Volunteer Attraction and Retention in Open Source Communities

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ABSTRACT

The importance of volunteers in open source has led to the position of community manager becoming more common in foundations and projects. Yet the advice for volunteer management and retention is fragmented, incomplete, contradictory, and has not been empirically examined. Our aim is to fill this gap by creating a comprehensive guidebook of best practices drawing from open source practitioner guides and general literature on volunteering, and to subject a subset of practices to empirical study. A method for evaluating volunteer attrition in terms of value to the organization will also be developed.

Categories and Subject Descriptors

D.2.9 [**Software Engineering**]: Management—*programming teams*; K.6.1 [**Management of Computing and Information Systems**]: Project and People Management—*staffing*

General Terms

Human Factors

Keywords

Community Management, FLOSS, Open Source, Recruitment, Service Duration, Volunteers, Volunteer Management, Volunteer Retention

1. INTRODUCTION

Volunteers play an important role in open source software development, particularly in community open source, which make up the majority of open source projects [6]. Open source foundations and projects are recognizing the

importance of managing their volunteer relationships by hiring community managers, but recommendations for fulfilling this role have been limited to 'best practice' handbooks by practitioners. One limitation of practitioner guides is that they focus on the feelings of volunteers who were recruited and retained through these practices, and do not examine potential volunteers who may have been alienated by the same practices. Researchers examining volunteering in the more traditional context of charities have created a wealth of literature on volunteer attraction, retention and motivation, and have also investigated former volunteers, but it is unclear to what extent their findings pertain to open source communities, which are not only distributed and online, but which also differ from traditional non-profits in terms of demographics.

We propose to create a comprehensive handbook of strategies for volunteer attraction and retention, drawing from open source practitioner guides, general volunteering guides, volunteering literature, and the study of potential open source volunteers. As part of our work we will create a method for open source organizations to evaluate where volunteer attrition is creating the most problems for particular projects, allowing community managers to focus on areas of weakness. Finally, a subset of practices will be studied in depth to provide clearer scientific guidance on the effectiveness of the proposed practices.

2. RESEARCH QUESTION

The primary research question is: *What are effective practices for the attraction and retention of open source volunteers?*

Three work packages have been identified to address this question. First, we will codify existing knowledge. Next, we will describe a model for organizations to identify at what point volunteer attrition is leading to the greatest aggregate loss of economic value. Finally, we will validate a subset of practices identified as supporting the motivation of volunteers in the stage of engagement which the model has identified as a key point of loss.

- **Codification of existing knowledge.** This work package will begin with collecting anecdotes from open source practitioner guides, general volunteering guides, and interviews with non-volunteers. We will generalize practices into patterns, making use of the general volunteering literature to support the abstraction. Next, we will identify relationships between patterns from the evidence. Finally, the relationships will be struc-
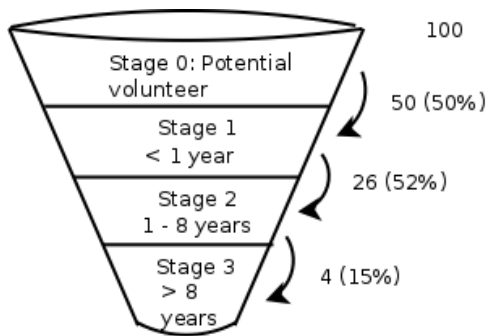
Figure 1: A funnel model of volunteer engagement

tured in a graph showing domains. The result of this research will be a comprehensive pattern handbook.

- **Identification of cumulative loss of volunteer value.** Volunteers go through phases of engagement with an organization, during which their motivations may change from satisfaction with the task to commitment with the organization to identifying with the role of volunteer [4, 5]. Practices are aimed at supporting volunteers in particular ways which may have more or less impact depending on a volunteer's motivation. Volunteer commitment might be modeled as a funnel (see figure 1), which would allow an organization to calculate the cumulative loss of economic value through attrition and identify practices which would support unmotivated volunteers at this stage of engagement.

  The model will be tested by being applied to a number of open source projects using public data, which will allow us to determine if the majority of open source projects have problems with a particular stage of engagement. If so, this will drive the selection of the domain for further investigation. Otherwise, the selection will be made by applying this model to the organization(s) participating in the subsequent phase of research to identify the domain of greatest interest to these organizations.

- **Validation of practices.** The practices identified for further study in the previous stage will be studied more closely. It is our expectation that we will partner with one or more organizations and be able to advise the management of volunteers over two years. During this time, we will be able to apply practices and observe the results. The case study will be supplemented with surveys of community managers.

3. WORK IN PROGRESS

The research is in the initial phases, with the following activities underway or soon to be started:

- **Create a comprehensive list of best practices from practitioner guides.**

- **Identify means of estimating volunteer engagement through public data sources.**

- **Calculate economic contributions of volunteers.**

- **Investigate episodic volunteering.**

4. EXPECTED CONTRIBUTIONS OF DISSERTATION

The dissertation is expected to extend understanding of the management of volunteers in open source communities. By taking an interdisciplinary approach, we expect to transfer knowledge from the literature on volunteering which is applicable to open source research. We expect to expand on the practitioner advice by also taking into consideration failures to attract and retain volunteers. A further contribution will involve identifying when or why volunteers are lost and the loss of value to the community. Finally, examining some practices empirically will move the state of the art beyond anecdotal advice.

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