Advanced Web Development

Project Plan

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Final Year Project

1 Abstract

The first ever website was developed by Tim Burners Lee in 1989.[1] With the development of Web browser and web server, protocol called HTTP was defined, and to display information on web browser, HTML was developed.[2] With all these provided as open source, internet has grown with great speed. With development of CSS, websites could be more diverse in terms of looks, but it was all still static. Dynamic websites started to emerge with the development of JavaScript (JS). Previously, static websites using only HTML had to load everything and download all the sources every time user requested for a new page. Single Page Application has emerged to make things effective, and it could load the static information only once and ask for data needed from server or database when the user ask for it. Today, web plays a huge part in software development industry. With the emergence of Progressive Web Applications, demand for advanced web development is expected to grow.[3] Personally, I have a long-term plan to develop a PWA which will replace native apps in the mobile app markets which is predominant at this time.[4] In this project, I aim to develop a website from Frontend to Backend using recent technologies of web development. My main goal is to deliver a web application which provides efficient matchmaking for users looking for football match to participate or for users who hold the match looking for players to join. I am a big fan of football myself, and it is very hard for users to find a match to walk in or play regularly unless through friends. This website would help people like me to effectively fine match nearby. If time and energy allow me, the application will also contain social media-like features like "friends" features which will help user to play again and check which upcoming matches other users are playing, and features like "rating users" which will help preventing unfriendly users or users that don't turn up on the match. Furthermore, I aim to implement advanced features of advanced UI and push notification. Push notification feature suits the purpose of the website, as swifter communication is required especially before few hours/minutes before matches. Academically, my hope is to develop deeper understanding in modern web applications technology and to understand the pros and cons of different technologies.

2 Timeline

On first term I will focus on completing the web app, and on second term I will focus on reports and improving the web app. If I cannot manage to finish the app in term 1, I will spend time in winter break to complete it. Milestones are in grey font.

2.1 Term 1

- week 1: project plan, research various platforms to choose the best fit for the project.

- week 2-3: set up environments and learn how to use all the environments/languages that I choose, plan the structure of the app

- week 4: complete the homepage (the webpage that users see when they open the website, which contains the menu of the links to all necessary pages) & and create the pages in the menu. (Week 3 is all about website structures).

By the end of week 4, the web app should run on a browser and show all the menu on the homepage.

- week 5-6: complete User Profile page and user sign up system. (This include setting up user metadata and the metadata will be registered in database)

By the end of week 6, user should be able to make an account and view his/her own Profile page which displays information of the account.

- week 7: complete Match page which shows all the information about the match.

By the end of week 7, web page for match should be available. Match page will show details of the match.

- week 8-9: complete Match Lobby page where user see all the upcoming matches nearby.

By the end of week 9, user should be able to view Match Lobby page where user can see all the matches, and by clicking the matches user can go to the page of the match.

- week 10: complete Match Making page where user can make a match.

By the end of week 10, user should be able to go to Match Making page and create a match. The created match will show up in Match Lobby page.

- week 11: working on parts where needs more work & prepare for implementing more advanced features (mainly about learning implementing advanced features)

2.2 Term 2

- week 1-2: add friend system and Friends page (where user can see all their friends)

By the end of week 2, users can add other users as friends, and can check the list of friends in the Friends page.

- week 3: add rating system

By the end of week 3, user can leave rating to the players who participated in the same match. This will be done in Match page.

- week 4-6: add push notification (new upcoming matches, participating matches reminder etc.) (include learning)

By the end of week 6, user will see notification tab through out all pages, and when there’s notification, it will notify user.

- week 7: improve usability of the website (adding already used pitches in the list of pitches instead of user inputting it manually, inviting friends to the match made etc.)

- week 8: UI & design improvement

- week 9: overall evaluation of the product and improvement where needed.

- week 10-11: Final report

3 Risk Assessment

Projects always come with some obvious, or underlying risks. Recognising the risks could help me executing my plans and running the project smoothly. In this section I explain all the risks that could be obstacles to my plans.

3.1 Slow Learning Speed

I must learn most of the technologies used in the project in the first few weeks and along the way. Not being able to learn with enough depth of understanding will result in delay of the timeline in Section 2. This risk is totally dependent on myself, and I will battle to make sure I learn everything needed on time and if not, as soon as possible.

3.2 Poor Planning

I have planned the timeline with a vague image of the product in my head, and it could mean that my time allocation could be not so effective in some tasks. I will deal with this by first sticking to the plan, but by being flexible when it’s needed, time will be allocated more efficiently.

3.3 Lack of rigorous testing

Even though I test the product as I work on the project, as I do not have testers to test the product, there might be some features not working properly unexpectedly. This will be dealt by myself trying to use and test the product as many times as possible and trying to think of as much exceptions as possible.

3.4 Cyber attack

Internet can always be dangerous and web pages are prone to attack. When the product is deployed, random spams could hinder the website usage. The product will be monitored frequently, and it will be dealt adequately. Also, there will not be any sort of comment section that could be used for spams/exploitation.

3.5 Technical Issue of hosting server

As I’m planning to get a server hosted by server hosting company, when server goes down due to technical issues, I cannot deal with the issue directly. To prevent this, I will look for more stable and trustworthy company. If any issue happens nonetheless, I will get in contact with the company as soon as possible to tackle the problem.

References

[1] A short history of the Web. <https://home.cern/science/computing/birth-web/short-history-web>

[2] Grech V, 2001. Publishing on the WWW. Part 5 - A brief history of the Internet and the World Wide Web. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3232505/>

[3] Andrew Gazdecki, 2018. Why Progressive Web Apps Will Replace Native Mobile Apps. <https://www.forbes.com/sites/forbestechcouncil/2018/03/09/why-progressive-web-apps-will-replace-native-mobile-apps/?sh=20cec6c42112>

[4] Parbat Thakur, 2018. Evaluation and Implementation of Progressive Web Application. 1-2.