

PROJECT REPORT

AGILE TEAM FORMATION

Team name: Software Wizards

Scrum Leader: Mihail Mihocv

Github link: <https://github.com/tatarudan99/Assessment-1.git>

HOW THE SCRUM LEADER WAS SELECTED

We deliberated on the that a scum master should possess, some of which include server-leader mindset, passion for continuous improvement, good knowledge of scrum and agile practices. A scrum leader must also have strong interpersonal facilitation and problem-solving skills as well as the willingness to empower and enable the team. A scrum master works in the product owner and the development team to optimize the collaboration and the delivery of value. A careful consideration and a little back and forth. The team agreed on Mihail Mihocv as the scrum leader, this he possess most of the qualities required to be a scrum leader compared to the rest of us.

OTHER AGILE TEAM ROLES

We assigned other agile team roles to the rest of us. Ivan Nikolov was selected as the architect to maintain the agreed-upon structure of the project and ensure that it meets the requirements. Dan Tataru was given the UX designer role for his skill and interest in UX design to come up with designs for the product. Daniel Popescu was the key tester in the project. He defined the acceptance criteria and checked for mistakes before submitting the project. We were all developers on the project

Tools Used

Whatsapp --- For communication and deliberations

Email --- for Github interactions, mainly for alerting one another to review our work once we push our code.

IMPLEMENTATION

LITERATURE REVIEW

2.1 Python

Python can be used to write different kinds of application owing to the fact that it is a general-purpose language. According to (*What Is Python Used For? A Beginner's Guide* | Coursera, n.d.), python can be used in different applications including Data analysis and machine learning, Web development, Automation or scripting, Software testing and prototyping and Everyday tasks.

(*What Is Python Used For? A Beginner's Guide* | Coursera, n.d.) further explained that python has become a staple in data science. It allows data scientists and other professionals to conduct complex statistical calculations, data visualizations including bar charts, pie charts, histograms and 3D plots. Python has a large number of libraries like Tensorflow and Keras that allow programmers to write programs for data analysis and machine learning more quickly and efficiently.

In Web development, python can be used to write the backend logic of a website. Some of the roles python plays on the backend include but are not limited to sending data to and from servers, processing data and interfacing with databases. It has a large community and support and so has numerous libraries that can be used to connect to any kind of database, be it relational or non-relational. Some other roles include URL routing and ensuring security. Apart from the large number of libraries, python has several frameworks that make web development very smooth, Flask and Django are the common ones.

2.2 HTML and CSS

Even though the part of the design of the website was built using a CSS framework like bootstrap, a larger part of it was built from scratch using HTML and CSS.

Together, HTML and CSS form the basis for web development and are used to build and style online pages. A web page's structure and information are provided by HTML (Hypertext Markup Language), while the visual display and layout are handled by CSS (Cascading Style Sheets). The building elements of the internet are HTML and CSS, which enable programmers to make interesting and interactive user interfaces. A web page's structure and content are organized and defined by HTML, which acts as the foundation of the page. To mark up various page elements, it employs a set of tags. Angle brackets (<>) enclose tags and these tags normally come in pairs with an opening and a closing part. Specific tags are used to describe elements like headings, paragraphs, lists, pictures, links,

forms, and tables. These components organize the material and give the webpage semantic meaning, facilitating accessibility and making it simple for both people and search engines to interpret.

On the other hand, the visual presentation of the HTML elements is the main focus of CSS. It gives programmers the ability to specify styles, layouts, and visual effects to improve the overall appearance and feel of the website. CSS does this by utilizing selectors to target certain HTML components and applying rules to them. Rules define the desired appearance, whereas selectors indicate the items that need to be styled. Colors, fonts, spacing, borders, backgrounds, and animations are just a few of the features that can be controlled via CSS attributes. The display layer (CSS) and the content layer (HTML) are separated, and CSS encourages code modularity, reuse, and maintainability. Additionally, CSS has strong layout features that let designers create responsive and adaptable designs. The conventional box model, flexbox, and grid are just a few of the layout models available in CSS. These models enable the development of multi-column layouts, responsive grids, and adaptive designs by providing fine-grained control over the positioning and scaling of elements. By enabling styles to adjust to various screen sizes and devices, media queries, a CSS feature, significantly improve responsiveness and offer the best user experience across all platforms. Developers use the `<link>` tag to attach external CSS files to their HTML documents in order to apply CSS styles to HTML components. They can also use the `<style>` tag to incorporate internal styles within the HTML file or the style attribute to directly apply inline styles to specific components. It is recommended to use external CSS files since they allow for easier maintenance and uniform styling across different pages by separating the style definitions from the text. To satisfy the needs of contemporary web development, both HTML and CSS are constantly changing. The most recent version of HTML, HTML5, added additional components, characteristics, and APIs to expand the functionality of web pages. These components include canvas for graphics, video and audio embedding, semantic elements for better accessibility, and more. Richer and more interactive designs are now possible thanks to the several new features that CSS3 provided, including transitions, transformations, gradients, box shadows, and media queries.

2.3 Javascript

JavaScript is a strong and adaptable computer language that is largely used for web development. It enables website developers to include interaction, carry out calculations, work with data, and produce dynamic content. Because JavaScript runs in the user's web browser on the client side, it makes for a more interactive and interesting user experience. JavaScript can be incorporated in external JavaScript files that HTML references or it can be directly integrated into HTML pages using the `<script>` tag. Developers can improve the functionality of their web pages due to this flexibility rather than depending entirely on server-side processing.

REASON WE SELECTED OPTION 2

Since there are many public apis to build projects around, the team decided to build something different for a fresh experience and learn something new. Building a full project from scratch would help us learn something new and also give us the experience of building a project from ideation to development. For these reasons, we thought it best to pick one of the numerous third party apis specifically the openweather api and built a weather forecast python application around it.

APPLICATION DESCRIPTION AND DELIVERABLES

The objective of this application is to create a user-centric weather information display design. The application should allow users to search for the weather forecast of a particular country or city. Also, the application is supposed to show current weather information as well as a five-day weather forecast for the country or city the user searches. The application should also remember all searches the user makes for easy access on the next visit.

The frontend was written in vanilla html, css and javascript and the backend was written in python. The application uses the user's localStorage to store the search history and render on the next visit. Also, the website alerts the user for unavailable countries or wrong country or city names. The source code of the application was well organized to ensure maintainability and continuous development. All Cascading StyleSheet files were put in a styles folder whereas the javascript files we placed in the js folder. The html file remained in the root on the project folder since most deploy options intrinsically prefer it would be there. The backend was written in python, where a small server was configured to serve the website on the local machine at port 5000. This we hope to change in the future if we get a solid deploy option.

TEAM MEMBER ROLES AND SKILLSET

TEAM MEMBER	ROLE
MIHAIL MIHOVCV	Team Leader/Developer
DAN TATARU	UX Designer/Developer
DANIEL POPESCU	Tester/Developer
IVAN NIKOLOV	Architect/Developer

PROJECT PLAN

The project was planned such that implementation would be complete within two weeks. Since the project was front-end heavy, most the time was dedicated to implementing the frontend. The creation of wireframes and development of the front-end pages was to completed in one week. All User experiences including storage of user data, dynamic

rendering of content based on user input were to be completed in three days afterwards. The rest of the time was dedicated to the backend and fine-tuning of the website in general.

FUTURE ENHANCEMENTS

We would like to make the front-end more user friendly in the future. Also, we would add authentication to the website, so that users get a personalized experience. We would also use a database like mysql to save user data in order to persist the data on the next visit and even if the browser cache is cleared.