Sprint 1 - Design Inspection, Code Inspection and Unit Testing

Team 4: ChatChat
Zhenmu Gong, Yiting Du, Canyu Yang, Shikang Fan, Siyu Jiang

Design Inspection

Product: ChatChat
Date: 9/20/2019
Author: Team 4

Defect #	Description	Severity	How Corrected
1	No button present on main page	Critical	Added code to place a "PROFILE" button and a "EXPLORE" button and link them to related activity pages
2	When the back button is pressed, it leads to incorrect activity pages	Important	Added override onBackPressed() method and set it to the activity page that we can
3	No explore button on the Mainpage Activity	Critical	Added code to place button and brings user to ExploreActivity when pressing the exploreButton
4	When changing username, invalid characters are allowed	Workaround	Added code using regex to check. If there are invalid characters present, toast a message.

5	No confirm button in change username activity	Important	Added code to place confirm button in change username page. After the button is clicked, evaluate the validity of the imputed username. If the username is valid and successfully updated, go back to the profile page.
6	When a user wants to change password, the change password page needs the user to input email to be authenticated. There is no confirm password input to let the user double check before the password is updated.	Workaround	Added code to retrieve the user's email from firebase authentication. Change the layout file to let the user input the old password, the new password and confirm new password to double check.
7	Chosen image doesn't show on page for preview before uploading	Workaround	Added imageview with image loading api for image preview
8	Each category button on exploreActivity is too far from each other.	Workaround	adjust button's marginTop and marginBottom in the xml file to an appropriate distance.
9	Registration doesn't add account with specified information	Important	Tested with firebase and our app running concurrently and check each attribute of the added user in firebase

Code Inspection

Product: Chatchat
Date: 9/20/2019
Author: Team 4

Defect #	Description	Severity	How Corrected
1	When the logout button is pressed, it redirects to login page but the user is technically still logged in	Important	Added firebase authentication logout method to log the user out properly
2	When changing password, there is no limit of the password. User can enter an unreasonable super long password	Important	Added code to check the input password length before change the user's password. If the length is too long(more than 20 characters), toast an error message.
3	Built-in Junit test dependency out of date	Workaround	Update Junit Module dependency()
4	Users are able to input More than 255 characters for their userName when sign up	Important	Added code to set a limit of length of user ID to 14 characters
5	Profile page has no imageView to load user avatar	Important	Added ImageView and linked firebase storage image url to display
6	New users have no field of image url to store avatar	Important	Added code to generate image url field for every user

7	There is no method to check for correct email address with the right format for when the user changes his account info	Important	Added Code to ensure that the user enters the corresponding email address in the correct format
8	Users are able to enter empty String, illegal characters and chat names for too long when creating a new chat room.	Workaround	Check for user's input before pushing it to the Firestore database.
9	If users don't upload image for avatar, image field will be "". Then there is no image to load into imageview for avatar	Workaround	Added default avatar image url to firebase storage for user who have empty imgurl value

Unit Testing

Module: Images upload/download Module.

Product: ChatChat
Date: 09/20/19
Author: Zhenmu Gong

Defect #	Description	Input	Output	Severity	How Corrected
1	Using MediaStore.Image module to request image uri from picked photo from gallery	Adding Image from photo gallery	Actual output: Image uri is missing that will cause firebase task upload error	Important	Make sure data.getData() is not null when return from image pick activity
2	Storing image download url to firebase storage and user info field	Adding Image from photo gallery	Actual output: App crashed due to storing image url to firebase before firebase generating image download uri	Important	Implement a while loop to check the state of uploadtask (isSuccessful) constantly
3	Return to last activity for UploadImage Activity	Press built-in back button or back navigation arrow on action bar.	Actual output : Back to Mainpage activity instead of profile activity	Workaround	Add onBackPressed() override function, and add parent Activity for image upload activity

| 4 | Show uploading progress dialog | Press upload button | Actual output: No progress dialogr appeared due to api update | Workaro und | Implement progressBar instead of progressDialog which is abandoned in newer version of API |
| 5 | Upload empty image prompt warning | Pick image from gallery and press upload | Actual output: Nothing happened | Workaro und | Added toast text to show that user need to pick an image to upload(including image url) |

Module: Profile Update Module

Product: ChatChat
Date: 9/20/2019
Author: Yiting Du

Defect #	Description	Input	Output	Severity	How Corrected
1	When changing username, the change username page accepts new username with invalid characters, space and new line, which should be prevented	Input: "Hj Sskas ^^^^&&& Sdad hk h 90909()*J n-=-=hihi"	Actual output: Updated successfully	Important	Implement a regex to restrict the username only contains [A-Za-z0-9_]. Change the input type of the Edittext to "textPersonName" to prevent new line be stored in username.

| 2 | When changing password, the change password page accepts super long new password, which should be prevented. | Input: "jshsiuadhj khasdjkah djhasjkhdj sahjkdhsaj dhsakhdjk ahdjsahjdh ajdhasjkhs jkahdashjk dhasj@@ nj&&&&&" | Actual output: Updated successfully | Important | Added an if statement to check the length of the password before actually updated to firebase authentication. If the length is longer than 20 characters, toast a message and remain on the same page. |
| 3 | When changing username, input a super long password also with invalid characters. The change username page should display a message that says "Error. Chat ID too long" | Input: "dsajkldjka jkdal%%% %%%%% %%%%## $!@$%%! &@^&bhjg dhgfsjhdsg fhgak" | Actual output: "Error. Invalid chat ID" | Workaround | Change the order of the if statements. Check the length of the username input before check the invalid characters of the input. |

Module: Log in and signup

Product: ChatChat
Date 09/20/2019
Author: Siyu Jiang

Defect #	Description	Input	Output	Severity	How Corrected

1	Sign in with google may result in long response time and thus result in some activity timed out.	Click Sign in with Google	App freezed	Important	Add listener for Google api event.
2	Sign in with email Sign in with google does not check whether a user account is created before	Click Sign in with Google	App treats a new user as an existing user, and failed to render name.	Important	Add a check function asserting whether a user document exists. If not, prompt the user to enter its chat Name

3	Sign up module does not warn the user about empty user name.	Enter email and password but no user name. Then click confirm.	App gives no feedback	workaround	Add hint when user entering empty username.

Module: Chatroom Creation and joining

Product: Chatchat
Date: 09/20/2019
Author: Shikang Fan

Defect #	Description	Input	Output	Severity	How Corrected
1	RecyclerView for chat room list is not displayed after entering the chat room list activity	Click a categoryButton in the exploreActivity	Actual output: Some elements from ChatroomListActivity is displayed, but chat room list is empty. Expected output: A chat room list pulled from database should be displayed	Critical	In RecyclerView Adapter's method getItemcount(), it returns 0 by default, but it needs to return the number of lists you want to display in the chatroom list so nothing is shown in

					the beginning.
2	No chatroom data is pulled from the Firestore database.	Click a categoryButton in the exploreActivity	Actual output: Only hardcoded chat rooms are displayed, but chat rooms from database are not displayed. Expected output:chat rooms from database should be displayed.	Critical	When creating a collection reference, the name of Chat Room collection is "Chatroom", but used "Chatrooms" when creating the collection reference, thus returning nothing from database.

Module: Reset Password management module

Product: Chatchat
Date: 09/20/2019
Author: Canyu Yang

Defect #	Description	Input	Output	Severity	How Corrected
1	When user requests to change password and press the resend button, the reset password email is only sent to user once	Clicking the resend button in the resetPassword page multiple times	Actual output: Only a single reset password message is sent to the user's email Expected output: Reset password messages should be sent to user email	Workaround	In the resend button Clicklistener activity, a variable numpressed is used to track the number of times the user clicks on the resend button, if the variable is

			for a maximum of three times		less than 3, messages keep sending when user clicks on the resend button
2	Password change request sent to wrongly input email addresses	Inputting email addresses of incorrect formats in the email editText	Actual: When user enters an email address of incorrect formats, there is no validation of address and the reset password email is sent regardless Expected: If the user enters incorrect email addresses, an error message is displayed showing the user enters incorrect email adresses	Critical	A validation method is created in resetpassword activity to check for correct email format and when the email address exists in the user account stored in firebase