Supporting Social Discovery of Appropriate Candidates for Promotion to Administrative Status in Wikipedia

Mark Zachry

Human Centered Design & Engineering
University of Washington
Seattle, WA, USA
zachry@uw.edu

David W. McDonald

Human Centered Design & Engineering
University of Washington
Seattle, WA, USA
dwmc@uw.edu

Abstract—**Online systems that rely on their participants to provide oversight and governance face the challenge of assigning administrative rights to appropriate people in the community of users. This study examines how system tools in one such system, Wikipedia, support and constrain the social processes of administrative rights granting. Reporting on the results of a survey of community participants in the English Wikipedia "Request for Adminship" process, the study offers an analysis of system tools in support of a high-stakes social process. It discovers that the existing tools offering basic counts of user actions in the system are not generally perceived as valuable; instead, members of the community develop nuanced, individualized means of assessing administrative candidates. The study offers insights into the implications of tool design for self-governing online systems.**

Keywords—*Wikipedia; administrators; management; collaboration; system tools.*

I. INTRODUCTION

In self-governing, social contributor systems, community participants need processes and tools that are well integrated to support their administrative work. Whether the community is setting policy, disciplining those engaged in disruptive behavior, or selecting who among the community will have access to special system tools, integrated processes and tools are essential for facilitating sustainable, communally valued practices [1]. This integrated process-tool complex serves as a kind of bedrock on which a relatively predictable set of recurring actions can occur. At the same time, because a social contributor system is a dynamic entity made up of an evolving set of people and embedded in a larger, changing social context, it must necessarily mutate to remain viable. This need for relative stability and openness to change presents a challenge for those who aspire to design viable, socially attractive contributor systems.

Wikipedia, one of the most widely hailed social contributor systems in the world, is a flagship effort of the Wikimedia movement. As a multi-language encyclopedia notable for its relevance to the representation of human knowledge, Wikipedia is also notable for its reliance on interested people to make it work—including such key contributions as writing its content, supplying images and sounds, ensuring editorial integrity, and adding functional code to improve the underlying system itself. This reliance on contributors further extends to the selection of individuals who will be granted access to administrative tools that enable and sustain the system. In Wikipedia, such individuals are designated as administrators, or admins. Wikipedia administrators have access to tools and features that help them execute their maintenance responsibilities, such as the ability to block user accounts, to restore deleted pages, and to hide page revisions from standard users. (For a comprehensive list of administrator tools and capabilities in Wikipedia, see details at [2].)

A. The Administrator Promotion Process in Wikipedia

Within Wikipedia, Requests for Adminship (RfA) are handled via a formalized process by which editors determine who will become administrators. All registered editors in the community can potentially be involved by nominating users whom they see fit for the administrator role. Subsequently, all registered editors can potentially comment on and render an opinion about nominees to help decide who is a suitable candidate for an administrator role. This open process is exposed to the community with all transactions appearing on a wiki page. Prior research about the viability of this community-driven process [3] has identified a degree of urgency in developing a better understanding of the administrator promotion process because of the system's need for more administrative help.

When participating in the RfA deliberation process, Wikipedia editors may use whatever means the community will allow to make their assessment. A resource available to them is a set of guidelines published on the wiki, which provides some sense of appropriate means for evaluating whether candidates are experienced, active, responsible, interactive, and can be trusted to uphold Wikipedia policies. These and other characteristics are listed in the Wikipedia Guide to RfA, which is available on the wiki at [4]. Further, for each case presented to the community for consideration, a set of nominee-relevant exploration tools is presented via links on the nomination page.

The RfA guidelines and the tools presented to participants in the process—like many other aspects of Wikipedia—have largely emerged from the joint efforts of editors working together. The guidelines, consequently, do not stipulate official or mandatory requirements to becoming an administrator. Instead, the guidelines offer community-derived general advice for nominees and nominators as well as a description of the nomination process. Likewise, the

nominee-specific tools presented with each RfA case are offered by members of the community invested in the process, but open to the involvement of others. Reflecting the priorities of those community members who have invested work in the process, both these guidelines and the nominee exploration tools embed a set of values. The guidelines and tools are tightly connected to characteristics and factors that RfA contributors hope to see (and hope not to see) in a candidate. This process of human defined values becoming embedded in system code is a phenomenon of interest to researchers in Science and Technology Studies generally, but within Wikipedia specifically, it has been studied by such researchers as [5].

Our study advances this line of inquiry by investigating the relationships between the values embedded in the guidelines and tools and the actual work of editors participating in the RfA process. Through this investigation, we seek to discover the relationship between values in structural elements of the system (guidelines and tools) and the work that is conducted with and around them. Our work has potential value, then, for not only understanding a mechanism of self-governance in Wikipedia, but potentially also for understanding other systems that rely on their communities of users to develop community-governed policies to support collaborative action [6]. Researchers who are motivated to understand the dynamics of online elective processes like RfA [7], for example, would potentially benefit from our study.

Prior work examining the RfA process within Wikipedia has addressed several concerns, most of which are indirectly related to the present study. For example, Burke and Kraut [8] propose models of behavior based on the outcome of nomination cases. Another study [9] employs social network analysis techniques to examine the effects of relationships among people on their decision patterns when participating in RfA. A third study [10] examines the editing histories of administrators and analyzes them in relationship to voting patterns in the RfA process. A final study [11] uses interviews to identify sensemaking practices of participants in the RfA process and to consider the design of a visualization tool to support such work. Our work complements these previous studies, examining the thoughts and experiences of RfA participants and connecting them to the general affordances of the tools readily available to support community deliberation about administrator candidates.

In the paper that follows, we describe our means of understanding the social, tool-mediated process by which Wikipedians select community members to be elevated to administrative status (see Section II), examine the values that such members use to guide their opinions (see Section III), consider how the tools support such opinion development (see Section IV), and then, conclude with suggestions about designing for such contexts (see Section V).

II. METHOD

Our study employs survey and system analysis techniques to identify the relationship between community practices and values and the primary tools present in the context of RfA work. It is worth noting that our work focuses specifically on practices, values, and tools in the English Wikipedia, which is the largest instance of Wikipedia. Additional investigations of RfA in other language wikis (e.g., [10]) would be appropriate to determine if our results correspond to relationships and tool use in other language wikis.

A. Design of the Survey

We designed and offered an online survey of editors to study the RfA practices and values of active Wikipedians. Participants were solicited from within Wikipedia itself on pages and related forums on which editors involved in the RfA process were likely to notice the invitation (e.g., Wikipedia pages, such as the RfA talk page, the Village Pump Miscellaneous page, and various related Internet Relay Chat (IRC) channels). Additionally, Kudpung, a Wikipedia Online Ambassador and administrator, re-posted our invitation on the RfA Reform page within Wikipedia (see [12]), noting that WMF founder Jimbo Wales had recently expressed a firm desire to see more data driven contributions to proposals for RfA reform.

The survey asked participants a mix of questions, including demographic characteristics, opinions about the process, frequency with which they used tools from the RfA toolbox, and what characteristics they value most when evaluating an administrator candidate.

The survey was open for one month, during which 61 Wikipedians responded.

B. Data Analysis

To analyze the responses of our participants, we considered the characteristics they identified as important in their consideration of RfA nominees and the tools present in the process that they reported using. We then used their expressions about their deliberation practices to understand how they considered these characteristics and tools.

1) Valued Characteristics

Survey participants provided information about the characteristics they value in nominees in response to questions about (1) the normal evaluation practices, and (2) descriptions of what they look for when assessing a nominee. We then analyzed these responses to determine the frequency with which nominee characteristics were identified as valued. To categorize these responses, we used Wikipedia's Guide to RfA to group characteristics users hope to see in a candidate. As shown in Table II, we created one subcategory that lists the exact characteristics described in Wikipedia's Guide to the RfA, and one subcategory that lists additional characteristics participants mentioned in their responses that closely relate to those described in the guide. We made a count every time a participant mentioned one of the listed characteristics in their responses. In addition to these characteristics, we created a separate table (Table III) that lists characteristics participants collectively mentioned that do not relate to the categories in the guide to the RfA.

2) Tools

We analyzed tools presented to RfA participants in the RfA toolbox (see Figure 1 for an example) to see if there were direct or indirect relationships between the functionalities of the tools and characteristics users would like to see in an administrator candidate. For every characteristic (presented later in Table IV), we determined if there are tools that could assist in researching if a candidate possesses such a characteristic.
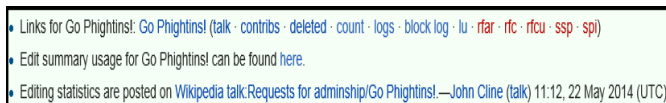

Figure 1. A set of tools presented to editors considering an RfA case. In this instance, the nominee is Go Phightins! An active version of this tool may be accessed here [13].

In these automatically generated tool boxes, participants in the RfA process are presented with links to the candidate's user page and user talk page, as well as links that yield basic data about the candidate's prior system actions. These count links include a log of diffs committed by the editor over time, a count of edits over time, a list of instances in which the candidate's account was blocked administratively, a count of the number of times the editor was involved in an arbitration process, and a count of the number of times the candidate's account was flagged for investigation based on a request of another editor. Additionally, much of this type of data can be accessed via an "editing statistics" link to a talk page associated with the candidate's nomination.

III. RESULTS

Our 61 participants included three types of Wikipedians:

- 31 registered editors
- 29 administrators
- 1 bureaucrat

Registered editors include those users who have created an account within Wikipedia (as opposed to those who edit anonymously). Administrators are editors who have been selected to have elevated systems permissions. Bureaucrats are those with system permissions to add and remove administrators. At the time of the survey, there were approximately 22,100,000 registered editor accounts, 14,000 administrators, and 35 bureaucrat accounts. (For more detail about the overall population of Wikipedians and their unique roles in the work and maintenance of the system, see [14]).

All participants in our survey expressed opinions about the RfA process, and nearly all were regular contributors to such deliberations (Table I). Among the survey participants, 20% reported that they participated in nearly every RfA case.

TABLE I. NUMBER OF RFA CASES THAT SURVEY PARTICIPANTS REPORT CONTRIBUTING TO ON A MONTHLY BASIS

Not monthly	3 (~5%)
Fewer than 2 RfAs per month	26 (~43%)
Two or more RfAs per month	20 (~33%)
Nearly every RfA	12 (~20%)

Survey participants were asked an open question about what they looked for when they considered a nominee: "In a few sentences, please describe what characteristics of an RfA candidate are most important to you as you evaluate him or her and why." Participants offered responses of varying lengths. All responses were analyzed to extract a list of characteristics, and all characteristics were included in the final list. This list was then transformed into a regular list of common characteristics and counts of occurrence, as indicated in Table II. Some of these categories matched the characteristics mentioned in the RfA Guidelines and others were identified as closely associated.

TABLE II. GUIDELINE-BASED NOMINEE CHARACTERISTICS THAT SURVEY PARTICIPANTS REPORT AS IMPORTANT IN THEIR CONSIDERATIONS

Editor characteristics identified in the Guide to RfA	# of mentions	Closely related characteristics mentioned by participants	# of mentions
strong edit history	22	has substantial contributions	27
observes consensus; follows policy	22		
clean block log, good editing behavior	16	no serious concerns about editing history	4
varied/diverse experience	14	experience; breadth of interest, tenure	8
helpful, polite, evident in talk pages, interacts well	13	civility, friendliness, patience, good attitude, work ethic	26
constructive use of edit summaries	5		
trustworthy, reliable, uses admin rights carefully	4	stand by decisions, sound judgment, admits mistakes	10
helps with chores; does admin work	4	good use of tools; good work	4
high quality articles	3	good content	12

Beyond those characteristics that matched or were closely aligned with characteristics from the RfA guidelines, our participants also identified others (Table III). These unique responses include such things as the nominee having an insider perspective (e.g., being "clued" in) and personal histories of interaction (e.g., knowing something about the individual because we have encountered each other while editing).

TABLE III. ADDITIONAL NOMINEE CHARACTERISTICS THAT SURVEY PARTICIPANTS IDENTIFIED AS IMPORTANT IN THEIR CONSIDERATIONS

Unique Responses	# of Mentions
maturity	15
deals well with conflict	7
knowledgeable, intelligent	9
"clued" in / cluefulness	7
Wikipedia-experienced, familiarity, length of experience	7
personal history of interaction / familiar with candidate's name	8

Given the characteristics identified by our survey participants, we then considered how closely they were aligned with the tools presented in RfA cases. As expected, some of the nominee characteristics that the community is encouraged to consider are discoverable in the toolbox (see Table IV). Notably, some of the characteristics are supported by multiple tools. For example, eight of the tools in the toolbox would allow an RfA participant to make an assessment about the strength of a nominee's editing history. When considered in this framework, it became evident that the tools offered to the community are based on editor characteristics that are relatively simple and easy to represent as a count number. Notable then, too, is the fact that not all the suggested character attributes can be discovered with a tool. These characteristics are things that are not readily countable (e.g., trustworthiness and helpfulness). Additionally, none of the unique (non-guideline based) characteristics identified as important by our participants were discoverable via an offered tool.

The lack of tool support for reasoning about a nominee's characteristics, presented in a way that the community values, may indicate an opportunity for design enhancements to the RfA toolbox. Such opportunity, however, merits careful consideration. Additional input from our survey participants (discussed in the following section) offers a more complex picture of how tools are connected to the practices of RfA participants thinking through the characteristics they value and how an individual nominee exhibits those characteristics.

TABLE IV. NOMINEE CHARACTERISTICS IDENTIFIED IN THE RFA GUIDELINES THAT ARE SUPPORTED BY TOOLS PRESENTED TO PARTICIPANTS IN THE DELIBERATIVE CONTEXT PAGE

Guideline Characteristic	# of Tools Supporting
Strong edit history	8
Constructive and frequent use of edit summaries	3
Has a clean block log, good editing behavior	2
User interaction (helpful, polite, evident in talk pages, interacts well)	2
Observes consensus (ensures neutrality and verifiability) knows and follows policy and guidelines	1
Varied/diverse experience	0
Trustworthy, reliable, uses admin rights carefully	0
Helps with chores; participating in admin work	0
High quality of articles (articles featured, "good articles")	0

IV. DISCUSSION

Wikipedians are invested in the process of selecting high-quality administrators from their ranks. As the process is now realized in the community, many tools (e.g., guidelines, essays, link-based count logs) have been developed to support this work. As representative voices from the community, our survey participants provide a sense of the nuanced and largely invisible aspects of the process-tool complex involved. As one participant explains,

"The reality is that adminship is oriented to communal trust and confidence, not percentages and numbers, and each user will have their own way to assess candidates' readiness for the role."

As expressed here, among all the participants, there is some disbelief that tools based on automated counts can represent all the qualities of interactions and edits that are worth consideration. The implicit implication of these comments is that humans must judge candidates based on their reading/sensemaking about candidate behavior.

A. Patterns of Consideration Used

Although we see evidence among participant responses that each user has "their own way" of thinking about nominees, we note that these ways can broadly be organized into two categories based on the intensity of consideration.

Some participants describe a "systematic" investigation approach to considering nominees. These people explore a wide range of participation examples by methodically looking through the places where the candidate has edited. These people also look systematically at the exchanges the candidate has had with others. They specifically consider the user's page and corresponding user_talk page (the primary on-wiki spaces used for direct communication between two or more editors) and those pages' revision histories. These systematic users explore deeply and would seem to be spending considerable time in their exploration.

Other survey participants describe a comparatively shallow form of exploration. These users make general comments pointing out that there are other users who are likely to do a deep exploration and that any glaring flaws would likely be found by those others. Thus, these shallow explorers feel that they only need to look at a small number of issues which they care about. In these cases, there is not one thing that they consider as a group, but in general they are not looking widely. They tend to mention using the RfA comments posted by previous participants in the deliberation to help make their determination, before looking at one or two other items to render their opinion.

B. Considerations Beyond Those Represented in Tools

Regardless of how intensely and by what means the survey participants considered nominees, factors they considered extended beyond those that could be explored through existing tools. These factors were diverse, as suggested in the quotes that follow.

1) Breadth of Knowledge

Participants cared about how a nominee demonstrated potential for thinking broadly. All nominees are specialists in certain topical content areas and/or types of work within Wikipedia, but a good nominee needed to show potential beyond those areas of specialization. A participant explained they wanted to see a "breadth and depth of knowledge of policies and guidelines, not simply being able to regurgitate sentences from policy pages." Another participant expanded on this idea: "For me, a user must be competent and well aware of things that are going on on the wiki, not only in the area in which they wish to work (although this is most important)."

A third participant offered a slightly different take on this expectation for breadth of knowledge. In particular, this participant wanted nominees to demonstrate an appreciation for the diverse work of Wikipedians. Such an appreciation is deemed necessary because of the power that a confirmed nominee would hold upon becoming an administrator:

"Candidates don't have to be prolific content contributors, but they must show that they know all the content basics and can work effectively with experienced content editors. The 'janitor' metaphor is misleading: a janitor can't tear up your homework and ban you from school, but an admin can."

2) Bravery

Paired with this concern about desiring admins who appreciated a breadth of experiences was a desire to identify nominees who would not shrink away from the necessary hard decisions an administrator must perform. In short, the community values an administrator who will step up and do difficult things. As a survey participant explained, an ideal nominee is "not afraid to step on a few toes to do their job as an admin."

3) Social Adeptness

A valued consideration among survey participants was the sociability of nominees. Sociability included many dimensions. For example, it is related to social trust: "Probably the main question I ask overall is 'Can I trust the candidate?'" Sociability is also related to moderate behavior in the face of heated debate. A survey participant explains, "A calmness and maturity that means the editor is generally a moderating influence in contentious or heated circumstances. This does not just apply to editors who can become uncivil in conflict, but also those who are naive and lack tact and sensitivity." For some survey participants, social adeptness was something that could best (and perhaps only) be judged by prior intimate interactions: "Generally I comment only on the RfAs of users I've interacted with, positively or negatively, and base my position on that."

4) Fitness as a Representative

Finally, survey participants weighed how well a candidate would represent the overall community. A survey participant explained that when considering a nominee, they thought about "whether the candidate will be a good spokesperson; admins are on a pedestal to some degree; they have the illusion of authority. As such, they should represent the project well to new editors, etc." Related to this, there was concern for finding good representatives of the diversity of the community: "For Wikipedia to be 'the free encyclopedia that anyone can edit,' all demographics should be welcomed."

V. CONCLUSION AND FUTURE WORK

As this study demonstrates, the means by which users of a large contributor system engage in the difficult work of self-governance are complex [15]. To ensure that the best possible users are elevated to the status of administrators, people create and participate in an integrated tool-process set of activities through which they endeavor to discover administrator candidates who exhibit characteristics they value. As the operators of such a contributor system consider options to better support the work of the community, they would ideally consider such integrated tool-process activities.

Design considerations for future versions of such systems should include a rich model of the socio-technical aspects of sustainable community-driven collaborative work. Our study offers some initial basis for thinking through such design work in the future.

Following the results of our survey, the design of the RfA experience could be modified to better align tools with the needs of the community. This redesign would include the expansion of the tool set to be more than a collection of basic counters. It would be desirable, for example, to offer tools that could be configured by users to represent more complex patterns of counts that correspond to the kinds of patterns that many RfA participants seek out. Such configurability is technically feasible, drawing on the techniques of end user configuration used in other social media sites. Beyond supporting configurations of basic counts, it would be possible to allow users to weight such counts, which addresses some of the nuanced judgments that survey participants reported as part of their typical RfA work.

Beyond supporting more complex, configurable views of counts, a redesigned system might also include new measures of candidate behaviors that are not currently available. Our examination of how existing tools support valued administrator characteristics as expressed in the RfA Guidelines yielded a set of characteristics not explorable based on simple edit counts. With the development of more sophisticated data mining and interpretation techniques, however, it seems feasible that some insight into these valued characteristics might be possible. For example, it would not be too difficult to classify previous user contributions to expose how frequently a candidate has engaged in actions that the community values as "chores" or has conducted work that is perceived as high quality. Additionally, textual analysis software could be used to characterize how individuals participate on talk pages which could help others to understand the social adeptness of a candidate with whom they had not yet interacted.

Drawing on the expressed needs of the community (both through this survey and beyond), it seems reasonable that the community of editors in Wikipedia could be better supported in the social discovery of valued administrators to conduct important and much needed work in the system.

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