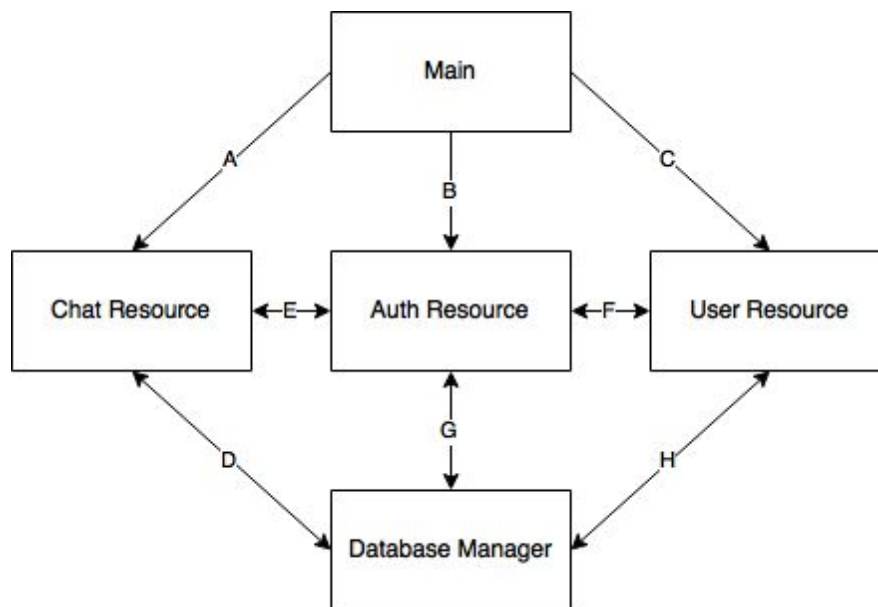


Team 2

Riley Shaw
Nathan Ohlson
Garrett Davidson
Noah Maxey

Incremental Testing and Regression Testing



Component Interaction Description

- A. Interaction between Main and Chat Resources
 - Main sends requests from the client to the Chat Resource that pertain to sending the three types of messages: text message, image message, and audio message.
 - Main sends Chat Resource the HTTPRequest from the client and an HTTPResponse object for the reply to the client.
- B. Interaction between Main and Auth Resources
 - Main sends requests from the user to the Auth Resource that pertain to three specific functions: sign in, sign up, and sign out.
 - Main sends Auth Resource the HTTPRequest from the client and an HTTPResponse object for the reply to the client.
- C. Interaction between Main and User Resources

- Main sends requests from the user to the User Resource that pertain to one specific function: update a user's profile information.
- Main sends User Resource the HTTPRequest from the client and an HTTPResponse object for the reply to the client.
- D. Interaction between Chat Resource and Database Manager
 - Chat Resource inserts text, picture, and audio messages into the database.
 - Database Manager replies with whether or not the insertion was successful.
- E. Interaction between Chat Resource and Auth Resource
 - Chat Resource asks Auth Resource if a given auth token is valid.
 - Auth Resource replies with a boolean response and passes the information to Database Manager.
- F. Interaction between Auth Resource and User Resource
 - User Resource asks Auth Resource if a given auth token is valid.
 - Auth Resource replies with a boolean response and passes the information to Database Manager
- G. Interaction between Auth Resource and Database Manager
 - Auth Resource asks the Database Manager if a given session token exists in the database
 - If the token exists in the database, Database Manager returns the relevant User object to Auth Resource
- H. Interaction between User Resource and Database Manager
 - The User Resource handles retrieving user information from Database Manager to send to the user.
 - The User Resource asks Database Manager to update certain fields with User profile information in the database.

Form of Incremental Testing

When conducting incremental testing throughout Sprint 1 we followed top-down testing. Our approach was to start with the main server component and then work our way through each sub-module creating stub implementations when necessary. We followed this approach because many of the implementation details of the submodules were dependent on how we decided to implement the main server module. Thus it was important to have the main module completed first so that we did not have to change our design later in the project.

Incremental Testing

Main

Defect #	Description	Severity	How Corrected
1	Main is routing a /user/update requests to the handleUser method instead of handleUserUpdate.	1	We split the routing function up so that any post requests to /user/update are routed to handleUserUpdate
2			

User Resource

Defect #	Description	Severity	How Corrected
1	Server should not update a user when an invalid auth token is passed.	1	We added the auth check before allowing an update to the user.
2			

Auth Resource

Defect #	Description	Severity	How Corrected
1	Authorization needs to respond with a 401 error code instead of a 400 error code when passing a token that is invalid.	2	We changed the error code that is being returned when a bad token is passed.
2	Requesting a logout had a typo within the SQL query and was not updating the user token properly.	1	We fixed the typo in the query so that when a user requests to log out their token in the database is removed.
3	When a user requests to sign up with a userId that is already taken, a duplicate user is created instead of returning an error.		We made the username parameter of the database unique so any request with a duplicate userId will

			return an error
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Chat Resources

Defect #	Description	Severity	How Corrected
1	Sending an invalid audio file still continued and added the message to the database.	2	Check to see if it is a proper audio file before adding it to database.
2	Sending an audio file with the same name as an existing file would cause an error when trying to store it to our directory and add it to the database.	3	Increment the audio file's name with a number if there is a duplicate.
3	Audio files are being stored in the same directory as pictures when added to database.	3	Make a separate directory to hold audio.

Database Resource

Incremental testing of Database Resource did not reveal any new bugs.

Regression Testing

Main

Defect #	Description	Severity	How Corrected
1	Fixing the routing for /user/update requests caused both handleUserUpdate and handleUser methods to be executed.	1	Make the /user/update mutually exclusive with /user/

User Resource

Defect #	Description	Severity	How Corrected
1	Fixing the auth check caused an error where AuthResource returned an error because it had an invalid number of parameters.	1	AuthResource now ignores extra parameters passed in the body.

Auth Resource

Defect #	Description	Severity	How Corrected
1	Passing extra parameters when validating an auth token returns an invalid JSON formatting error.	1	Valid the JSON formatting and the content separately.
2	When testing logging out with multiple users, a typo was discovered that deletes all user's auth tokens, instead of just the user logging out.	1	Change the SQL query to only delete the auth token for a single user.
3	Changing the JSON format validation caused it to reject messages with Unicode characters.	2	Fix an error in the format validation that rejected Unicode characters.

Chat Resources

Defect #	Description	Severity	How Corrected
1	After adding the validation for audio files, the user was not being informed if their audio file was invalid.	3	Send the user an "Invalid message" error if their audio file fails validation.
2	After fixing the problem of having the audio files and the pictures being stored in the same place the database wasn't being updated with the change in location.	2	Updated the insert method into our database to have the correct path.
3	After adding audio file name collision handling, the database was storing the original name of the audio file instead of the new name.	2	Updated the path name to include the new name of the file.
4	Authentication is not being validated when sending messages	1	Make sure the auth token is validated before executing a request.

Database Resource

Regression testing of Database Resource did not reveal any new bugs.