> Do you confirm that you are eligible for this internship as stated in our eligibility rules at https://wiki.gnome.org/Internships#Eligibility?. Answer "yes" or "no".

yes

> Do you confirm that you have read and agree with the internship contract linked at https://wiki.gnome.org/Internships#Eligibility?. Answer "yes" or "no".

yes

Personal Information

> Name (public):

Megh Parikh

> Preferred pronoun (e.g. she, he, they):

he

> E-mail address:

meghprkh@gmail.com

> Blog URL (public, required):

https://meghprkh.github.io/blog/

> IRC nick (public, optional):

megh, meghprkh[m]

> Twitter URL (public, optional):

> Website or Portfolio URL (optional):

https://web.iiit.ac.in/~megh.parikh/Megh_Parikh_Resume.pdf (due to lack of an updated portfolio site)

> GitHub, GitLab, or any other code repository URL (optional):

https://github.com/meghprkh

> LinkedIn URL (optional):

https://www.linkedin.com/in/meghprkh/

> Any other online presence URL you wish to provide:

> Location (city, state/province, and country) (public):

Hyderabad, Telangana, India

> Education completed or in progress (include university, major/concentration, degree level, and graduation year):

B.Tech in Computer Science & Engineering with Honours in Computer Vision from International Institute of Information Technology, Hyderabad. Expected Graduation: June 2019

> How did you hear about this internship?

Carlos Soriano's [blog post](#)

Project Information

> What project are you interested in?

Credentials Management - An app for managing passwords and other credentials.

If I remember correctly, the first time I used Seahorse was when I forgot my password to a FTP server which was stored in Seahorse as I had logged in with Nautilus.

Since then, the UI has more or less remained the same with most apps getting a makeover but such an important yet not-often-used utility being left behind (a sensible choice as its not frequently used by most users)

However since most apps have received a makeover/ were rewritten from scratch, now its the time to write a new Credentials Management app.

In this project, I plan to implement Allan Day's [new designs](#) for the app and rewrite it from scratch.

> Who is a possible mentor for the project you are interested in?

[Tobias Mueller](#)

> Please describe your experience with the GNOME community and GNOME projects as a user and as a contributor. Some experience with GNOME stack and some contributions to GNOME are required for considering the application. Include information and links to the contributions you made:

I had previously participated in Google Summer Of Code and worked on adding Gamepad support to GNOME Games: https://github.com/Kekun/gnome-games/commits?author=meghprkh . The project involved adding support for playing games using a gamepad. Initially my work involved abstracting the Linux Kernel input API via GLib and then integrate the code I wrote with GNOME Games (for which I rewrote the code in Vala). The abstraction had to be as high level as the SDL API for gamepads while modifying some of the API for use with GNOME Games. As part of this I ended up learning a lot of GLib, Vala and some GTK (as the extended goal was to add a GUI for mappings which though I was unable to complete). I also learnt a lot about opensource in general and while during my GSoC I had some disagreemenents with my mentor with regard to the coding style, I only realized later that it indeed is very important.

I have also made small contributions to Builder - https://github.com/GNOME/gnome-builder/commits/master?author=meghprkh

Other than that I have made small extensions for GNOME shell.

I have been a GNOME & Fedora user since 7 years now and have tried to promote their use in my college.

> Please describe your experience with the project you are interested to participate as a user and as a contributor and relevant areas. Include information and links to the > contributions you made:

As I mentioned earlier in my proposal, I have used Seahorse for managing passwords stored in the keyring including FTP/SFTP passwords (and the number of them rise exponentially when you do Machine Learning and keep on getting access to new servers coz the cluster keeps getting clogged by training newer, more intensive models :p). I have not used it to manage PGP or SSH keys, even though that is a pretty important use case which I have to study for the project.

Though I have never contributed upstream to Seahorse, I decided to play around with libsecret to get an overview of the API and the project. I could successfully make a super-small prototype that lists passwords in the keyring in a GUI with some minimal styling. You can find the prototype here: https://gitlab.gnome.org/meghprkh/gnome-creds

Since I have previously worked on an app (GNOME Games) which used Vala + GtkTemplates to handle the main UI + buisness logic, I think my comfort level with developing this app is pretty high.

> Please describe your experience with any other FOSS projects as a user and as a contributor:

While I have never had the time in college to significantly contribute to another project, I have made small contributions to Fedora packaging. Earlier, I had made two small apps (Volume converter & markdown previewer) using GTK also.

That being said, I was an admin of the Open Source Development Group in my college and was involved in helping Mozilla organize some events. We also tied up with the local Python community as the venue partner to host the biggest Python conference in the city (and this year PyCon India is in Hyderabad).

I have also opensourced a lot of my projects which spread over the acadaemic or webdev areas and contributed a few things to some opensource webdev/ReactJS projects.

> Please describe any relevant projects that you have worked on previously and what knowledge you gained from working on them (include links):

I have worked a fair share on slightly compicated frontend apps which helped me gain some understanding about how to model the state and in general improved my skill to navigate around documentation.

Following is a brief video of one of my projects which skips some functionality due to non-disclosure agreement.

I have also done a corporate internship at Adobe Systems where I learnt a great deal about working in a big team.

I have done various acadaemic projects (OpenGL games, Raft Consensus algorithm, Java RMI applications, etc.) in C/C++ and Java which have improved my fluency in some manner over Vala also.

> Please describe the details and the timeline of the work you plan to accomplish on the project you are most interested in (discuss these first with the mentor of the project):

Schedule:

The primary, secondary and stretch goals are as described on the [wiki page](#).

- Primary:
    - Write a basic GUI which looks like the designs (1 week -> Nov 1 - Nov 7)
    - Layout basic code structure and start displaying some passwords (1 week -> Nov 8 - Nov 15)
        - Also review how Seahorse used to do it and get "providers" from it.
    - Break - Endsem exams + oncampus placements (3 weeks -> Nov 16 - Dec 7)
    - Allow editing passwords and write corresponding dialogs (10 days -> Dec 8 - Dec 18)
    - Searching/filtering (2 weeks -> Dec 18 - Jan 5)
        - Need to make sure that the filtering is not only via the basic server name and email but also via additional info from the Schema (which differs for all apps)
        - Filter by schema??? (say remove Chrome's saved passwords or only view Geary's passwords). Simple way is to allow searching schema name to filter entries for only that schema/app
    - Bug squashing (1 week -> Jan 6 - Jan 13)
- Secondary
    - Adding passwords (1 week -> Jan 13 - Jan 20)
        - UI needs to be thought about, how will user know which schema to use
        - Since design page states that one use case is for user's own memory and not for integration with apps, can have custom Schema
        - But other use case, "passwords issued by organizations, that are shared accross services" is slightly troublesome here.
    - SSH keys: View, import and generate (10 days -> Jan 20 - Jan 30)
        - Since code would be reused from passwords, shall not take much time
    - Multiple keyrings integration (10 days -> Feb 1 - Feb 10)
        - Ask for password for locked keyring
        - Probably shall be done as part of primary, but imho few people use multiple keyrings
        - Also probably support adding a keyring via hamburger or preferences menu?
    - PGP keys: View, import, generate and sign (10 days -> Feb 10 - Feb 20)
        - Need to play around with PGP keys more and understand them properly
        - Have only used keybase till now
    - Bug squashing (1 week -> Feb 20 - Feb 28)
- Stretch goals
    - Strength of passwords and detecting weak passwords (10 days -> Mar 1 - Mar 10)
        - Detect usage of same password over multiple sites also
    - Detecting duplicates (10 days -> Mar 10 - Mar 20)
        - Need UI mockups. Probably like Google Contacts? Where you get a popup suggesting say 5 similar passwords and with checkboxes you can select which ones to keep