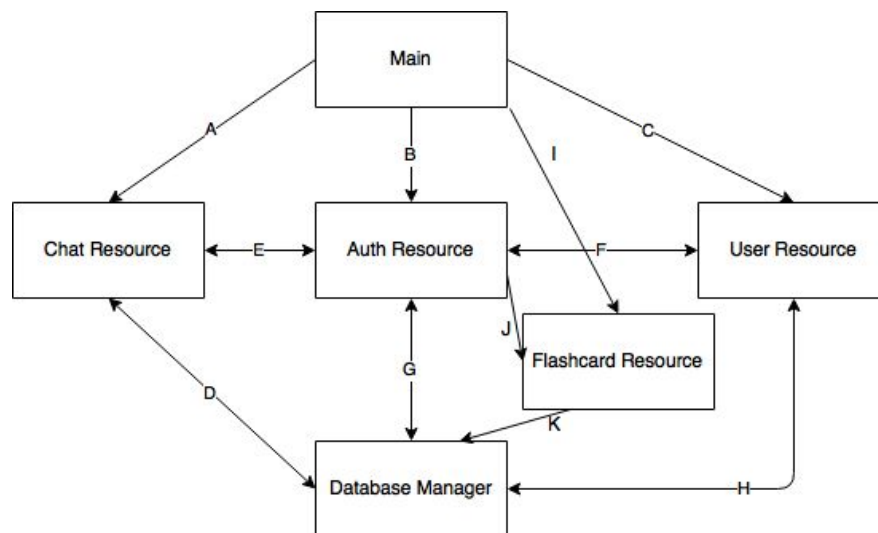# Team 2
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Incremental Testing and Regression Testing 2

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, as well as translating messages.
- ○ Main sends Chat Resource the HTTPRequest from the client and an HTTPResponse object for the reply to the client.
- ○ Main sends requests from the client to Chat Resource to request a user's messages. Chat resource replies with the appropriate messages, if applicable.

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 updating 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.
- ○ Chat Resources requests messages between two specific users, and Database Manager replies with the appropriate messages, if they exist.

E. Interaction between Chat Resource and Auth Resource
- ○ Chat Resource asks Auth Resource if a given auth token is valid.

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
- ○ Auth Resource tells Database Manager to insert new users that have signed up or to log out users.

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.
- ○ The User Resource asks Database Manager to get the top 20 matches with the current user.

I. Interaction between Main and Flashcard Resources
- ○ Main sends requests from the user to the Flashcard Resource for storing, editing, and retrieving flashcards
- ○ Flashcard replies with the status of the insertion/update, or the retrieved flashcards.

J. Interaction between Flashcard Resource and Auth Resource
- ○ Flashcard Resource asks Auth Resource if a given auth token is valid.

K. Interaction between Flashcard Resource and Database Manager
- ○ The Flashcard Resource handles retrieving flashcard information from Database Manager to send to the user.
- ○ The Flashcard Resource asks Database Manager to update certain fields with Flashcard arrays in the database.

Form of Incremental Testing

For the second sprint, we continued our top-down testing approach. Most the high level structure was in place after the last sprint. This meant that throughout the sprint we were able to replace our previous stub implementations with the full implementations for each of our components.

Incremental Testing

Main

Defect #	Description	Severity	How Corrected
1	We cannot pass authentication in the body of a matching request because it is a GET request.	2	Change the request from GET to POST.

User Resource

Defect #	Description	Severity	How Corrected
1	SQL query has an issue with empty values being passed in.	2	Change the query so that we check whether or not a parameter is empty.
2	When reading a user from the database, if the user had multiple native or learning languages, the parsing failed.	1	Update the SQL query to handle multiple languages in the same field.

Auth Resource

Defect #	Description	Severity	How Corrected
1	There was no path that called the Google authentication method.	1	We add the proper path to call the google auth url.

Chat Resources

Defect #	Description	Severity	How Corrected
1	When sending a message, we are not checking if you are sending it to yourself.	2	Check to see if the userid for the sender matches the recipient.
2	When receiving your messages from database, they do not return the proper time.	3	Change time to proper time zone.
3	Not giving a empty array when requesting messages from a valid id but no messages have been sent.	3	Return an empty array.
4	The translation service would respond with invalid request because our session token was not URL encoded.	2	URL encode the session token.
5	We are not checking for proper language field before sending the request.	2	Make sure the language is in the correct format by converting it with Swift language api.
6	When requesting translations through Microsoft we were sending a POST request but they need a GET request.	2	Changed request from POST to GET.

Flashcard Resource

Defect #	Description	Severity	How Corrected
1	Auth resource was not returning the correct error when the auth is invalid.	3	Added proper error response.

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

Regression Testing

Main

Defect #	Description	Severity	How Corrected
1	After changing our request for updating the user to a POST request, Main no longer forwards the request to the correct function.	1	Change the routing for the update user request to accept POSTs.

User Resource

Defect #	Description	Severity	How Corrected
1	We updated the user to store the learning languages array as a comma separated list, which broke the updating user functionality for updating the learning languages array.	1	We fixed the updating learning languages functionality to support comma separated list.

Auth Resource

Defect #	Description	Severity	How Corrected
1	After updating the user update functionality, we had an issue where the server would return 200 if the user had not registered yet but tried to log in.	2	We changed the authorization to return the correct code when logging in a user who has not been registered

Chat Resources

Defect #	Description	Severity	How Corrected
	No regression defects.		

Database Resource

Defect #	Description	Severity	How Corrected
1	Within the database we limited messages to 500 chars, but because we ended up base64 encoding the messages, the encoded text can be longer than 500 characters.	2	Made the database handle larger than the max encoded length.
2	When we changed the database to hold the learning language parameter our convert row function no longer worked.	1	Update the convert row function to use the field names.

Flashcard Resource

Defect #	Description	Severity	How Corrected
	No regression defects		