course: CS446 team: BB8 project: WAThub

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about:

Our project is called WAThub, because we aim to create a social hub for UW students that will allow them to accomplish a lot of things in one unified platform. This will be an Android application and will only be available for UW students. We made this project selection, because we felt a strong need for this social service among UW students. We think that this project will be quite interesting once it's finished as it will offer many useful features to allow students to study, socialize and share more easily, effectively and collaboratively. Students will be able to

- create their profiles,
- share what is happening around UW campus,
- create group studies and have other people join them,
- ask questions and get help quickly,
- sell and/or buy books more easily,
- look for and/or offer carpooling services,
- directly message people to communicate fast and make new friends and
- vote for posts and comment on them.

We also think that mobile platform is the ideal application form for this project since all of us have cellphones and it will be super easy and quick to use, do all the above activities instantaneously whenever and wherever they want.

risks:

We know that our application is a big project with a lot of features and we believe that we will be able to finish it successfully on time. However, risks always exist and our project might have some risks upon delivery. These include not being able to implement all the functionalities we have in mind for this project, technical problems such as application has bugs and/or is too slow. To minimize the first risk, we tried to only include those core features that are good enough for our project to be viably useful and reasonable enough in terms of difficulty to be able to finish within available time period. For the other two risks, we will try to write clean code, unit test it as we go and use efficient algorithms whenever we can.

functional properties:

Our application will allow UW students to do a lot of things in one place and help them study, socialize and share in a more convenient way. This application will unite many useful functionalities in itself to make UW students' lives much easier. The project will support following functions:

- login with UW email address

Only UW students will be able to sign up for an account on our application and this will be verified by their university email addresses.

- create a profile and add information about yourself

Students will be able to create their profiles with an avatar and all other interesting info about them including their bio, interests, contact info, courses they take and etc.

- share about events that are happening at UW

Students will quickly share about events happening around campus and all other users will see it in their news feed once they open the application.

- create/join a group study and share it to have other people join you

Students will create group study posts that will be open to anyone to join if they want to and this will help them to study together and socialize.

- sell/buy books

Students will also be able to post to sell and/or buy a book for a specific course or generally.

- offer/find carpooling service

Carpooling post type will also be available separately to make this process easier for students.

- ask a question and get help

Students can also ask questions on any course or generally and answer to questions asked already to help other students.

- chat with other people

We will also provide direct messaging within the application to make it easier for students to contact each other if needed.

- search for a specific type of post

Probably the most important feature of this application will be the search or filter. We will try to add as many filter options as we can to facilitate finding exactly what students want quickly including filtering specific type of posts, searching for specific course book posts, open group studies and many more.

- see your all activities in personal activities tab

Every student will be able to keep track of its activities in a private tab.

- get notifications related to your posts

If someone wants to join your group study or votes for your post, you will get a notification about that. Notifications will be available for other activities, too.

- vote for posts and comment on them

Finally, students will also be able to vote for interesting posts and comment on them to follow up. Filtering for most voted posts will also be available.

typical user scenarios:

1. You are an UW student and want to attend as many events as you can that are happening at the university. Probably you use different websites or mobile apps to learn about them. But now you just open this application and see what other people have shared recently about what is going on around campus. You vote for your favorite posts and/or comment on them and message people to follow up about further details.
The benefit is that you get to be aware of events in real time.

2. You are an UW student and you want to study for your course midterm together with other people who are also taking the same course. But unfortunately, none of your friends are taking this class and you have not made any friends yet in this class either. What you do is you go to this application and create a group study for this midterm and share it to have other people join you. Once other students expressed their interest in joining you, you get together to study for the midterm and in the meantime, make new friends as well. The benefit is that you both study and socialize with other people you did not know before.

3. You are an UW student and you want to buy a book for your course X and sell a book for course Y. You probably post in facebook group and your post is lost among other posts in a few hours. Also you want to search for specific book, but it becomes tedious to find what you need quickly. So, you download this application and post your ad with all the details (course, price, condition etc.) for your course X and also with application's filtering option you search for a book with an exact course code, price range or even condition of the book! This is both beneficial and efficient way for exchanging books.

non-functional properties:

There are several non-functional properties that our application will need to support in order to deliver a great user experience. Most important ones would be following ones:

- performance

One of the core (probably the most important) properties of an application is the performance. This includes response time, processing time and query time. Since our application is a social application, users will need to see real time updates, share quickly and search fast. That's why we will try to put more emphasis on this non-functional aspect of the project to make sure our application is reasonably responsive to use.

- scalability

Another core property of our application would be capacity or scalability because of its social network nature. As a social platform, number of users may increase in the future (which is what we would want as well) and we should take that into consideration when we develop our application. We should make sure that our application is well scalable in its resources, storage and performance as well.

- maintainability
This property will also be important for our project as its code base gets bigger and bigger. We will need to make sure that we have some standards and documentation on the code so that we can modify/fix it later on when something goes wrong. This also includes complexity issues. We should make our source code as simple as possible to understand by high cohesion and low coupling.

- security/privacy
Since we aim to make this application available for only UW students, we should make sure that the verification step is correct and secure. We will also need to worry about the password encryption and privacy of our users.

The breakdown of major activities with expected start and end times, involved time and possible assignees would be as follows:

- project setup (28 Jan, 1-2 hours, Mahammad)
- architectural design (29 Jan, 3-4 hours, teamwork)
- database design (30 Jan, 3-4 hours, teamwork)
- database implementation (Feb - Mar, teamwork)
- login/logout (30 Jan – 2 Feb, 10 hours, teamwork)
- profile creation (2 Feb – 6 Feb, 15 hours, teamwork)
- event post (6 Feb – 9 Feb, 10 hours)
- group study post (9 Feb – 12 Feb, 10 hours)
- book exchange post (12 Feb – 15 Feb, 10 hours)
- carpool post (15 Feb – 18 Feb, 10 hours)
- question/answer post (18 Feb – 21 Feb, 10 hours)
- personal activities tab (21 Feb – 24 Feb, 10 hours)
- search/filter implementation (24 Feb – 29 Feb, 20 hours, teamwork)
- notification support (1 Mar – 5 Mar, 15 hours)
- messaging support (5 Mar – 10 Mar, 20 hours, teamwork)
- post voting support (10 Mar – 14 Mar, 10 hours)
- post comment support (14 Mar – 18 Mar, 10 hours)
- settings tab (18 Mar – 20 Mar, 5 hours)
- testing and deployment (20 Mar – 28 Mar, 20 hours, teamwork)

Of course, this is a roughly estimated time breakdown and may change during the course of development.
We are also going to use some tools and resources to facilitate and speed up our development process. These include git for version controlling, Bitbucket to host our project, Asana to keep track of tasks assigned and completed, parse.com or Google App Engine to host our database and finally, Slack to communicate faster, discuss everything about the project and schedule weekly meetings.

mockups

Finally, here are couple of sample mockups to demonstrate an idea of what we are going to do for this project and how it would like approximately: