**COMP491 Assignment HW2: Project exploration**

This assignment is worth 40 points and should take about six hours to complete. Record your activity in real time on the Slack live log. Save the results of your work in a document that will be submitted to Moodle as PDF; this is called your *responses document*. In addition, you must add certain information to our course wiki.

**Part A: Brief assessments**

Carefully read the background information given at the end of this assignment. Spend about an hour browsing the collections and recommendations of H/FOSS projects provided. Then, perform a brief assessment of at least 10 H/FOSS projects which you may be interested in working on. (Exception: students working on individual research or honors projects will select only five projects for brief assessment.) Spend about 5-10 minutes on each project. List the name and URL of each project that you assessed in your responses document, and record your impression of the project in a few words (no more than one sentence).

**Part B: Project explorations**

Select four projects from Part A which seem to be the most promising for further exploration. (Exception: students working on individual research or honors projects will select only two projects for exploration.) This part of the assignment is expected to take about one hour per project, for a total of four hours. Create a section on your responses document for each project explored. Each of the sections must contain the following information relating to the explored project:

* **Project Title:** The title of the project.
* **Project Repository:** The URL of the repository where the latest version of the source code is located. This is where a developer would go to get the code for the project (e.g. GitHub, BitBucket, SourceForge, etc.).
* **Project Homepage:** The public-facing homepage for the project. For many projects this will be different from the repository. Some smaller projects may keep everything in the repository.
* **Product:** Summarize in a paragraph what the software product does.
* **Activity:** Give some things that you noticed that indicate that the project is ongoing and has some developer community around it. You should at least consider things like the issue tracker and pull requests.
* **Target User Community:** Summarize in a paragraph: (i) Who is the user community for the software product? (ii) What need(s) of this user community does the software address? Briefly explain how the software addresses those needs.
* **Getting Started:** Imagine that you have been assigned to start working on this project as a developer. From that perspective, explore the project repository and homepage. Discuss your findings. In particular, be sure to address: What did you find that would make it easy to get started as a developer on this project? (Give links to resources as appropriate). What did you find (or what is missing) that would make it difficult to get started as a developer with this project?
* **Personal Interest:** Briefly describe the reasons that led you to explore this project. Then discuss things that you learned during the exploration that either increased or decreased your interest in engaging with this project.
* **Other:** Add any additional thoughts that you would like to record about the project. Include ideas that you think may be helpful later when deciding which project to engage with.

**Part C: wiki**

Add your four explored projects to the “Project explorations” page on the class wiki. If the project is already listed by someone else, add your name to the list of students who explored that project.

**Submission**

Submit your responses document to Moodle.

**Rubric**

A good grade can be achieved by: following all instructions accurately; producing material that reflects about one hour of research for each project explored (with evidence of time spent on the Slack live log); employing correct grammar and clear presentation of concepts. For an excellent grade, some evidence of additional research, insight, or thoughtfulness may be required.

**Background information on Finding H/FOSS Projects**

The remainder of this document contains background information about searching for H/FOSS projects.

There are literally millions of open source projects in existence. However, not all open source projects are equally good candidates for engagement. You will, of course, want to find projects that you are interested in. But you’ll also want to find projects that are active, technically approachable, have a variety of ways to contribute and have a welcoming developer community that will help you get started and that you can go to when you have questions. Below are resources that may help you find suitable projects of interest.

**Humanitarian FOSS projects**

As you know, H/FOSS is an acronym for humanitarian/free open source software. We encourage you to explore *humanitarian* FOSS projects because humanitarian projects align well with the mission of Dickinson College. We would like your computer science major to reflect the potential for computing systems to benefit our society. On other hand, you are not required to pursue a humanitarian project. Please give serious consideration to pursuing a humanitarian project, but ultimately you should explore and select projects according to all relevant factors, including your own personal interest.

Students and faculty from other courses, similar to ours, report that humanitarian FOSS projects tend to be friendly, supportive and open to helping new contributors come on board. Many of the projects listed above do have a humanitarian focus, and you can find many more HFOSS projects on the following list:

* [HFOSS Projects](http://www.foss2serve.org/index.php/HFOSS_Projects) NOTE: Examine the whole page, not just the table at the top. The bullet point lists contain projects that are not in the table at the top of the page.

Information about other H/FOSS initiatives and lists of projects (some overlap with the above list) can be found on the following sites:

* [awesome-humanitarian-foss](https://hfoss.etica.ai/): A curated list of HFOSS projects.
* [Past Google Summer of Code Projects](https://summerofcode.withgoogle.com/archive): The H/FOSS projects that have participated in Google’s Summer of Code program.
* [Past Outreachy Internship Projects](https://www.outreachy.org/past-projects/): The H/FOSS that have sponsored Outreachy internships.
* [NumFOCUS Sponsored](https://numfocus.org/sponsored-projects) and [Affiliated](https://numfocus.org/sponsored-projects) projects.
* [Awesome FOSS apps](https://github.com/DataDaoDe/awesome-foss-apps): A curated list of some large popular FOSS projects.

**FOSS projects for new contributors**

There are also a few sites that are specifically designed to help new people get involved in FOSS projects. These often have a list of projects with “introductory” issues that make good targets for new contributors. Listing a project here and tagging issues as “introductory” suggests that the projects may be particularly welcoming to new contributors. So you may want to search these sites:

* [Up For Grabs](https://up-for-grabs.net/#/)
* [Good First Issue](https://goodfirstissue.dev/)
* [OVIO](https://ovio.org/) - requires a free signup.

**H/FOSS projects selected by previous senior seminar teams**

Below is the list of all H/FOSS projects selected as capstone projects by previous Dickinson senior seminar students. Note that we do not necessarily recommend every project on this list. Every project has both advantages and disadvantages. If you are considering pursuing one of these projects, feel free to discuss it with the instructor to find out about the experience of previous Dickinson students.

2022-23: [Hugging Face Transformers](https://github.com/huggingface/transformers), [Oppia](https://www.oppia.org/), [Wagtail](https://wagtail.org/)

2021-22: [Kubernetes](https://kubernetes.io/), [Teammates](https://github.com/TEAMMATES), [The Odin Project](https://github.com/TheOdinProject/), [SymPy](https://www.sympy.org/en/index.html), [Wagtail](https://wagtail.org/)

2020-21: Book Project, [OpenMRS](https://openmrs.org/), [Numpy](https://numpy.org/)

2019-20: [FreeCodeCamp](https://www.freecodecamp.org/), [Jenkins](https://www.jenkins.io/), [Godot Engine](https://godotengine.org/)

2018-19: [FreeCodeCamp](https://www.freecodecamp.org/), [OpenMRS](https://openmrs.org/), [Audacity](https://www.audacityteam.org/)

2017-18: [Sahana Eden](https://sahanafoundation.org/products/eden/), [FreeCodeCamp](https://www.freecodecamp.org/), [Atom](https://github.com/atom/atom)

2016-17: [OpenMRS](https://openmrs.org/), [React Native](https://reactnative.dev/), [Sugar Labs](https://www.sugarlabs.org/)

In addition, here are some projects used by similar courses at other schools:

[Ushahidi](https://www.ushahidi.com/)

[GNOME Accessibility](https://wiki.gnome.org/Accessibility)

[Libre Health](https://librehealth.io/)

[Open Energy Dashboard](https://openenergydashboard.github.io/)

[Mifos](https://mifos.org/)

**H/FOSS projects you already know or use**

Think about the apps, software, frameworks, libraries and websites you use on your phone and computer. Which of them are open source? Are any of them suitable as capstone projects? If so, feel free to explore them.

**Other collections of FOSS projects**

If nothing in any of the above suggestions catches your attention, or you want to explore further, you can leap into the void and search some of the large open source project repositories. Most of the above projects are located in one of the following repositories, but these repositories also contain millions of other projects as well. Some will be great projects to get involved with, but others will be too large, too specialized, dead, or exclusive. So if you do head off into the void searching for projects, spend a few minutes informally assessing how active a project is and how open/welcoming/accessible it is to new contributors before spending the time to explore it in detail. That said, here’s a list of repositories:

* The Big Two:
  + [GitHub](https://github.com/)
  + [GitLab](https://gitlab.com/explore)
* Some other possible places to find projects:
  + [SourceForge](https://sourceforge.net/)
  + [BLACKDUCK - Open Hub](https://www.openhub.net/explore/projects)
  + [Launch Pad](https://launchpad.net/)
  + [Savannah](http://savannah.gnu.org/)

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* https://github.com/ChrisMurphyOnline/open-source-software-development-course/blob/master/activities/foss-evaluation-activity.txt
* http://foss2serve.org/index.php/Project\_Anatomy\_Activity
* http://foss2serve.org/index.php/FOSS\_Field\_Trip\_Activity
* http://foss2serve.org/index.php/Project\_Evaluation\_Activity\_V2
* https://github.com/ChrisMurphyOnline/open-source-software-development-course/blob/master/activities/foss-get-involved.txt