Updated statement of the nature and goals my honors project

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June 9, 2020

1 Purpose

I began this honors project as a two-person endeavour, but after careful thought and consideration, I propose that the best way forward for all parties involved is for us to complete our own aspects of this project individually.

Then, given the sudden change in the nature of the project, and due in no small amount as well to the vagueness of the original proposal, this document summarizes my individual accomplishments and my work with another partner on the aspects of this project that has resulted in a progress towards mature deliverables and proposes specific goals to clarify the requirements necessary for the honors college and I to consider this project to be completed.

2 Project Status

So far, I have done the following:

1. Implemented the core features of `python3-libgpiod-rpi` [5]

2. Wrote a detailed functional and techincal specification for `python3-libgpiod-rpi` [3]

3. Thouroughly analyzed and documented the original `RPi.GPIO` [4]

4. Contributed a few minor bug fixes to the open source `libgpiod` library [1] [2]

3 Enumeration of Goals

This section enumerates my remaining goals for this project. I group goals into three categrories. The first, essential goals, are items which I completely commit to. The second, preferred goals, are items that I would really like to do but that I would accept not completing if they became infeasible. The third, breakthrough goals, are items that would be nice to complete but are secondary to more pressing matters.

I sketch out a rough timeline of the months in which I aim to complete these goals in figure 1.
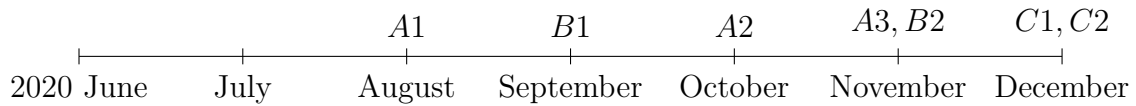
Figure 1: My new proposed timeline for this project

3.1 Essential Goals

A1. Implementation and verification of `python3-libgpiod-rpi` 1.0 as specified

A2. Submission of archivable document consisting of an analysis of the project as well the specification

A3. Presentation of the project and it's outputs to the honors college

3.2 Preferred Goals

B1. Inclusion of `python3-libgpiod-rpi` in official Fedora package repositiories

B2. Inclusion of `python3-libgpiod-rpi` in the Arch User Repository

3.3 Breakthrough Goals

C1. Presentation of the library at some technology conference

C2. Acceptance of some patch to upstream mainline Linux

References

[1] libgpiod/libgpiod.git - c library and tools for interacting with the linux gpio character device. `https://git.kernel.org/pub/scm/libs/libgpiod/libgpiod.git/commit/?id=02a3d0a2ab5ec6184114629a06b7c3456a706f9e`. (Accessed on 06/09/2020).

[2] libgpiod/libgpiod.git - c library and tools for interacting with the linux gpio character device. `https://git.kernel.org/pub/scm/libs/libgpiod/libgpiod.git/commit/?id=9ed02fc793b332773658f3ba09f45a058e75b0a8`. (Accessed on 06/09/2020).

[3] python3-libgpiod-rpi/spec.pdf at master · underground-software/python3-libgpiod-rpi. `https://github.com/underground-software/python3-libgpiod-rpi/blob/master/spec/spec.pdf`. (Accessed on 06/09/2020).

[4] Rpi.gpio · pypi. `https://pypi.org/project/RPi.GPIO/`. (Accessed on 06/09/2020).

[5] underground-software/python3-libgpiod-rpi. `https://github.com/underground-software/python3-libgpiod-rpi`. (Accessed on 06/09/2020).