Tanner Wright
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Implementation from a system or developer's perspective

What features did you implement?

The Jems-Eh website possesses all the minimum required features that are outlined in the Project tab on canvas as well as all additional features that our group chose to pursue. The project outlined has a main goal to allow registered or unregistered users to view, create and delete threads based on the users account as well as view and create their own categories. The goals of this project were met and deployed onto the COSC360 server. The Jems-Eh website offers different features based on the user's role. If the user is not logged into the site, then they are only able to search threads, categories and users as well as view the main page as well as the ‘hot’ page which displays all the most liked threads and the ‘new’ page which displays all the newest threads. Non-logged users are also able to register to create an account which requires a unique username and email as well as a profile picture to successfully register and log in. If users successfully register, the email they provided will receive an automated email welcoming them to the site. Users who are logged in have a lot more features than users who are not logged in.

Logged in users are also able to search up threads, users and categories on the main page as well, Users are able to create their own unique threads of which they can set to private, meaning only friends of the user can see that specific friends only threads. Users will also have the ability to change and view their profile picture and personal information in their own profile page. These users can also view their own custom friends only page which will display all friends who have posted. Another feature implemented for the logged in users is the ability to like threads. Threads will be able to asynchronously be updated with the likes so you will never need to refresh the page to see the updated like total. Users can then view all their liked posts in the liked posts tab. Logged in users can also view all their created threads in their profile page as well as delete their own threads from this page. Users who are logged in can also create

comments on posts as well as delete their own comments, if users are on their own threads. The thread creator can moderate their own thread and delete unwanted comments on their own threads.

Admin users have a lot more power than a registered user. Admins can moderate all threads and comments within these threads and delete them. Admins also have access to graphs created by querying the MySQL database which is displayed in the admin main index page. Admins are able to also remove a user which will remove all posts and comments made by that user as a way to enforce and moderate the site.

Appropriate security was enabled to protect the users registering as well by hashing all passwords in the creation of accounts so the password cannot be accessed unless decrypted. The site also is set up to prevent SQL injections by only using prepared statements when creating, updating and deleting data in the database. The site will also maintain state by checking the sessions when a user is using the site. Collapsible Items and Responsive design for Desktop and Mobile was implemented to provide users with multiple ways to enjoy and access the website in a seamless way. Error handling was also added to ensure that information is correctly entered and will display back to the user if otherwise, sessions are checked on every site to ensure that the user is meant to be on that site or else the user will be directed to the login page.

As per our Additional Requirements, Users have access to a friends list and friends page, the search bar and have control over privacy such as limiting posts to friends only. A safe search was implemented which can be used to look up threads that are family friendly as well. Threads, comments and categories can all be moderated and deleted if deemed so by an admin or moderator. Admin privileges were also created, which allows them to view statistics of the website, delete threads and comments or even remove users. Likes were also implemented for users to fully interact with the site. Testing was also implemented to the site to ensure that features that were implemented were correctly done. Primarily PHPUnit testing was the framework chosen as it offers easy implementation and can be used to create many unit tests.

In summary, each of the project requirements highlighted in the Project Proposal was successfully attained as well as the additional requirements set out by our group.

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Include a description of the PHP and JavaScript files of your web site. How does your web site work at a high-level? Identify known limitations of the site?

Almost all the files created on this website are in PHP with the exception of a few JavaScript and CSS pages. Making the pages entirely PHP allowed us to create each individual page in an easier to read and clean environment. Most of the pages are built using something similar to the Model View Controller (MVC) ideology. Where there is a viewing page which has all the HTML and CSS as well as the forms for the user to send the information to the backend. Once the user sends the information required to the backend in this case the controller, the data will be validated to make sure the information entered is correct. If the information is correct then the data will be saved to the database which would update the models in the database. For example, for the user to create a thread, they must first navigate to the create.php file, of which they will be prompted with the forms. The users will fill this out to create their thread and when they submit it will then be passed to the createThread.php file where the data will then be checked to make sure it is correct. Once the data has been validated in the controller it will then be sent to the database using prepared statements and then the user will be redirected back to the index page. Javascript was mostly embedded within the PHP files as well to keep the files clean and easy to read, so using the <script> tag, javascript was used to ensure data was filled out and to provide asynchronous updates to the threads page. Limitations of this site can be identified in the front end portion. If too many threads or comments are created, the pages can get very long. Pagination would work well in helping keep the displaying of information clean.