

Discover

<fwupd integration>

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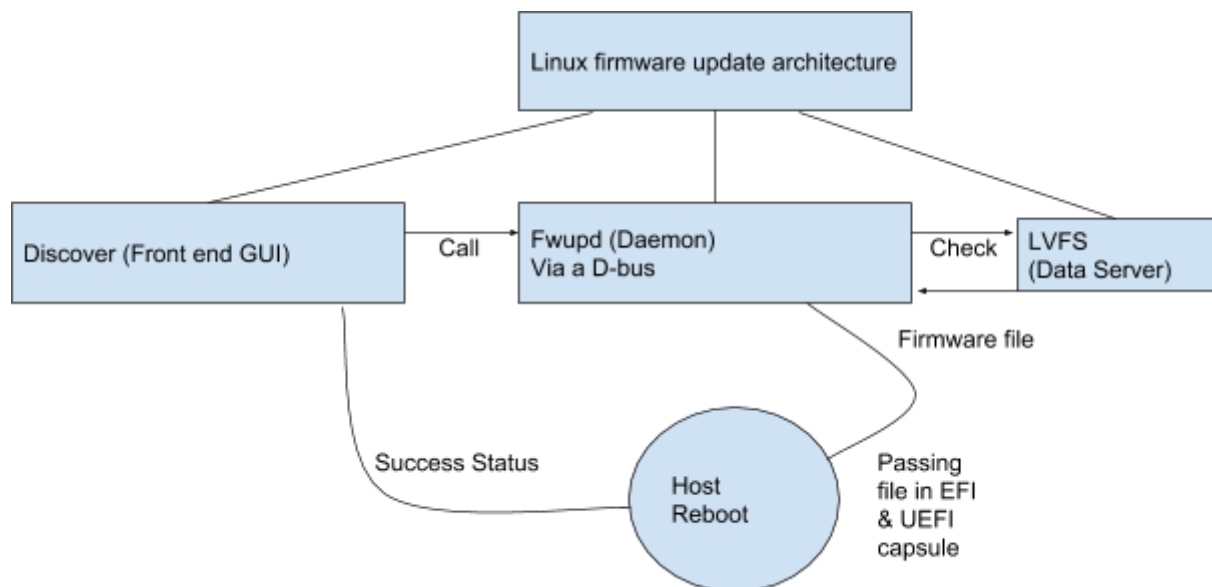
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Introduction

Discover Software Center is in charge of offering different kinds of assets viz with applications, add-ons and most important as a software update manager.

Currently Discover does most of the general job required for a typical plasma user but it lacks firmware/kernel upgrade on devices. This project will integrate kernel/firmware upgrade through [fwupd](#) in discover. This feature is currently integrated only on [GNOME Software](#). After addition of this feature Discover will also be able to upgrade kernels/firmware on Demand.



Through this update in discover, users who have less knowledge of cli tools, will also be able to secure their systems from possible security threats like spectre and meltdown.

Project Goals

Deliverables

- On demand kernel/firmware upgrades via fwupd.
- Brushing kernel/firmware upgrades UI in discover.
- Notification Support on New firmware updates.

Implementation

❑ On demand kernel/firmware upgrades via fwupd :

As this integration is a complex one, I would be tackling this integration into phases/possible targets as described below:

Phase 1	Firstly I will integrate local firmware upgrade where our files will be already present in a predefined directory.
Phase 2	Second phase will be to download the firmware image into our predefined directory securely
Phase 3	Third phase will be to integrate work done in phase 1 and phase 2
Phase 4	Phase 4 will mainly involve to fix bugs encountered during this integration
Phase 5	Brushing and polishing the Discover UI

Fig.1 (Preliminary Workflow)

❑ Brushing kernel/firmware upgrades UI in discover:

GUI options will be added so that users can voluntarily invoke the firmware upgrade process. It will also display possible upgrades and various new features added.

❑ Notification Support on New firmware update :

Possible firmware upgrade notification preference will be added. Also these firmware updates notification will be pushed via discover.

Note:

1. The challenging part of this project will be to test the newly created code, as different vendor will have different configuration. I will be needing guidance on this part of project for possible methods to test the same.
2. Preliminary workflow may change on possible suggestions from possible mentors.

Timeline

Before Coding period April 24-May 13	April 24-May 1	Understanding Discover code Base and getting to know community better
	May 2 - May 13	Understanding fwupd, LVFS code Base and improving the Preliminary Workflow(fig.1)
Phase 1 May 14-June 15	May 14-May 26	Starting Phase 1 and possibly completing it
	May 26-June 10	Busy Due to University END SEMESTER EXAM
	June 11-June 15	Writing Unit Test Case
Phase 2 June 16-July 13	June 16-June 25	Completing the phase 2
	June 26-July 8	Starting the phase 3 and completing it
	July 9-July 13	Writing Unit Test Case
Phase 3 July 14-Aug 14	July 14-July 26	Completing phase 4 and 5 of project
	July 27-Aug 4	Writing Unit Test Case
	Aug 5 - Aug 10	Improving User Documentation
After Aug 14	Buffer Time	Buffer Time

Note:

1. Every new patch will follow kde programming guidelines mentioned [here](#) which will also include adding suitable comments after every new patch.
2. I would make suitable notes during the coding period which would help me to improve the user documentation provided in [UserBase Wiki](#). The new documentation will also reflect changes from past and the feature implemented during this project.
3. Currently I have mentioned writing unit test case at the end of every phase, but i would try to ensure that

writing unit test case would go hand in hand with writing new refactoring/addition of code.

4. I will be able to contribute 30-35 hrs per week.

Availability

I will be available most of time on freenode IRC. People can also reach me via emails. All the updates regarding the project will be done via blog post on KDE Planet and my own blog [here](#).

Why KDE?

KDE's motto's "Experience Freedom!" intrigues me. I always wanted to contribute to the open source community and through KDE I was able to achieve that. KDE has very well documented instructions for new developers, like to me to get started. Also it has very well managed software infrastructure and proper methods for managing and improving the codebase.

About Me

Personal Information

Name	Abhijeet Sharma
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Important Links

Github	https://github.com/abhijeet2096
Launchpad	https://launchpad.net/~abhijeet2096
Askubuntu	https://askubuntu.com/users/587611/abhijeet-sharma
Phabricator	https://phabricator.kde.org/p/abhijeet2096/
Kde Identity	https://identity.kde.org/index.php?r=people/view&uid=abhijeetsharma
LinkedIn	https://www.linkedin.com/in/abhijeet2096/
Quora	https://www.quora.com/profile/Abhijeet-Sharma-28
Website	https://abhijeet2096.me
Blog	https://blog.abhijeet2096.me

Prior Contribution to KDE

I have been working on KPM (Kde Partition Manager) from past few months and my contributions are listed below

1. Completing Multiple Mount Point Support

Differential Revision:

<https://phabricator.kde.org/D11632>

2. Fixed the "remove existing mount point" bug

Differential Revision:

<https://phabricator.kde.org/D11542>

3. Add possibility to remove an existing mount point.

Differential Revision:

<https://phabricator.kde.org/D10514>

4. Add Partition UUID and Partition Label in partition properties dialog.

Differential Revision:

<https://phabricator.kde.org/D10323>

5. Changed Default size for properties dialog in main window

Differential Revision:

<https://phabricator.kde.org/D10179>

6. Added GPT Table Label and GPT Table UUID Label.

Differential Revision:

<https://phabricator.kde.org/D10150>

Why Me !

I am a 3rd year undergraduate student pursuing my degree in Computer Science & Engineering from IIT Mandi.

I want to work with KDE on this project for the summer as I think that I have required skills and interest so as to bring this project to its completion. As I have already contributed to KDE I am familiar with the process of landing the change from code patch to merge.