

The Non-Profit FOSS Institute Triad Roadmaps

Project Roadmap for Instructors

The Non-Profit FOSS Institute (NPFI) assists college-level instructors to develop software with their students for a local non-profit. The resulting free and open source software artifact should have real impact on a non-profit client and be sustainable by a local software developer after the class has finished it. This roadmap lists the steps an instructor can take to ensure successful project formation, execution, and completion.

PHASE 1 and 2: PLANNING AND REQUIREMENTS

<p>Step 1: Assess your interests, your students' capabilities, and your Institutional support</p>	<ul style="list-style-type: none"> • Determine your interest in teaching a projects-oriented class that will generate a software tool for a local non-profit with a specific need. • Assess your students' capabilities for completing such a software project. NPFI will support the planning of student-centered Community FOSS projects by providing resources to instructors and examples of successful past projects. • Determine your institutional support for conducting such a project in a curricular setting, including its support for the open source license that will accompany the software when it is fully developed. • As needed, write a brief proposal to NPFI for support to prepare for the project prior to the semester, and to turn the completed prototype over to a developer at the end of the semester.
<p>Step 2: Identity a non-profit with a specific software need</p>	<ul style="list-style-type: none"> • NPFI will provide assistance in identifying a local non-profit with a specific software need, and help you identify a staff member at the non-profit who will become the client representative on the development team. • Examples of software needs: a paper/spreadsheet-based donor database system, volunteer scheduling system, donated goods database system, resource allocation system (e.g., assigning guests to rooms, goods to donation sites, pets to shelters). NPFI.org provides links to past and current projects that provide concrete ideas. • Besides NPFI, regional foundations, personal connections, non-profit networks, local software developers, chambers of commerce, United Way, your institution's on-campus community service/service learning department can also help.
<p>Step 3: Partner with a non-profit and identify a project</p>	<ul style="list-style-type: none"> • Prior to the start of classes, work with the non-profit to identify and scope a project that is possible for your class to successfully complete in one semester (or in a semester plus a summer, if that is an option at your institution) • Project success is driven by the capabilities of your students. The project scope must be defined in a way that will result in a viable prototype that the class can complete and an IT firm can refine, deploy, and support.
<p>Step 4: Begin search for software firm to form third part of triad</p>	<ul style="list-style-type: none"> • Once a project is identified, NPFI will lead the effort to identify a software firm to form the third part of the triad, unless you and/or non-profit has already identified a technically qualified partner. • While this step may occur later in the process, identifying the software firm early supports its earlier involvement in understanding the project and its goals, easing deployment downstream.

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Step 5: Develop Requirements and Project Plan	<ul style="list-style-type: none"> You should work with the non-profit staff member to develop a requirements document and project plan. This will include a syllabus that contains milestones for completing key elements of the project. Recent examples can be found at NPFI.org Project requirements must map realistically to student capabilities and time constraints, so that your students are highly likely to succeed.
PHASE 3: DEVELOPMENT	
Step 6: Collaborate with the non-profit to build the software	<ul style="list-style-type: none"> During the semester, you and your class will build a working prototype for the non-profit. The class team and the staff member meet on a regular basis (face-to-face or via web conferencing) to review progress and iterate requirements. Student-developed software must use a GPL-type open source license for the product; either the instructor and students or the institution (depending on its intellectual property policy) will hold copyright to the software.
Step 7: Identity candidate software firms that can take over and support the software	<ul style="list-style-type: none"> If not already completed in Step 3A above, NPFI will work with you during the semester to identify local information technology/software firms with the capability to provide long-term support for the software being developed. The firm will join the instructor/class and the non-profit as the third part of the project's <i>triad</i>. As appropriate, NPFI can introduce you and the non-profit to candidate software firms, invite proposals for software support, and help the non-profit select the best firm for its needs. The software firm must agree to use open source licensing (GPL-like) for the product, and must commit to deploying the software and depositing all code and documentation in a publicly-accessible repository with its original copyright.
Step 8: Deliver the prototype	<ul style="list-style-type: none"> At the end of the semester, your class can present the completed prototype software to the non-profit (and the software firm that will provide long-term support). This formal presentation should demonstrate the work, and it will provide closure for the class as well. Typically, you will continue to work with the non-profit and the software firm to support the transition from class prototype to deployable software tool. NPFI will provide support for this activity as well.
PHASE 4: DEPLOYMENT	
Step 9: Deployment and staff training	<ul style="list-style-type: none"> Once the software firm receives the functioning prototype, the firm prepares the software for deployment. This may include refining code (fixing bugs), extensive testing, adding a security layer, extracting and loading live data provided by the non-profit, and installing the software in the non-profit's live environment. In the meantime, the nonprofit may develop a training plan to roll out the software to its staff and volunteers, and finalizes a support plan with the IT firm.
Step 10: Long-term support	<ul style="list-style-type: none"> The IT firm then provides long-term support for the software throughout its useful life. Additional software development activities can be negotiated independently.