Incremental Testing and Regression Testing

Team 14: CoconutWatr
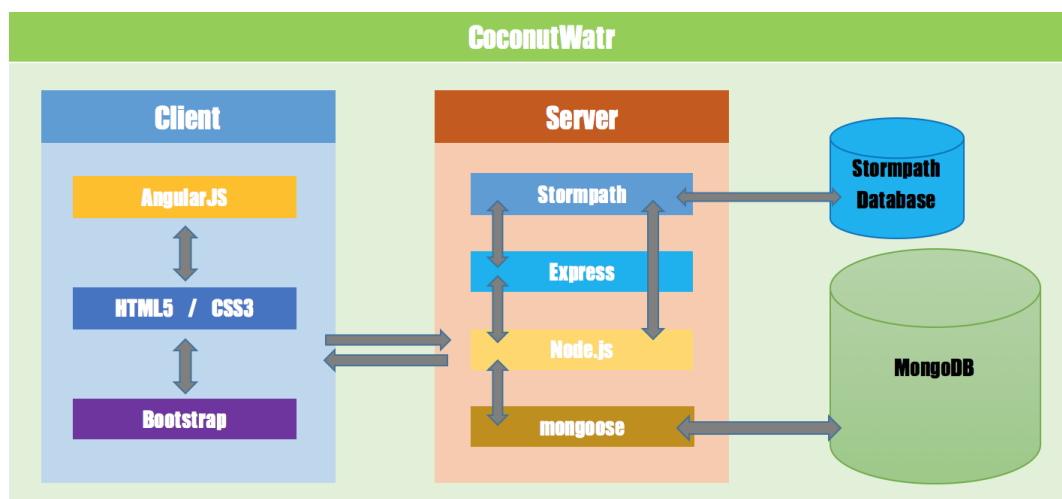
February 14, 2017

Team Members

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Classification of Components

1. **Define all components**

    a. Web Server (Node.js, Express, mongoose)
        i. Input: HTTP methods (GET/POST/etc.) from client's web browser
        ii. Output: Web application on client's web browser
        iii. Dependencies: MEAN stack and Stormpath framework
        iv. Dependents: Clients (users)
    b. Database (MongoDB)
        i. Input: Data from users, classes, groups, events and assignments
        ii. Output: Data from users, classes, groups, events and assignments
        iii. Dependencies: N/A
        iv. Dependents: Server
    c. Database (Stormpath Database)
        i. Input: Data from users
        ii. Output: Authentication
        iii. Dependencies: N/A
        iv. Dependents: Server
    d. User Management (Server-side Stormpath)
        i. Input: Login credentials (email and password)

ii. Output: Success/failure logging in
iii. Dependencies: Google OAuth, Node.js, user credentials
iv. Dependents: Application (determine which data to present)
e. Clients (basically web browser with JS engine)
i. Input: User input (Button / Textbook)
ii. Output: content updated webpage
iii. Dependencies: JavaScript engine
iv. Dependents: User

2. **Which form of incremental testing did you follow**
The form of incremental testing we used is **bottom-up** testing. Almost everyone is working on separate component from the other so the optimal testing method will be bottom-up by assembling each component with the others.

Incremental and Regression Testing
1. **Automation**
We automated the testing by using a simple bash script file to start server, request certain page, input random input string to form (Add class / Create event) page.

2. **Defect log**

Incremental Testing

1. **Chat, events, etc**

Defect No.	Description	Severity	How To Correct
1	Chat messages don't display username.	2	Add username before displaying messages.
2	Chats are not separated by classes.	2	Associate chats with classes they belong to.

2. **Stormpath - Login Node**

Defect No.	Description	Severity	How To Correct
1	Sign up window does not show up.	1	Enable new users in Stormpath database.
2	Logout session does not log user out.	1	Implement form POST on logout buttons.

| 3 | Google authentication causes application to crash. | 1 | Callback URI somehow do not match on. |

3. Mongoose

Defect No.	Description	Severity	How To Correct
1	Event information is not securely stored.	3	Hash the event information before storing it into database.
2	Event information is not separated correctly.	2	Create an Event object with unique ID number that can store all Event information.
3	Event information still exists in database after the event is deleted.	3	Add the deletion function to delete corresponding information when events are deleted.
4	Chat messages are not securely stored.	3	Hash the chat messages before storing them into database.
5	Classes still exist in database after users drop them.	2	Add the deletion function to delete class when classes are dropped.

4. Front-end (HTML5/CSS3/Bootstrap)

Defect No.	Description	Severity	How To Correct
1	Summary panel of Class page isn't responsive with changing size of window.	3	Properly include Bootstrap thus the panel is responsive.
2	Create event form page not showing all the possible selection of time as database.	2	Modify and add event time options.

5. MongoDB

Defect No.	Description	Severity	How To Correct
1	Searching for a user passes in null arguments	3	Add null checks in the

Defect No.	Description	Severity	How To Correct
	occasionally.		database and corrective checks on the front-end.
2	Returning user information who created an event is not available.	3	Add "created by" in the Event model.
3	No function to remove a student from a class.	3	Add a "remove student from class" function in Node.

6. Angular

Defect No.	Description	Severity	How To Correct
1	Pages for different users are not updated when changes are made by others.	2	Properly implement synchronization of pages.
2	Class page not updating after changing user.	1	Retrieve class information after changing user.
3	Showing all users all Subgroups of a class.	2	Add Subgroup field to each User account to store all Subgroups ID's a user is part of.

Regression Testing

Defect No.	Description	Severity	How To Correct
1	Users are allowed to send messages with a length larger than 200.	3	Add character boundary test cases.
2	When a user clicks logout they are not actually logged out.	2	Attach Stormpath logout function to the button.
3	Hashing the chat messages causes the summary to display improperly.	1	Retrieve messages directly from chat function instead of database
4	A post with " " can be sent to database.	3	An alert to the user that emoji characters are not supported by our application.

Defect No.	Description	Severity	How To Correct
1	The event list of the class page doesn't update when the user adds the event in add event popup.	2	Refresh the event list class page of all active users after a user creates a new event.
2	Unexpected exception when user didn't input the date information for the event.	1	Add alert feature so that the user can enter all the information before turn in.

Updated Product Backlog

ID	Functional Requirement	Hours	Status
1	As a user, I would like to login with Google Account.	7	Completed in sprint 1
2	As a user, I would like to be able to see a summary of what has been going on in my classes (something like news feed).	15	In Progress: moved to sprint 2
3	As a user, I would like to be able to add my classes.	8	Completed in sprint 1
4	As a user, I would like to be able to create a class if it does not exist.	6	Completed in sprint 1
5	As a user, I would not want to see history of previous semester of a class.	8	Planned for sprint 2
6	As a user, I would like to be able to remove class from my feed (in case I drop the class).	6	Completed in sprint 1
7	As a user, I would like to be able to see the classmates in the same class.	6	Completed in sprint 1
8	As a user, I would like to be able to communicate with classmates in the same class (public channel of the class).	10	In Progress: moved to sprint 2
9	As a user, I would like to be able to create a subgroup to chat with certain users in the same class.	11	Planned for sprint 2
10	As a user, I would like to be able to leave a subgroup.	9	Planned for sprint 2
11	As a user, I would like to be able to invite classmates to the subgroup.	10	Planned for sprint 2
12	As a user, I would like to be able to accept the invitation of a subgroup.	7	Planned for sprint 2
13	As a user, I would like to be able to post a message in a specific conversation.	6	In Progress: moved to sprint 2
14	As a user, I would like to be able to post reminder of an assignment that will be due.	16	Planned for sprint 2
15	As a user, I would like to be able to create public events with important information.	10	Completed in sprint 1
16	As a user, I would like to be able to edit the public	5	Planned for sprint 1

	events that I made.		
17	As a user, I would like to be able to delete the public events that I made.	7	Planned for sprint 1
18	As a user, I would like to see the public event of others had created.	6	Completed in sprint 1
19	As a user, I would like to be able to RSVP to events.	8	Incomplete: Moved to sprint 2
20	As a user, I would like to be able to see who is attending an event.	6	Completed in sprint 1
21	As a user, I would like to be able to see who created an event.	4	Incomplete: Moved to sprint 2
22	As a user, I would like to be able to log in using my Facebook account. (If time permits)	9	Planned for sprint 2
23	As a user, I would like to have a help section in the application to provide more detailed explanations of functionality. (If time permits)	15	Planned for sprint 2