

# **Node Messenger**

## Module Interface Specification - Group 24

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## REVISION HISTORY

DATE	Version	Edited By
November 09, 2018	0	Shardool Patel, Tasin Ahmed, Omar Elemary

**NOTE:** React Generated Module - serviceWorker.js is not used for the application therefore the interface specification for that module is omitted.

# Chat Module

## Module

Chat

## Uses/Dependencies

Third Party: React, Semantic-UI Components

Local: chat.css, appLogo.svg

## Syntax

### Constants

*Message*: React UI component that renders a message

*ContactCard*: React UI component that renders a message

### Exported Types

Chat

### Funtions

Routine name	In	Out	Exceptions
render		Chat	built-in (react) Exceptions
componentDidMount			built-in (react) Exceptions
sendMessage	e		built-in (firebase) Exceptions

## Semantics

### State Variables

*contacts* : (List of User) Keeps track of the current user's contact

*user* : (User) User metadata

*messages* : (List of String) message that are currently being rendered

### State Invariant

$\{user! = null\}$

## Access Routine Semantics

`render()`: (Built in React Component Life-Cycle method)

- transition: None
- output: Compiled React Component: Chat
- exception: Built-In React Exceptions

`componentDidMount()`: (Built in React Component Life-Cycle method, Called after component is mounted on DOM)

- transition: Load User Data. i.e Contacts, Messages etc.
- output: Compiled React Component: Chat
- exception: Built-In React Exceptions

`sendMessage(e)`: (Broadcasts sent message to appropriate user)

- transition: Message sent is rendered in Chat component. *messages* list is updated with the new message
- output: None
- exception: Built-In (Firebase) Exceptions

# SignIn Module

## Module

SignIn

## Uses/Dependencies

Third Party: React, Semantic-UI Components

Local: signin.css

## Syntax

### Constants

None

### Exported Types

SignIn

### Funtions

Routine name	In	Out	Exceptions
render		SignIn	built-in (react) Exceptions
handleChange	e		
handleSubmit			InvalidInput

## Semantics

### State Variables

*email* : (String) Email input value

*password* : (String) Password input value

### State Invariant

None

## Access Routine Semantics

render(): (Built in React Component Life-Cycle method)

- transition: None
- output: Compiled React Component: SignIn
- exception: Built-In React Exceptions

handleChange(e): (Handles email and password input changes)

- transition: [*e.target.id*] (email or password) = *e.target.value*
- exception: None

handleSubmit(): (Handles SignIn request)

- transition: Log the current user in and render Chat Screen if sign in successful. Render appropriate exception if not successful.
- exception: InvalidInput

# SignUp Module

## Module

SignUp

## Uses/Dependencies

Third Party: React, Semantic-UI Components

Local: signup.css

## Syntax

### Constants

None

### Exported Types

SignUp

### Funtions

Routine name	In	Out	Exceptions
render		SignUp	built-in (react) Exceptions
handleChange	e		
handleSubmit			InvalidInput

## Semantics

### State Variables

*emailUp* : (String) Email input value

*passwordUp* : (String) Password input value

*confirmPasswordUp* : (String) Confirmation password input value

*displayName* : (String) Display name input value

### State Invariant

None

## Access Routine Semantics

render(): (Built in React Component Life-Cycle method)

- transition: None
- output: Compiled React Component: SignUp
- exception: Built-In React Exceptions

handleChange(e): (Handles email and password input changes)

- transition:  $[e.target.id]$  (One of the state variables)  $= e.target.value$
- exception: None

handleSubmit(): (Handles SignUp request)

- transition: Log the current user in and render Chat Screen if sign up successful. Render appropriate exception if not successful.
- exception: InvalidInput



# Login Module

## Module

Login

## Uses/Dependencies

Third Party: React, Semantic-UI Components

Local: login.css, appLogo.svg, SignIn, SignUp

## Syntax

### Constants

*Box* : Login Box containing the SignUp and SignIn UI Components

### Exported Types

Login

### Funtions

Routine name	In	Out	Exceptions
render		Login	built-in (react) Exceptions

## Semantics

### State Variables

None

### State Invariant

None

### Access Routine Semantics

render(): (Built in React Component Life-Cycle method)

- transition: None
- output: Compiled React Component: Login
- exception: Built-In React Exceptions

# App Module

## Module

App

## Uses/Dependencies

Third Party: React, Semantic-UI Components

Local: App.css, Login, Chat

## Syntax

### Constants

*LoadingScreen* : Loading Screen React Component

### Exported Types

App

### Funtions

Routine name	In	Out	Exceptions
render		App	built-in (react) Exceptions
componentDidMount			built-in (react) Exceptions
handleSignIn	String, String		built-in (firebase) Exceptions
handleSignUp	String, String		built-in (firebase) Exceptions
handleSignOut			built-in (firebase) Exceptions

## Semantics

### State Variables

*authChecked*: (boolean) User authentication status.

*user*: (User) User metadata (provided by firebase).

### State Invariant

$authChecked = \text{true} \vee authChecked = \text{false}$

## Access Routine Semantics

`render()`: (Built in React Component Life-Cycle method)

- transition: None
- output: Compiled React Component: App
- exception: Built-In React Exceptions

`componentDidMount()`: (Built in React Component Life-Cycle method,  
Called after App component is mounted on DOM)

- transition: Listen to authentication state changes via firebase. If user info exists, log them in  $\Rightarrow user = firebase.user, authChecked = true$
- output: Compiled React Component: Chat
- exception: Built-In React Exceptions

`handleSignIn(email, password)`: (Attempts to signIn via firebase authentication)

- transition: Sends firebase a signin request. Response is handled by the listener attached in `componentDidMount` method.
- output: None
- exception: Built-In (Firebase) Exceptions

`handleSignUp(email, password)`: (Attempts to signUp via firebase authentication)

- transition: Sends firebase a signup request. Response is handled by the listener attached in `componentDidMount` method.
- output: None
- exception: Built-In (Firebase) Exceptions

`handleSignOut(email, password)`: (Attempts to signOut via firebase authentication)

- transition: Sends firebase a signout request. Response is handled by the listener attached in `componentDidMount` method.
- output: None
- exception: Built-In (Firebase) Exceptions

# Index Module

## Module

Index (Initialization Module)

## Uses/Dependencies

Third Party: React, ReactDOM, Semantic-UI CSS, firebase, serviceWorker

Local: login.css, appLogo.svg, App

## Environment Variables

*ReactDOM* : Renders the react app to the screen when called as ReactDOM.render(...)

## Syntax

### Constants

*config* : firebase config object

*database* : firebase database instance

### Exported Types

None

### Functions

None

## Semantics

### State Variables

None

### State Invariant

None

### Access Routine Semantics

None