

Node Messenger

Module Interface Specification - Group 24

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REVISION HISTORY

DATE	Version	Edited By
November 09, 2018	0	Shardool Patel

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