

Design & Code Inspection

CS 408 Team 8

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Design Inspection

Product	AR System Design Inspection
Date	3/2/18
Author	Sawyer Blatz
Inspector	Sawyer Blatz

Defect #	Description	Severity	How it was corrected
1	The AR view controller was handling the logic for fetching new bubbles, breaking MVC pattern.	3	The logic for fetching new bubbles was moved to our backend model.

Product	Utilities System Design Inspection
Date	3/3/18
Author	Dhruv Upadhyay
Inspector	Dhruv Upadhyay

Defect #	Description	Severity	How it was corrected
1	Class extensions and constant variables were being used in various files throughout the codebase which made it a bit unorganized and harder to understand.	3	Added a Utilities folder to the system's architecture which allows to organize files related to extension of classes, custom delegates, and defining global constants.

Product	Bubble Voting Design Inspection
Date	3/4/18
Author	Siraj Zaneer
Inspector	Siraj Zaneer

Defect #	Description	Severity	How it was corrected
1	When a bubble is voted on the app has no idea what the new vote count it	2	Return the new vote count using the transaction along with a completion handler in the dataservice

Product	Bubble Voting Design Inspection
Date	3/4/18
Author	Abdul Aziz Bah
Inspector	Abdul Aziz Bah

Defect #	Description	Severity	How it was corrected
1	Buble object needs currentUserId to be able to associate the bubble to a user, however since app signIn was not connected to the mapview part because these parts were implemented separately the currentUserId was nil so the app crashes any time a ref to currentUserId was made	1	Connected the signIn so i was able to load get the currentUserId from Auth.auth().currentUser.uid also created a check to see if currentUserId was nil before trying to ref it so it does not crash the app but gracefully handle the error

Code Inspection

Product	AR View Code Inspection
Date	3/2/18
Author	Sawyer Blatz
Inspector	Sawyer Blatz

Defect #	Description	Severity	How it was corrected
1	The AR view controller was originally fetching for new bubbles on a timer, which could result in too many or too few updates	3	The fetching was changed to be handled by a Firebase observer, which added a bubble whenever one was created
2	The AR view controller assumed the user's location was given, even if the user denied permission which would lead to a crash	1	If the user denies permission to location services, a popup will be presented to the user informing them the app cannot work without it
3	The AR view controller assumed the user gave camera permissions, and would result in a crash if they didn't	1	If the user denies camera permissions, a popup is presented informing them that the camera is required for AR view.

Product	User Profile Code Inspection
Date	3/3/18
Author	Dhruv Upadhyay
Inspector	Dhruv Upadhyay, Abdul Aziz Bah

Defect #	Description	Severity	How it was corrected
1	We don't have a reference to the current user in the view controller for the user profile which causes the page to be empty.	1	Have a variable for the current user of type User in the view controller that is a reference to the current user.
2	The current user's reference was not set to anything and so the app crashes because current user is nil	1	Make a call to the backend to retrieve and set the current user before the user profile loads.
3	Fetching the current user using backend call each time takes some time to load.	2	Pass reference of current user from the root view controller so we don't have to make a backend call, thus user profile loads quicker.

Product	Voting Code Inspection
Date	3/4/18
Author	Siraj Zaneer
Inspector	Siraj Zaneer

Defect #	Description	Severity	How it was corrected
1	Votes is not being incremented	1	Increment vote count value during firestore transaction
2	Callback not being triggered to get new vote count	2	Return new vote count from inside the transaction and use callback to return
3	Votes are being counted twice	2	Flag user as having already voted inside the transaction

Product	Expansion of bubble on mapview on Code Inspection
Date	3/4/18
Author	Abdul Aziz Bah
Inspector	Abdul Aziz Bah

Defect #	Description	Severity	How it was corrected
1	One of the test bubble had nothing on the bubble, this is because an empty string was added as bubble data	2	Made a check to see if the added bubble was not empty when user is tabs on the create bubble button

2	In trying to set the bubble annotation at the current user location. I was getting a wrong location, somewhere in california every time i tried to get the current location	2	On my project i had to add the corelocation framework and set a privacy question to request for user permission to access their location
3	When a user try to expand the bubble they are been directed to another view to show them their bubble data however the data will not appear on that page	1	Had to pass the data of the bubble through the segue, programmatically

Unit Testing

Our unit testing was done in an automated fashion through XCTestests in Xcode. We had a combination of UI tests and unit tests in order to cover a variety of issues that may arise not only visually, but inside of our model's logic.

Product	AR View Unit Testing
Date	3/3/18
Author	Sawyer Blatz
Inspector	Sawyer Blatz

Defect #	Description	Severity	How it was corrected
1	The AR view controller camera view would not fill the	3	The AutoLayout constraints for the camera view were

	screen if the user was using an iPhone X		updated so it would work with any screen size
2	The button to switch back to the 2D map view was using an improper (push) segue	2	The segue was changed to “unwind” to the previous controller rather than pushing a new one
3	The text on the bubbles appeared too small if the bubble was far away	2	Increased the base size of bubbles at the edge of the visible radius
4	When posting a bubble, it would appear in front of the user, blocking all of the other bubbles	1	Increased the altitude the bubble posted at so users could still see other people's posts

Product	Profile View Unit Testing
Date	3/3/18
Author	Dhruv Upadhyay
Inspector	Dhruv Upadhyay

Defect #	Description	Severity	How it was corrected
1	When running automated UI tests, user's bio on their profile gets cut off if it is more than a certain length	2	Dynamically resize textview for the bio so that way it grows according to the text size of the user's bio.
2	UI tests found that User's name on their profile is not displayed at times	1	When updating the profile page, use the main thread to update UI elements such as user's name to display otherwise it

			may not get displayed for some time due to other backend calls.
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Product	Profile Settings Unit Testing
Date	3/3/18
Author	Dhruv Upadhyay
Inspector	Dhruv Upadhyay

Defect #	Description	Severity	How it was corrected
1	Automated testing showed that when user tries to delete their account, they only get logged out and not deleted and can still sign in.	1	After calling function to log the user out, also call function for deleting the user from Firebase authentication as well their reference from the database.
2	UI tests found that when user tries to change their profile picture, they are unable to access their camera roll.	2	Ask user for permission to use camera roll by updating flags/permissions. Add check in code to make sure that we have permissions from the user before trying to access camera roll

Product	Bubble Voting Unit Testing
Date	3/4/18

Author	Siraj Zaneer
Inspector	Siraj Zaneer

Defect #	Description	Severity	How it was corrected
1	Unit testing to show that when a bubble is voted on the count increases	1	Use a transaction to successfully increment vote count without causing race conditions or other issues
2	UI tests found that when user tries to vote on a bubble it doesn't do anything	2	Connect action to voting button to make sure voting is triggered when it is clicked on

Product	Bubble expansion Unit Testing
Date	3/3/18
Author	Abdul Aziz Bah
Inspector	Abdul Aziz Bah

Defect #	Description	Severity	How it was corrected
1	When two posts are made at the same location, the bubbles overlap each other making it hard for the user to get access to the bubble below the one on top	2	Fix by checking when add a bubble if one currently exist at current location and moving the coordinate a bit so the other bubble can appear

Product	Bubble expansion Unit Testing
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Date	3/3/18
Author	Abdul Aziz Bah
Inspector	Abdul Aziz Bah

Defect #	Description	Severity	How it was corrected
1	When user create a bubble, a map annotation needs to be add to the Mapview at the current location. However this was not added so the bubble could not be visible for user to see	2	A Map annotation when the user create bubble and created a callout so they can access the bubble info