



Google Summer of Code Project Proposal

Project Title

Continued development of the Chrome extension "Wayback Machine".

About me

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I am a 20 year young Junior at IIIT-Delhi. Ubuntu 16.04, Git, Python 3 and JavaScript are my set of tools. I have been writing code since my high school and have been appreciated for my quality work since then. I started off with building a small terminal based quiz application build in C and now I can create full-fledged web applications for use on large scale. My [resume](#) reflects my track record of successful internships, projects, and responsibilities held. As a hobby, I do Graphic Design and Audio Mixing. I have been learning 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).

My recent internship at [Happily Unmarried](#), popularly known by their product '[Ustraa](#)', taught me a great deal with PHP, Magento, Silex, AngularJS and Symfony too. Created the Product Reviews Portal and Moderation Panel. Also, worked on data migration and fragmentation.

Apart from managing my academics, development and design skills, I took out time to develop my leadership, team management and communication skills by working towards events and holding positions with responsibilities, which means I can work towards high-level and cross-department projects.

Past Projects

- Swacch Bharat E-Market Place - B.Tech Majors Project
(January 2018 - Present)
 - Description: Aim is to create an E-marketplace for the Swachh Bharat Campaign by the Indian Government. A B2B and B2C solution, that connects NGOs, Funders and Crowd Sourcers
 - Mentor: [Dr. Pankaj Jalote](#)
- [FriendsFarmer](#) - Automated Link Farmer
(September 2017 - November 2017)
 - Description: Created a Twitter based web application. Implemented a link farming bot . Analysed with time how real users interact with the bot and vice versa. Created a social platform for anyone to use our product
 - Mentor: [Dr. Ponnurangam Kumaraguru](#)
 - Technologies used: Twitter API, Javascript, Python, MongoDB
- Enterprise Resource Planning System using Flask(Python based Web Framework)
(March 2017 - April 2017)
 - 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
- 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

- [Happily Unmarried](#)(May'17 - July'17)
 - Description: Happily Unmarried is a youth lifestyle brand. Created the Product Reviews Portal and Moderation Panel. Worked on database migration and fragmentation.
 - Role: Software Development Intern
 - Technologies used: AngularJS, PHP, Magento, JavaScript, Symfony
- [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://gureks.github.io/tafsmun15/>
 - <http://gureks.github.io/nliumun15/>
 - <http://gureks.github.io/nanda/>
 - <http://gureks.github.io/tembyr/>
 - www.tafsmun.com
 - <http://gureks.github.io/odyssey/>
 - odyssey.iiitd.edu.in
 - enactus.iiitd.edu.in
 - [Design Portfolio](#)

Open Source Contributions

Internet Archive

- Issues Opened/Resolved -
<https://github.com/internetarchive/wayback-machine-chrome/search?q=gureks&type=Issues>
- Commits -
<https://github.com/internetarchive/wayback-machine-chrome/commits/v1.3.3>

coala

- Issues Opened/Resolved
<https://github.com/search?q=org%3Acoala+gureks&type=Issues>
- Commits -
<https://github.com/coala/coala>

uiGradients

- Contributed more gradients
<https://github.com/ghosh/uiGradients>

Personal Projects

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

Aim

1. To improve existing features and add new features:
 - a. **Analyse data** and **conduct CI** to know how people are using the extension and ways to improve the same [NEW FEATURE]
 - b. Display **Tweets about a URL** for a given date range and display within the extension [IMPROVEMENT]
 - c. Integration with Archive's books, photos, videos and audio for searches within the extension [NEW FEATURE]
 - d. Provide user with a **one-click Summary view** of a given site within the extension (Alexa Rank Whois, etc.) [IMPROVEMENT]
 - e. Add versions URL by **integrating Wayback Machine Versions** [IMPROVEMENT]
 - f. Quick access to an **overview of all the Archives** for a specific URL [IMPROVEMENT]
 - g. **Automatically archive Texts, Videos, Audio, Images, Books** et al if not available in the [Archive](#) [NEW FEATURE]
 - h. Enable users to **upload files** over the Archive, including progress indicators of the upload process [NEW FEATURE]
2. Update existing version of the Chrome Extension **allowing users to highlight the time and date of each page element:**
 - a. Add-on/New Chrome extension to visually show the archived time & date of each page element on hover, like Chrome's Developer Div/Element Selection.
 - b. Allow users to only see page elements in the given time range.
3. **Improve the current UI**
4. Update documentation of the Extension

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

During my academic career, I have been privy to many resources available over the internet. One of the major issue that I tackled while working was the 404 error. This is where Wayback Machine helped me overcome and solve these obstacles. It enabled me to use and refer permalinks to non existent pages which made working over problems much easier than it was before. The chances of the number of pages/resources becoming unavailable is widely apparent in today's digital space and opening new windows to search becomes all the more hectic and burdening when the race is against timely delivery of product. Adding to the mobility of the Wayback Machine comes its Chrome Extension. However, with less number of options currently available in the extension, I wish to work on the same and match it as precisely to the full fledged [Wayback Machine](#).

Since, I look forward to having my career as a Python Web Developer, and Internet Archive being an open source organisation using mostly Python. I believe Internet Archive is the organization for me that would help me hone in my skills and make me a much efficient developer. With increased efficiency I feel that I could contribute more to the society by giving them a software that could cater to their needs and that is what excites and motivates me to pursue this project.

Proposal Timeline

Note: Since I don't have any other commitments 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).

Task	Commencement Date	End Date	Duration
Community Bonding(April 23, 2018 - May 14, 2018)			
Getting introduced to community members. To extensively familiarize myself with existing Wayback Machine codebase and APIs	April 23, 2018	April 30, 2018	1 week
Conducting a CI and performing Task Analysis to get to know about the user needs	May 1, 2018	May 7, 2018	1 week
Getting started with making a list of upcoming tasks and how-tos.	May 8, 2017	May 14, 2017	1 week
Coding Period Till First Evaluations(May 15, 2018 - June 11, 2018)			
1. Display Tweets about a URL for a given date range and display within the extension.	May 15, 2018	May 21, 2018	1 Week
1. Provide user with a one-click Summary view of a given site (Alexa Rank Whois, etc.). 2. Add versions URL by integrating Wayback Machine Versions.	May 22, 2018	May 28, 2018	1 Week
1. Enable users to upload files over the Archive, including progress indicators of the upload process 2. Automatically archive Texts, Videos, Audio, Images, Books et al if not available in the Archive .	May 29, 2018	June 4, 2018	1 Week

Tests and Documentation <ul style="list-style-type: none"> • Writing documentation of code till now. • Testing for features implemented so far 	June 5, 2018	June 11, 2018	1 Week
Coding Period Till Second Evaluations(June 12, 2018 - July 9, 2018)			
Advanced Chrome Extension <ul style="list-style-type: none"> • 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 	June 12, 2018	June 25, 2018	2 Weeks
Limiting(read Allowing) users to see page elements only in the given time range	June 26, 2018	July 2, 2018	1 Week
Tests and Documentation <ul style="list-style-type: none"> • Writing documentation of code till now. • Testing for features implemented so far 	July 3, 2018	July 9, 2018	1 Week
Coding Period Till Third Evaluations(July 10, 2018 - August 6, 2018)			
Prototyping mockups of the UI for the extension	July 10, 2018	July 20, 2018	1.5 Weeks
Writing down the frontend for the new UI	July 21, 2018	July 27, 2018	1 Week
Buffer time for unfinished tasks and leftover documentation	July 28, 2018	August 6, 2018	1.5 Week

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

By the end of the summer , I am confident that all the experience and skill gained through the project; I will be a much more professional and disciplined individual contributing to the community to my fullest ability. Working with a mentor will provide me with the crucial and valuable guidance, review and feedback on how to code. This project will provide me with an opportunity and experience of working on a live project. Making me more aware of the fact- on how to plan architecture of an application to make it simple and foresee any unexpected problem that I may face during the developmental phase. By the end of GSoC 2018, I will be looking for long term relations with Internet Archive to make the end result more efficient and have the satisfaction of working on an open source project.

Additional expectations of the organization from me

My goal is to bring our organization to the forefront of the digital age. I plan to help increase our community base through outreach programmes and also through publicity initiatives starting from my own community and college campus. Apart from this I also plan to write blogs and journals that would help the digital community to use our product and also inspire them to contribute more.

After the GSoC Period, I'll be accountable and responsible for the code I have written and will be handling all the issues/bugs and PRs. Adding to it, I'll be working towards porting the end-product for other platforms like Mozilla Firefox, Safari and Edge.

Gurek Singh

27th March 2018, New Delhi, India

[Facebook](#) | [Github](#) | [LinkedIn](#) | [Mail](#)