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Project scope in brief

Target of the project was divided into two phases, one for each phase of coding period. It was as follow:

1. **First phase:** In this period I targeted implementing discovery APIs for implementation of avahi into cups or cups-filters source. This implementation included separate functions to initialize avahi client, to browse for services, to resolve individual services etc.
2. **Second phase:** In second phase I was supposed to go through the implementation of the cups and cups-filters and refactor the source wherever I find the repetition of the avahi service discovery code. Apart from this major focus of this phase was also optimizing the process of service resolve by eliminating non-necessary resolve steps

Progress

I know I should have track the progress of the project on weekly basis but I realized its need after 2-3 weeks into the coding period. Then only I started tracking the same. Before that I was documenting whatever stuff I was discovering new to me.

1. **First three weeks:** First three week I spent time going through the codebase and understand the process of service discovery. I learned about the zero-conf discovery process and both DNS-SD and avahi implementation of the same. The reference I used for the same is [DNS Service Discovery Programming Guide](#)

Throughout the process of code go through I discovered multiple occurrence of avahi service discovery implementation(partial somewhere). I noted down these observations after suggestion from Till Kamppeter. This [page](#) contains links to the documentation, highlighting some of my observations.

2. **Last two weeks:** I started working on implementation from end of third week.. I have created header file containing discovery APIs and its source files. [This](#) link contains implementation and its application on a demo service browse utility. I tested it fine on my local setup. Here is PR containing integration of the new avahi module with ippfind utility, [PR#434](#) .

Taking suggestion from Michael, I have tried improving on coding conventions. Currently I am working on better implementation of same since I am having difficulty implementing current design in other files containing service discovery code. Hoping to complete it soon in this week.

Backlogs

Following are the backlogs according to initially proposed project plan

1. Integration of the APIs with driverless utility

This has been not worked out since I also started working on refactorization of other source files like ippfind, dnssd, http-support, which was not part of initial plan. **Will keep covering backlog as priority in coming week**

Incoming

Following are the thing I am going to workout in coming weeks:

1. Completing integration of these APIs with driverless utility in cups-filters
2. Working on optimization of resolve step
3. Including DNS implementation in new module along with avahi
4. Proper error handling

Documentation of my work

Following contains documentation of my work till now

<https://plump-leader-88e.notion.site/GSoC-learnings-348c1350032442c78b95c86214df60e7>