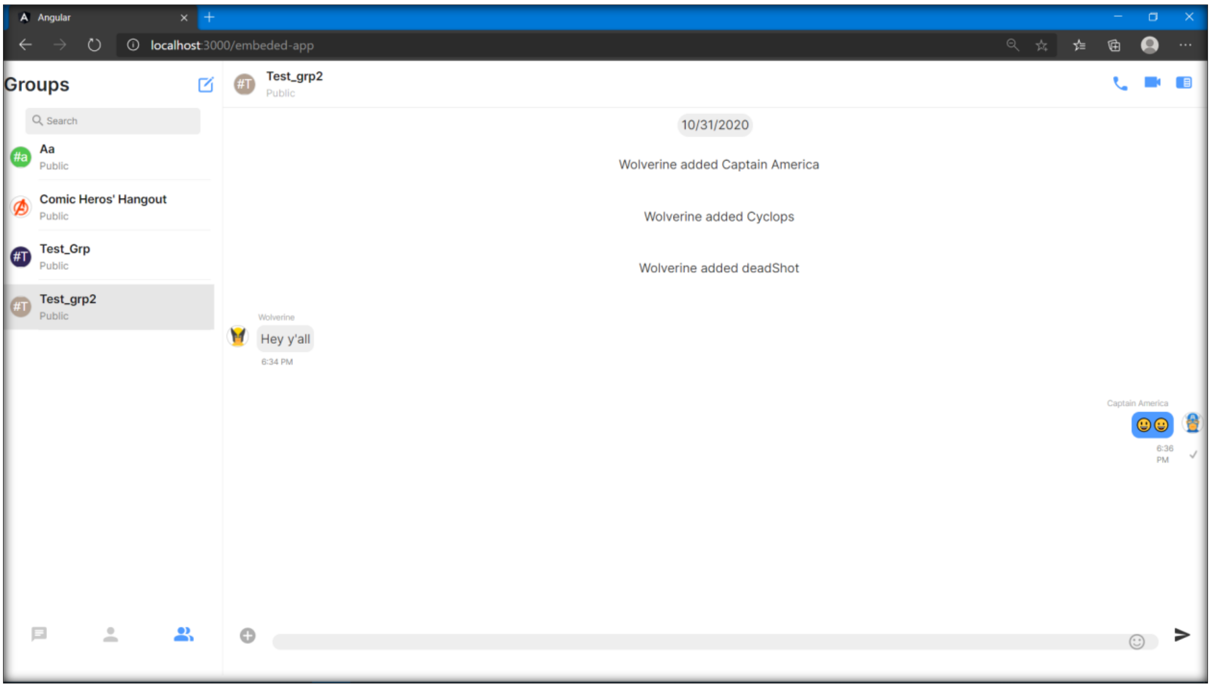
Adding Members



Add Members

- Captain America ☑
- Cyclops ☑
- DeadShot ☑
- Iron Man □
- Spiderman □

Sending messages and receiving them.



Aa
Public

Comic Heros' Hangout
Public

Test_Grp
Public

Test_grp2
Public

Test_grp2
Public

10/31/2020

Wolverine added Captain America

Wolverine added Cyclops

Wolverine added deadShot

Wolverine
Hey y'all
6:34 PM

Captain America
😃😃
6:36 PM

Conclusions

As witnessed by above screenshots, following modules have performed respective operations:

Login and Register Module: In this module, login and signup are done via Auth0’s API

Profile Module: In this module user can view his/her profile data

Chat Module: In this module user can see and send chats to his/her various contacts

Group Module: In this module user can create groups and add/remove participants and send messages and files.

Contact Module: In this module all contacts of users are saved and displayed but can only be added by premium users.

Conversation Module: This module saves previously sent/receive messages and displays them to the user.

Limitations

This web application has some scalability issues and may have some limitations regarding session of the logged in user.

Functionalities not implemented:

1. Premium side functionalities not implemented.
2. Free users cannot add friends.
3. Video and Audio calls are unimplemented.
4. User cannot change his details.
5. Blocking users

Future Expansions:

1. Consistency of website design.
2. Scalability could be increased.
3. Free users could access a demo trail version.
4. More functionalities could be added for premium users.

Bibliography

- https://angular.io/docs - for angular CLI
- https://getbootstrap.com – for designing using bootstrap
- https://auth0.com/ - for IaaS (Identity as a service)
- https://www.cometchat.com/ - for chat API
- https://material.angular.io - for designing