

Github Wrapped Project Proposal

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Abstract—A project proposal for a program for developers to reflect on their annual Git history, providing insights into their development patterns and design choices in an interesting way.

I. PROJECT OBJECTIVE

GitHub Wrapped is a program for developers to reflect on their Git history, providing insights into their development patterns and design choices in an interesting and unique way.

The application’s main purpose is to provide an entertaining way for users to experience their GitHub contributions and activity over the past year. Additionally, this will boost relationships in the open-source community by providing an expressive outlet for users to show their development activity. Furthermore, GitHub Wrapped can boost engagement with GitHub services and increase willingness to purchase premium plans and products to gain access to these insights. This has been shown to be true in the case of Spotify Premium where Spotify Wrapped has been something that many users are willing to purchase for the community experience.

II. MOTIVATION

A. Provide users with a comprehensive overview of their GitHub activity over the past year

Often, developers will have hundreds or thousands of contributions in a year. For this reason, it is quite difficult to gain a broad overview of one’s activity with the massive amount of data that accumulates over the year for contributions. Furthermore, these contributions can range across many repositories with vastly different purposes and objectives. Unfortunately, GitHub does not currently provide a method of viewing this information at a macroscale; rather, it requires combing through days of contributions on your profile. GitHub Wrapped provides a solution by consolidating this information into one place and providing a fun way to experience this review of a developer’s year.

B. Facilitate better understanding of personal development progress and contributions

GitHub Wrapped will provide an entertaining way for users to explore their achievements and progress throughout the year. This will include an analysis of the new domains they have explored, recent technologies they used,

and causes for which they have shown passion. These meaningful insights will be valuable for active developers who would like to reflect on their experiences in the past year. Moreover, GitHub Wrapped offers a unique opportunity for users to strengthen team dynamics and foster closer connections within friend groups, and the broader open-source community.

III. DATA SOURCES AND SCOPE OF WORK

A. User authentication and authorization

GitHub Wrapped will provide GitHub OAuth integrations so users can authenticate themselves against their personal GitHub account. Additionally, this integration will request the necessary permissions from the user so that our application can retrieve information from the GitHub API. It will be important to limit these permissions as much as possible to avoid limiting the number of users who are uncomfortable with our third-party service.

B. Data retrieval from GitHub API

After GitHub OAuth has been integrated, our application will be capable of viewing the complete contribution history of the current user. The GitHub REST API offers extensive access to specific endpoints, granting access to a wide range of information, including details about commits, collaborators, repositories, and many other resources. GitHub’s documentation provides all the available endpoints.

C. Data visualization and analysis

Analytics and visualization form the foundation of GitHub Wrapped. The project aims will capture valuable and creative metrics such as preferred programming languages, topics of interest, and the closest collaborators. Additionally, GitHub Wrapped will feature playful metrics, such as determining one’s “developer spirit animal.” The analysis to derive these playful metrics will be slightly more arbitrary; however, it offers the challenge of producing something meaningful with a plethora of concrete information sources provided by the GitHub API. To package these analytics, we intend to create a vibrant and engaging interface for users to explore their GitHub Wrapped experience.

D. User-friendly interface

GitHub Wrapped will feature a minimalistic user interface to simplify a user’s experience. It is our objective to closely mirror the Spotify Wrapped interface so that a user’s interaction with GitHub Wrapped can be as enjoyable and pleasant as possible.

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IV. STRETCH GOALS

A. Third-party integrations beyond GitHub API

As a stretch goal, we plan on integrating additional third-party services or APIs beyond the GitHub API. These integrations could provide users with extended capabilities or access to data from other platforms, potentially enriching their overall experience.

B. Advanced analytics or machine learning components

As another potential stretch goal, we plan on researching the feasibility of implementing advanced analytics or machine learning components within the application's initial release. These components could offer users more sophisticated data insights, predictions, or personalized recommendations based on their GitHub activity. This goal aims to elevate the application's value proposition by leveraging new technologies.

V. MEMBER RESPONSIBILITIES

- Logan O'Neal - Fronted Website and Authentication
- Eric Vaughan - Fronted Website and Authentication
- Jacob King - Data Collection and Analysis
- Hayden Curl - Data Collection and Analysis
- Caleb Fisher - Data Visualization

VI. MILESTONES

A. Milestone 1: User Authentication and GitHub API Integration (Weeks 1-2)

During this initial phase, the focus will be on setting up user authentication, allowing users to securely log into the web application. Additionally, integration with the GitHub API will be established, enabling the application to access and retrieve user-specific data from their GitHub account.

B. Milestone 2. Data Retrieval and Processing (Weeks 3-4)

Next, the team will concentrate on retrieving relevant data from the user's GitHub account. This will involve implementing mechanisms to fetch and organize information such as commit history, repository activity, and among other insightful metrics. During this phase the team will also focus on cleaning and processing procedures in order to ensure accuracy and consistency in the final application.

C. Milestone 3: Activity Overview and Initial Data Visualization (Weeks 5-6)

During weeks 5 and 6, the team will focus on building the UI for visualizing the git data. Initial data visualization techniques will be applied to present key metrics and trends, providing the user with a clear and comprehensible snapshot of their GitHub activity over the past year. The exact details of the visualizations should be clearer after completing the previous milestone as the team will have a better understanding of the available data.

D. Milestone 4: Finalizing User Interface and Testing (Weeks 7-8)

The final phase will involve refining the user interface to create an intuitive and user-friendly experience. Feedback from user testing will be incorporated to fine-tune the application's design.

VII. EXPECTED OUTCOME

GitHub Wrapped will not only provide users with a quick, easy, and user-friendly way to check their progress with GitHub through a given timeframe, but it will also allow users to identify areas in which they can improve their software skills. By using a react web app, GitHub Wrapped will make for a clean and usable app that allows users to see their information with little to no effort from any device of their choosing.

To conclude, our project aims to revolutionize the way users engage with their coding journey. With its intuitive interface and seamless navigation, the platform offers more than just a progress report. It serves as a powerful tool for self-improvement, providing tailored insights into areas where users can further enhance their software development skills. GitHub Wrapped ensures a smooth and responsive experience across various devices, allowing users to effortlessly access their personalized data and track their growth. This accessibility empowers developers to stay connected to their coding endeavors no matter where they are, fostering a sense of continuity and progress in their software development journey.