Project title

Adding features to the "Wayback Machine" Chrome extension and making it highlight the time/date of each page element.

Aim

1. <u>To improve existing features and add new features</u>**:**
   a. Integration with the **Wayback Machine's Site Search**
   b. **Support for social sharing**, including Twitter and Facebook
   c. Display **Tweets about a URL** for a given date range
   d. Provide user with visual feedback based on if we have archived a URL or not
   e. Provide user with a **one-click Summary view** of a given site (Alexa Rank Whois, etc.)
   f. Automatically **archive URLs** that are not in the Wayback Machine
   g. Quick access to an **overview of all the Archives** for a specific URL
   h. **Automatically archive Texts, Videos, Audio, Images** et al if not available in the Archive

2. <u>To create an advanced version of the Wayback Machine **Chrome Extension capable of highlighting the time/date of each page element**</u>:
   a. Add-on/New Chrome extension to visually show the archived time & date of each page element
   b. Allow users to only see page elements in the given time range.

3. **Update the current UI** to a better version to go along with the design and structure of archive.org

What project I'd like to do, and why I'm excited about it?

During my academic career, I have worked with the help of many resources available over the Internet. One of the major issues that I faced during my work was the 404 error. At such situations, Wayback Machine helped me overcome it. Wayback Machine being an application that could help me use and refer to permalinks to currently non-existing pages makes work a lot easier. Chances are frequent that number of pages/resources can go unavailable. And, opening new windows to search might become hectic under pressure. To make Wayback Machine more mobile, it comes in handy as a Chrome Extension. However, with less number of features currently available on the extension, I would like to work on it to make it as close to the fully fledged [Wayback Machine](#).

Since, I want to have career as Python web developer. And, Internet Archive being an open source organization and using mostly Python. I feel Internet Archive is the right organization for me to help me achieve what I want. I feel the urge to contribute to software that I can have of great use and give back to society. That's why I am excited to pursue this project.

About me

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I am a 19 year young sophomore at IIIT-Delhi. Ubuntu 16.04, git, python and Sublime Text 3 are my set of tools. I have been coding since high school and chose my major out of the love for Internet. I generally spend my time surfing on the internet to learn new things. I believe in hardwork with time management. As a hobby, I do Graphic Design.

I have learn programming languages in school and university courses like Python, C, Java et al. Apart from that, I took a step and went on to learn bits and tads of Ruby, NodeJS, Rust, GoLang, PHP and went on to learn thoroughly HTML, JavaScript, CSS, Python(Django, Flask).

Past Projects

- Enterprise Resource Planning System using Flask(Python based Web Framework) (March 2017 - Present)
    - Description: ERP or Enterprise Resource Planning System is business process management software that allows an organization to use a system of integrated applications to manage the business and automate many back office functions related to technology, services and human resources.
    - Mentor: Dr. Vikram Goyal
    - Technologies used: Flask, MySQL, HTML, CSS, JavaScript
- Private Tor Network (March 2017 - Present)
    - Description: Setting up a Private Tor Network with Authority Server, Onion Client, Multiple Routers and a Web Server to connect it to the Internet
    - Mentor: Dr. Vinayak Naik
    - Technologies used: Tor, Apache, Ubuntu Distros
- Custom Shell Implementation(HellShell) (February 2017)
    - Description: Implemented a Custom UNIX-Shell in C capable of handling all functionalities that a standard UNIXShell could.
    - Mentor: Dr. Pushpendra Singh
    - Technologies used: C, Ubuntu 16.04

- [Odyssey'17 Website](#)

  (December 2016 - March 2017)
    - Description: Created a dynamically generated website for the cultural fest which handled requests of over 6,000 registrations.
    - Technologies used: Flask, Apache, HTML,CSS, Bootstrap, JavaScript, Photoshop
- [TAFSMUN Website](#)

  (November 2016 - December 2016)
    - Description: Created a static website for the event display and user registrations which handled requests of over 5,00 registrations.
    - Technologies used: Flask, Apache, HTML,CSS, Bootstrap, JavaScript
- RFID Based Security System

  (October 2016 - December 2016)
    - Description: RFID based Gate Controlling System using 8051 microcontroller
    - Mentor: Dr. S.R.N. Reddy
    - Technologies used: Embedded C, Assembly for 8051
- [FileBox](#)

  (October 2016 - December 2016)
    - Description: A Dropbox like Online File Storage and Management System implemented in Django
    - Mentor: [Dr. Vinayak Naik](#)
    - Technologies used: Django, SQLalchemy, HTML, CSS, JavaScript, MDL
- Facility Management System

  (September 2016 - November 2016)
    - Description: A GUI based Facility Management System implemented in JAVA with various user access levels.
    - Mentor: [Dr. Chetan Arora](#)
    - Technologies used: JAVA, Swing
- GPS Driven Autonomous All Terrain Vehicle (February 2016 - April 2016)
    - Description: Our aim was to design a prototype and mechanism of a bot which will be able to effectively manoeuvre over all surfaces with the help of GPS navigation to allow it to move through autonomously and effectively avoid objects.
    - Mentor: Dr. Jyoti Sinha
    - Technologies used: Arduino, Android, Engineering Design

Experience

- [Tembyr](Oct'16 - Nov'16)
    - Description: Tembyr is a networking platform which allows college students to be identified.
    - Role: Web Developer(Intern)
    - Technologies used: HTML, CSS, JavaScript, Bootstrap
- [Forever Fit](Jun'16-Aug'16)
    - Description: Forever Fit aims to inspire, motivate and mould individuals to adopt a healthier and more fitness-centric lifestyle.
    - Role: Graphic Designer(Intern)
    - Technologies used: Adobe Photoshop CS6, Adobe Illustrator CC
- Freelance(Jun'15-Present)
    - Description: Have been freelancing for various events and took up personal projects in Graphic Design and Web Development.
    - Role: Graphic Designer; Web Developer
    - Technologies used: Flask, Django, Adobe Photoshop CS6, Adobe Illustrator CC, HTML, CSS, JavaScript, Bootstrap, MDL, MaterializeCSS
    - Work:
        - http://gureksingh.me/tafsmun15/
        - http://gureksingh.me/nliumun15/
        - http://gureksingh.me/nanda/
        - http://gureksingh.me/tembyr/
        - esya.iiitd.edu.in/building-better-villages (Team Project)
        - chakravyuha.in (Team Project)
        - www.tafsmun.com
        - http://gureksingh.me/odyssey
        - odyssey.iiitd.edu.in
        - enactus.iiitd.edu.in
        - Design Portfolio

Open Source Contributions

Internet Archive

- [added support for searching Tweets about a URL for a given date range #38](#) (Open)
- [Added support for Alexa ranking and Whois lookup #11](#) (Open)
- [Integrated Wayback Machine's search #10](#) (Open)

FOSSASIA

- Creating a proper sitemap for better SEO(Merged)

uiGradients

- Contributed more gradients(Merged)

Personal Projects

- [Random Password Generator Chrome Extension](#)
- [FMSSystem](#)
- [HellShell](#)

Proposal Timeline

Note: Since I don't have any plans for summers. I can dedicate my whole energy to this project and will be devoting around 7-8 hours a day(40-48 hours a week). During August'17, with university open again, I'll be able to manage around 5 hours a day.

Task	Commencement Date	End Date	Duration
Community Bonding(May 5, 2017 - May 30, 2017)			
Getting introduced to community members. To extensively familiarize myself with existing Wayback Machine codebase and APIs	May 5, 2017	May 11, 2017	1 week

Getting started with making a list of upcoming tasks and how-tos. Reviewing the existing Pull Requests and Merging them to make a better application	May 12, 2017	May 18, 2017	1 week
Developing and finalizing UI prototype for end product	May 19, 2017	May 29, 2017	1.5 Weeks
Coding Period Till First Evaluations(May 30, 2017 - June 30, 2017)			
1. Add support for social sharing 2. Display Tweets about a URL 3. Provide Visual Feedback on URL archival	May 31, 2017	June 7, 2017	1 Week
1. One-Click Summary View 2. Automatic URL archiving 3. Automatically archive Texts, Videos, Audio et al	June 8, 2017	June 15, 2017	1 Week
1. Visual overview of all the Archives of the specified URL 2. Integrating Wayback Machine's Site Search	June 16, 2017	June 23, 2017	1 Week
Tests and Documentation ● Writing documentation of code till now. ● Testing for features implemented so far	June 24, 2017	June 30, 2017	1 Week
Coding Period Till Second Evaluations(July 1, 2017 - July 24, 2017)			
Advanced Chrome Extension ● Visually showing the archived time & date of each page object ● Working on the API to handle such requests and returning JSON objects with the data ● Making the data shown to be showed on hovering over the object	July 1, 2017	July 14, 2017	2 Weeks

Limiting(read Allowing) users to see page elements only in the given time range	July 15, 2017	July 21, 2017	1 Week
Tests and Documentation ● Writing documentation of code till now. ● Testing for features implemented so far	July 22, 2017	July 24, 2017	0.5 Week
Coding Period Till Third Evaluations(July 28, 2017 - August 21, 2017)			
Prototyping mockups of the UI for the extension till now	July 29, 2017	August 10, 2017	1.5 Weeks
Writing down the frontend for the new UI	August 11, 2017	August 18, 2017	1 Week
Buffer time for unfinished tasks and leftover documentation	August 19, 2017	August 21, 2017	0.5 Week

What I am hoping to get out of my summer project?

By the end of this summer project, I believe that I will be able to develop and work more professionally and disciplined manner. Working with a mentor will help in getting valuable guidance, review and feedback on how to code. This project will give me a experience of working on a live project. Be more aware of the fact, how to plan architecture of an application to make it simple and foresee any unexpected problem that I may face during development phase. At the end of GSoC 2017, I will be looking for long term relations with Internet Archive to make the end result more better and have the satisfaction of working on an open source project.

Additional expectations of the organization from me

I'll be contributing towards to publicity and increased usage of the of the application in my campus and workplace. I'll be donating some part of the stipend to Internet Archive to build better products. I also plan to write blog posts about my journey with Internet Archive over the period of 3 months.

Gurek Singh

3rd April 2017, New Delhi

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