

## **Fedora Magazine Usability Test Results Report**

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## Executive Summary

To: Fedora Magazine  
From: Group 2 UX Researchers  
Subject: Executive Summary of Usability Test  
Date: April 27, 2022

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This executive summary is an overview of the purpose and research question, methodology, results, and recommendations from our usability test on the Fedora Magazine website.

## Purpose and Research Question

Efficiency was measured by task completion, issue impact, and time on task, and satisfaction was based on participants' comments and ratings, which were recorded after each scenario and after completion of the entire test.

## Methods

Each participant was recruited via social or professional networks and completed a screening questionnaire prior to their scheduled test session (Appendix A).

There were six methods of information gathering used during the moderated remote usability test.

The background questionnaires gathered some basic demographics. Participants supplied information such as gender, age, education level, occupation, and experience with Fedora website use (Appendix B).

Prior to testing, questions were asked which were based on the participant's initial impressions of the websites (Appendix C).

During the test, participants were given nine scenarios, which were ordinary tasks relevant to what typical users may complete on the website (Appendix D).

After participants completed the scenarios, they were given post-task questions (Appendix E). All of the questions asked them to rate the ease or difficulty of the task. When the test was over, the participants were given a debriefing survey.

The debriefing survey was sent to the participants about their impressions of the site. These questions were more in depth than the post-task questions (Appendix F).

Last, final questions were asked which were based on the participants' final impressions of the websites (Appendix G).

## Results

Overall, participants were able to complete most tasks without difficulty. However, participants encountered the overall issues with the following principles of usability, which are fully explained with evidence from our usability tests in the report:

- Consistency with User Expectations: Features of the website are located and function consistently with user's typical expectations for a website.
- Discoverability: Users can easily find what they are looking for on a website.
- Visible Navigation: Users can see clear navigation cues throughout the website.

## Discussion

The discussion reflects on how the results found through the usability test answer the research question: *can users complete tasks they would expect to complete while visiting the Fedora Magazine site as a **reader** and as a **contributor***? The discussion will also provide considerations and potential solutions which align the priorities shared by Fedora Magazine with anticipated expectations from current and potential users, which are proven through best practices outlined in literature from established user

experience (UX) communities and industries relevant to the proposed recommendations.

## **Recommendations**

Based on our results, we have suggested the following recommendations:

- Update the current WordPress template to more closely fit the style used by the Community Blog site. This will solve at least 95% of all mentioned usability issues and bring more visibility to the most typical tasks.
  - Add a tagline at the top of the home page. This will establish a clear purpose of the site for visitors who discover the Magazine.
  - Update the “Fedora Magazine” links within Fedora Docs and ensure they go to the Fedora Magazine home page. This will solve 100% of navigation issues involving the transition from Docs area back to the Magazine since the info is housed in both areas.
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## Introduction

This report describes usability test sessions recently conducted on the “[Fedora Magazine website](#)”. We will address our purpose for the usability testing, as well as our methodology and results, and finally, we will discuss the evidence-based recommendations we have for Fedora Magazine.

According to the Fedora Project, “The Fedora Magazine targets everyday Fedora users, Linux enthusiasts, and technology hobbyists,” and provides news and announcements about Fedora in general. In addition, the Magazine has articles about how to more effectively use and develop software within Fedora, and advertises opportunities to get involved with the Fedora community, such as with testing days.

Although Fedora Magazine is intended for multiple users, including consistent readers and content contributors, contributors aren’t the main audience of the magazine site. In fact, Fedora Magazine has a sister blog, more specifically geared toward contributors, called the Fedora Community Blog. Not to be confused with Fedora Magazine, the Community Blog delivers news, updates, and calls for help from *actual contributors within the Fedora community*. For more information on the differences between the blogs, please visit the “[Fedora Project](#)”.

The purpose of usability testing for Fedora Magazine explicitly focused on the average user’s ability to complete typical tasks they would expect when visiting the site.

The research questions that guided our testing included:

- Can users successfully subscribe to the e-newsletter?
- Can users effectively search for articles?
- Can users easily create accounts?
- Can authors/editors easily log in?
- Can writers/editors easily find topics to write about?
- Can writers/editors easily submit topics to write about?

Our overarching research question was twofold: *can users complete tasks they would expect to complete while visiting the Fedora Magazine site as a **reader** and as a **contributor**?*

Next, we will discuss our methodology and results. We will discuss the quantitative data we obtained from our participants, including task completion, issue impacts, and time on task. We will also address qualitative data we obtained from our participants, including their comments, reactions and feelings expressed before, during and after their experience interacting with Fedora Magazine as a typical reader or potential contributor.

Ultimately, our report will discuss the overall usability and user satisfaction of Fedora Magazine. We will conclude by making three top-priority recommendations that connect the priorities for the Fedora Magazine website with the data we obtained from our participants' experiences and opinions, their expectations of websites in general, and best practices for design as drawn from established UX industry literature.

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## **Participants**

### ***Targeted Participants***

From the client interview, Fedora Magazine users are ideally “everyone, all around the world”. Users include people of all ages with different computer skill levels and different backgrounds, including non-native English speakers. In addition, many Fedora Magazine users are regular visitors who are very familiar with the website due to frequency and extensive use, either as a reader or contributor.

There are three different types of users: readers, writers, and editors; the client noted that the majority of Fedora Magazine users are authors. The client also indicated that one of Fedora Magazine's top priorities is to draw in more new contributors for their blog content. For this reason, we sought participants with some OSS experience who actively visit technology-related websites and blogs such as Fedora Magazine for our usability testing sessions.

### ***Actual Participants***

We recruited five participants for this usability evaluation. We initially recruited the participants electronically, using our own professional and social networks. Prior to being officially invited for usability testing, each participant completed a recruitment screening questionnaire to gauge their experience with open-source software (OSS) and their engagement level with the OSS community, and to determine if they had contributed to a tech blog or professional journal in the past (see Appendix A).

Ultimately, we were able to use participants who reported familiarity with Linux and OSS, who did not specifically mention familiarity with the Fedora Magazine website. While our participants were similar to the personas representing potential users of Fedora Magazine based on their experience and interests, they did not completely represent the niche OSS community (i.e. programmers and developers) Fedora Magazine may be intended for. Regardless, using participants with even general blog experience would still provide valuable information and objective input from the lens of an everyday Fedora Magazine website visitor.

When participants were officially invited to participate, they were also sent Participant's Rights and Consent Forms developed by the University of Minnesota to

review prior to their testing sessions. At the start of each testing session, each participant confirmed reviewing the documents and verbally consented to session participation, including testing team observation and recording of sessions for review as necessary.

For future reference throughout our report, we will refer to our participants individually as P1, P2, P3, P4, and P5. Please see Appendices A and B for complete participant recruitment screening data and background demographics.

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## **Methods**

### ***Assessments and Measures***

The primary evaluation method was to ask participants representative of typical Fedora Magazine users to complete typical tasks using the website. During the remote, moderated testing sessions, participants were given a background questionnaire and then asked for their initial impressions of the home page of Fedora Magazine. Next, they were instructed to complete tasks based on typical use scenarios and were asked post-task questions after each task. Finally, they were given a debriefing survey and then asked to discuss their final impressions of the overall site and their experience using it. For the duration of scenario task completion, participants were asked to “think aloud” to share reasons and opinions related to their actions and experiences with the testing team. These procedures are described more fully below.

### ***Background Questionnaire***

At the beginning of each testing session, after each participant verbally consented to the Participant’s Rights and Consent Form documents, participants were

sent a background questionnaire via chat. The questionnaire gathered participants' general demographic information and revealed any familiarity with the Fedora Magazine website (see Appendix B).

### ***Initial Impressions***

Participants were provided the URL for Fedora Magazine via chat and directed to view only the home page of the Fedora Magazine website. When they indicated they had viewed the home page sufficiently, they were verbally asked five questions about their initial impressions, and dictated their answers to the moderator (see Appendix C).

### ***Scenario Tasks***

The participants were verbally read nine tasks by the session moderator and sent corresponding details in the chat (see Appendix D). The moderator instructed the participant to “think aloud” to share reasons and opinions related to their actions and experiences while interacting with Fedora Magazine. Observers manually recorded details about participants' behavior and comments, as well as any information regarding system actions in the data collection worksheet.

Specifically, task completion rate, issue impact rate, time on task (TOT), and general navigational pathways were recorded by observers. Task completion rates were measured according to predetermined measures of success. Issue impact rates were recorded by all present observers and averaged after the sessions to determine the overall issue impact rate rather than each observer coming to consensus for each value. TOT was measured as consistently as possible by one observer per session only; time started when the participant moved their mouse to begin the task that was read aloud (see Tables 1-3).

### ***Post-Task Ratings***

Once the participant completed each individual task, they were sent a post-task questionnaire via chat that asked them to complete two questions prior to moving on to the next task (see Table 4).

### ***Debriefing Survey (System Usability Scale)***

After all nine of the task scenarios were attempted and before any verbal discussion, the participant was sent the System Usability Scale (SUS) questionnaire via chat, to reflect how they felt about the site's usability and learnability (see Table 5).

### ***Final Impressions***

Participants were asked six questions about their final impressions of the Fedora Magazine Website (see Appendix F).

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## **Results**

### ***Initial Impressions***

After navigating to the home page and reviewing it at their leisure, participants were asked five questions about their initial impressions of the Fedora Magazine Website (see Appendix D). The following is a narration of their impressions as discussed with the moderator.

P1's initial impression of the site was that "[it was] less of a magazine and more of a Linux supporter," and they "got the impression that [Fedora] was a competitor [of Redhat]." The three words used to describe the site were Linux, blue, and articles. When asked who they think would use the website, P1 said "Linux enthusiasts." When asked what they thought the website was for, P1 said, "it seems to be to advertise

things that Redhat wants people to know.” If P1 were to use the site, they would “look at the recent articles to see if there was anything that interested [them].”

P2’s initial impression of the site was that it was clean and clear as far as the types of things that are available. The three words they used to describe the site were “clean, clear, and simple,” claiming that this was their preferred kind of website. When asked who they think would use the website, P2 said it looked usable by people new to the content since it appeared to be a fairly accessible site. When asked what they thought the website was for, P2 said they thought it was for information as well as fun stuff related to Fedora Linux. If P2 were to use the site, they would use it to find information about Fedora, as well as merchandise and other technical resources.

P3’s initial impression of the site was that it looked like a WordPress template. They pointed out that, although the site is called a magazine, it looks more like a blog archive. The three words they used to describe the site were “wordpress, blog, and template.” When asked who they thought would use the site, P3 said that “most of the headlines are advertising merch or something from Fedora,” and mentioned that “you would have to know what Fedora is before coming to this website,” since “it doesn’t do much explaining of what Fedora is”. When asked what they thought the website was for, P3 said that it appeared to be “for Linux users who have a certain distribution of Linux called Fedora,” and those interested in customizing the Fedora Linux experience. If P3 were to use the site, they said they would use it to find out if Fedora Linux would be a good piece of software for them to install.

P4’s initial impression of the site was that it was colorful and a bit repetitive. They mentioned right away that they were overwhelmed by the quantity of pages available

(87 pages at that time). When asked for three words to describe the site, P4 responded, “busy, a bit disorganized,” and then, based on clicking a few links and getting into Fedora Docs unintentionally, described that experience as feeling like they had walked out on a tree branch and were unable to get back to the tree trunk. When asked who they thought would use this website, P4 explained they struggled to understand the purpose of the site. When specifically asked what they thought the website was for, P4 said that they guessed it was for those within the open source community. They thought they would use the website if they were part of the Fedora user community. Their impression was that it seems to offer high-end Linux administration services, news for critical processes, and community building. However, they also noted that it was not for “Sunday gamers”.

P5’s initial impression of the site was that it was “easy to access”. They noted that the articles and search bar were up front, as well as the subscribe box, and “everything is in chronological order with the newest [articles] at the top”. The three words they used to describe the site were “ease of use”. When asked who they thought would use the website, P5 said those interested in the IT field, programming, Linux, and setting up computers using an operating system. When asked what they thought this website was for, P5 said they thought it was for those who are programming in Linux. If P5 were to use the site, they would use it to keep up-to-date on the latest use cases, newest versions and programming.

### ***Scenario Tasks:***

#### ***Task completion rate***

**Table 1** shows the task completion rates for each participant by task and as the overall percentage of how many participants completed the tasks successfully throughout all five testing sessions. Rates were measured on a scale of 0 to 1, with 0 indicating the task was not completed successfully, and 1 indicating the task was completed successfully. These ratings are also represented by the colors pictured, with green shades indicating successful completion and red shades indicating unsuccessful completion. For the specific measures of success related to each task, please see Appendix E.

**Table 1: Task Completion Rates**

Task & Truncated Instructions Provided to Participants	P1	P2	P3	P4	P5	Overall Task Completion Rate
<b>Task 1:</b> Navigate to the "About Fedora Magazine" page.	0	0	0	0	0	---
<b>Task 2:</b> Sign up to receive new articles from Fedora Magazine in your inbox.	1	1	1	1	1	100%
<b>Task 3:</b> Explore the website to see if anything has been written on the WireGuard to implement VPNs on Fedora Linux.	1	1	1	1	1	100%
<b>Task 4:</b> Find two related and recent (from 2018-2022) articles about Inkscape.	1	1	1	1	1	100%
<b>Task 5:</b> Find a way to comment on the most recent article in the magazine.	1	1	1	0	1	80%
<b>Task 6:</b> Create an account to write for Fedora Magazine.	1	1	1	1	1	100%
<b>Task 7:</b> Find a way to suggest a new article idea.	1	1	1	1	1	100%

<b>Task 8:</b> Find a page where you can find the Writing Guidelines.	1	1	1	0	0	<b>60%</b>
<b>Task 9:</b> Explore the website to see if Fedora Magazine offers topic suggestions or topics under consideration.	1	0	1	0	0	<b>40%</b>

### ***Issue impact rate***

**Table 2** shows the issue impact rates for each participant by task and as the overall average of impact throughout all five testing sessions. Rates were measured on a scale of 0 to 4, with 0 indicating no usability problem at all, and 4 indicating a severe usability problem that prevents task completion. These ratings are also represented by the colors pictured, with green shades indicating the least impact and red shades indicating the most impact.

The initial issue impact rates are not whole integers because they represent the average of the five researchers' individual ratings of each participants' issue impact for each task. Finally, the last column of values are the average issue impact rates determined by combining and averaging the issue impact rate value of all five participants to achieve one mean average for each task.

**Table 2: Issue Impact Rates**

<b>Task &amp; Truncated Instructions Provided to Participants</b>	<b>P1</b>	<b>P2</b>	<b>P3</b>	<b>P4</b>	<b>P5</b>	<b>Average Issue Impact Rate</b>
<b>Task 1:</b> Navigate to the "About Fedora Magazine" page.	4	4	3.8	4	4	<b>3.96</b>
<b>Task 2:</b> Sign up to receive new articles from Fedora Magazine in your inbox.	0	0	0.2	0	0	<b>0.04</b>

<b>Task 3:</b> Explore the website to see if anything has been written on the WireGuard to implement VPNs on Fedora Linux.	0	0	0	0	0	<b>0</b>
<b>Task 4:</b> Find two related and recent (from 2018-2022) articles about Inkscape.	0	0	0	0	2	<b>0.4</b>
<b>Task 5:</b> Find a way to comment on the most recent article in the magazine.	0	0	0	1.2	0	<b>0.24</b>
<b>Task 6:</b> Create an account to write for Fedora Magazine.	3	1	1.8	2.5	2.33	<b>2.126</b>
<b>Task 7:</b> Find a way to suggest a new article idea.	0	0.25	0	1.75	0	<b>0.4</b>
<b>Task 8:</b> Find a page where you can find the Writing Guidelines.	1.75	0	0	1.75	2.83	<b>1.266</b>
<b>Task 9:</b> Explore the website to see if Fedora Magazine offers topic suggestions or topics under consideration.	2.25	2.5	0	3.25	2.66	<b>2.132</b>

### ***Time on task (TOT)***

**Table 3** shows the TOT for each participant. TOT shows how long it took each tester to complete each task. TOT was measured as the time starting when the participant moved their mouse to begin the scenario task, until when the participant stated they were finished, or when they gave up due to issues or the task was cut short by the moderator. The average TOT demonstrates the mean amount of time it took participants to complete each scenario. These ratings are also represented by the colors pictured; tasks were categorized from green to red, with green shades indicating the least TOT and red shades indicating the most TOT.

**Table 3: Time on Task**

Task & Truncated Instructions Provided to Participants	P1	P2	P3	P4	P5	Average TOT
<b>Task 1:</b> Navigate to the "About Fedora Magazine" page.	4:37	1:26	3:00	1:23	1:42	<b>2:25</b>
<b>Task 2:</b> Sign up to receive new articles from Fedora Magazine in your inbox.	0:23	0:23	1:13	4:30	0:07	<b>1:19</b>
<b>Task 3:</b> Explore the website to see if anything has been written on the WireGuard to implement VPNs on Fedora Linux.	1:03	0:23	0:25	1:17	0:12	<b>0:40</b>
<b>Task 4:</b> Find two related and recent (from 2018-2022) articles about Inkscape.	1:16	1:13	0:15	2:50	2:24	<b>1:36</b>
<b>Task 5:</b> Find a way to comment on the most recent article in the magazine.	0:17	0:52	0:20	1:10	0:13	<b>0:34</b>
<b>Task 6:</b> Create an account to write for Fedora Magazine.	3:01	2:06	1:45	3:40	1:49	<b>2:28</b>
<b>Task 7:</b> Find a way to suggest a new article idea.	0:28	1:17	0:30	3:05	0:21	<b>1:08</b>
<b>Task 8:</b> Find a page where you can find the Writing Guidelines.	1:40	0:28	0:19	1:05	3:50	<b>1:28</b>
<b>Task 9:</b> Explore the website to see if Fedora Magazine offers topic suggestions or topics under consideration.	2:45	1:48	0:21	2:55	2:22	<b>2:02</b>

### ***Post-Task Ratings***

**Table 4** indicates the average ratings of the difficulty participants felt after completing each task on a scale of 1 to 5, with 1 being very easy and 5 being very difficult. Table 4 also indicates the average ratings of the confidence participants felt after completing each task on a scale of 1 to 5, with 1 being not at all confident and 5

being very confident. These ratings are also represented by the colors pictured; tasks were categorized from green to red, with green shades indicating the favorable ratings (not difficult; confident) and red shades indicating the unfavorable ratings (difficult; not confident).

**Table 4: Post-Task Difficulty and Confidence Ratings**

Task & Truncated Instructions Provided to Participants	Average Difficulty Rating	Average Confidence Rating
<b>Task 1:</b> Navigate to the "About Fedora Magazine" page.	2.4	2.2
<b>Task 2:</b> Sign up to receive new articles from Fedora Magazine in your inbox.	4.8	4.6
<b>Task 3:</b> Explore the website to see if anything has been written on the WireGuard to implement VPNs on Fedora Linux.	4.8	5
<b>Task 4:</b> Find two related and recent (from 2018-2022) articles about Inkscape.	5	5
<b>Task 5:</b> Find a way to comment on the most recent article in the magazine.	5	5
<b>Task 6:</b> Create an account to write for Fedora Magazine.	4	4.6
<b>Task 7:</b> Find a way to suggest a new article idea.	4.2	4.6
<b>Task 8:</b> Find a page where you can find the Writing Guidelines.	4.2	4.6
<b>Task 9:</b> Explore the website to see if Fedora Magazine offers topic suggestions or topics under consideration.	3.8	4.6

### ***Debriefing Survey (System Usability Scale)***

When all task scenarios were completed, the test moderator sent each participant a survey via the chat to assess their overall reactions (see Appendix F).

**Table 5** indicates participants' System Usability Scale (SUS) scores. SUS is scored on a 0-100 scale (Brooke, 1996). As directed by the literature, we normalized the scores for

each question. For positive-oriented questions, we subtracted one from the original score; for negative-oriented questions, we subtracted the original score from five. This gives a consistent scale for all responses of 0-4. We then added up the scores for all questions and multiplied that sum by 2.5 to get our final score. For example, if a participant's normalized responses equal 27, we'd multiply that by 2.5 to get an overall SUS score of 67.5.

**Table 5: System Usability Scale (SUS) Scores**

	P1	P2	P3	P4	P5	Average SUS Scores (by Item)
I think that I would like to use this site frequently.	1	4	3	3	4	50
I found the site unnecessarily complex.	2	1	1	5	1	75
I thought the site was easy to use.	5	4	2	2	4	60
I think that I would need the support of a technical person to be able to use this site.	1	1	1	4	1	85
I found the various parts of this site were well integrated.	3	4	3	2	3	50
I thought there was too much inconsistency on this site.	5	2	2	4	1	55
I would imagine that most people would learn to use this site very quickly.	5	5	3	3	5	80
I found the site very cumbersome to use.	2	1	4	4	1	65
I felt very confident using the site.	5	4	4	3	5	80
I needed to learn a lot of things before I could get going with this site.	2	2	1	3	1	80
<b>SUS Scores (by Participant)</b>	<b>67.5</b>	<b>85</b>	<b>65</b>	<b>32.5</b>	<b>90</b>	
<b>Average SUS Score (Participants, overall)</b>	<b>68</b>					

### ***Final Impressions***

After the SUS was completed independently, participants were verbally asked six questions about their final impressions of the Fedora Magazine Website (see Appendix F). The following is a narration of their impressions as discussed with the moderator.

P1 stated their final impression of Fedora Magazine was that it was an “interesting resource for people who use Linux”. They thought it was a community magazine associated with Red Hat with helpful articles, and indicated a potential future desire to contribute to the website through writing/publishing. Their impression of the website improved throughout testing. They felt that the instructions for the writers were clear and not necessarily common for sites of the same nature.

The best part of their experience with the Fedora Magazine website was seeing articles that may spark interest for future contributors on the Kanban board. They suggested adding a "notify me if someone writes" option to the Kanban board. The most frustrating part of the website for P1 was not being able to find the “About Fedora Magazine” page. The lack of this information made them wonder if maybe the site was for a competitor. P1 specifically suggested that there should be a link back to the home page on every page. P1 would recommend Fedora Magazine specifically to Linux users.

P2 stated that their final impression of Fedora Magazine was that it was “fairly straightforward”. They found the visual difference between the home page and forum areas surprising, but said it could be understandable. Regardless, the jump between the areas could be seen as potential phishing, they cautioned. Although their impression did not really change throughout testing, they were pretty pleased overall with the website.

P2 felt that the best part of their experience was Fedora Magazine's simplicity and "clean layout without flashy content". The most frustrating part of Fedora Magazine for P2 was not being able to find the "About" page. They likened this to "the front door of a business opening the wrong way," and said that it negatively impacted how they thought the rest of their experience with the site would go. They specifically recommended adding contact information to the home page and improving the site navigation. They would recommend Fedora Magazine specifically to Fedora users.

P3 stated that their final impression of Fedora Magazine was that it did not look "like a magazine". They found the articles easy to find, but, because there was no explanation about the site, and they felt like they didn't have any idea why they would use it: "If you came from a Google search, you would be flummoxed". When asked if their impression changed, P3 said the tasks got easier for them because they got used to the action area on the right sidebar.

The best part of Fedora Magazine for P3 was the search bar at the top of the home page. The most frustrating part of the experience for P3 was finding the "About" page. They felt that the name "Fedora Magazine" did not fit their expectations for the typical look and feel of an e-magazine, saying, it "looks like the back end of a WordPress template, which might appeal to Linux users who might not want the glitzy masthead and don't need any explanation". P3 recommended adding an area for feature stories and adding text links to stories, including categorical organization and tags, to help user navigation. P3 would recommend Fedora Magazine to high-level, niche users only, in particular, they mentioned folks who modify their own computers and use "bleeding edge technology".

As a reminder, P4 was the participant who most closely matched the desired persona representative of a frequent user of Fedora Magazine. P4 stated that their final impression of Fedora Magazine was that it was colorful and fairly attractive. They went on to say, "There's lots of good stuff there... and I'm a proponent of everything they're trying to do. That said, I would have a very difficult time finding stuff," and mentioned being "overwhelmed" due to the lack of visual cues and content that didn't flow naturally, in particular, the tasks associated with contributing to the Magazine. Related, P4 said they felt they could get partway into the tasks (associated with contributing), but that they were not sure what to do next a lot of the time. They explained they felt like their ability to find the content in the tasks was based more on their own luck than site organization.

Most interestingly, this participant thought they would need to manually collect tags by writing them down from the articles they read in order to perform future, more specific searches.

P4's impression gradually changed throughout the test as they discovered pieces. They recommended the search tools could be more helpful if they had advanced filters, and the site could benefit from better organization and improved visual cues. Furthermore, regarding the lack of organization, they said, "[These] challenges are common with these websites... super admins are not graphical user interface people," and then recommended Fedora Magazine gets someone who understands context or ideas to help reorganize the content. P4 added about the content, "It's all there, it's just obfuscated by layers and layers and layers of words, and just needs to be something more intuitive".

P4 felt that the best part of the experience using Fedora Magazine was discovering content and that there was a community actively supporting OSS. They also felt that the website was somewhat graphically pleasing. The most frustrating part of the Fedora Magazine website for P4 was getting into areas, in particular the Fedora Docs area, and not being able to get back to the Magazine. They mentioned not seeing any warning that they were leaving the main site, and recommended opening a new tab if being directed away from the Magazine. They specifically recommended improving the search functions and organizing principles of the website, and noted a lack of human faces (at least avatars) that they are used to seeing on similar sites.

Ultimately, P4 said they would not recommend this site currently to colleagues or friends, and that it “needs love in various roles”. They cautioned that Fedora Magazine needs “to understand the purpose of the site. If it's to encourage authors, that needs to be a whole lot more transparent and intuitive,” and finally recommended building more intuitive workflows.

P5 stated that their final impression of Fedora Magazine was that it was intuitive for the end-user, commenting that they found the most essential things up front, including the search bar and submissions info. There was no change in their impression of the website throughout testing. The best part of the experience using Fedora Magazine for P5 was that they felt everything was easy to navigate: “If I were an end user with interest on those topics, I would come back again”. The most frustrating part of the experience was getting lost and then having to use the back button to get to the home page.

Related to frustration with navigation, P5 noticed the Fedora Magazine hyperlink near the top of the content on the “About Fedora Magazine” page within Fedora Docs pages did lead back to the Fedora Magazine home page, unlike the Fedora Magazine breadcrumbs at the top of those same pages, which went to the “About Fedora Magazine” page within the Fedora Docs area, not the actual Fedora Magazine home page. This participant’s only recommendation was to add a register link to the other options for contributing, and put them above the search box to get more attention. Finally, P5 said they would recommend Fedora Magazine to those interested in Linux because it “seems very accessible”.

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## Discussion

The results provided in the previous section give us evidence to discuss and answer our research question: *can users complete tasks they would expect to complete while visiting the Fedora Magazine site as a **reader** and as a **contributor**?* The results and corresponding discussion also imply potential solutions that align with your priorities for the Fedora Magazine website, the Fedora community, current and potential users’ expectations, and best practices for design as drawn from established UX industry literature.

To build a foundation for our discussion and following recommendations for Fedora Magazine, we’ve identified three top priorities for websites based on a curation by leading usability authority, Bruce “Tog” Tognazzini.

**Table 6: Three Top Priorities Selected from Tog's First Principles of Interaction****Design (2014):**

<b>Principle</b>	<b>Rule</b>	<b>Consideration</b>
<b>Consistency with User Expectations (CUE)</b>	“The most important consistency is consistency with user expectations”—William Buxton	It doesn't matter how...something should work. If users expect it to work a different way, you will be facing an uphill and often unwinnable battle to change those expectations. If your way offers no clear advantage, go with what your users expect.
<b>Discoverability (DSC)</b>	If the user cannot find it, it does not exist	Only the most persistent buyers/users will travel the web searching for a treasure map to features that you choose to hide from them. Most will simply turn to your competitors, taking you at your word that you just don't offer whatever they were after.
<b>Visible Navigation (NAV)</b>	Make navigation visible	Most users cannot and will not build elaborate mental maps and will become lost or tired if expected to do so.

During our following discussion and recommendations, we will indicate the principles using acronyms (CUE, DSC, NAV) within each heading below individually as they are found to be related to the most notable usability issues experienced by our participants.

## **Scenario Tasks**

### ***Task 1: Navigate to the "About Fedora Magazine" page. (CUE, DSC, NAV)***

**Task 1 was not successful**, and could not be completed by any participant, indicated by the "hot" row (all red) in Table 1 (pg.14). This task was the only task in which all five participants experienced an issue impact rate of four, otherwise known as a **usability catastrophe**, and the only task in which all five participants indicated negative responses related to ease and confidence upon completion. An overwhelming majority of participants mentioned frustration and that they expected an "About" link on Fedora Magazine's home page. Not only were they not able to find the "About Fedora Magazine" page, many were initially unsure about the purpose for the site and cited a lack of identifying information on the home page as well. For some, their frustration negatively impacted their initial perceptions of the site.

Addressing this issue is determined to be of **highest priority** due to zero completion rate and catastrophic impact on users experience with the site. If one of the Magazine's goals is to encourage new contributors, our participants commented over and over that the purpose of the site needs to be apparent, and that adding an "About" link to the homepage is something that could solve both mysteries: first, what is the site's purpose, and second, where is the "About" page.

### ***Task 2: Sign up to receive new articles from Fedora Magazine in your inbox.***

**Task 2 was successful**, and completed by all participants with relative ease. One observed issue indicates it is not a high priority because it did not impact completion rates.

One reason this task was so successful was due to the visibility and prominence of the box for email address and the “Subscribe” button, near the top of the page within the right sidebar, high enough on the page so you can see it without having to scroll down. This success was confirmed by comments from the participants about the consistency with their expectations and overall how easy it was to see and use.

***Task 3: Explore the website to see if anything has been written on the WireGuard to implement VPNs on Fedora Linux.***

**Task 3 was successful**, and completed by all participants with relative ease. This was the only task throughout all nine in which observers found participants experienced **absolutely no issues**. Participants were provided with the text to use for their search input (i.e. WireGuard to implement VPNs on Fedora Linux), so that prompt may have created results skewed toward a more accurate measure of success than in reality. Most likely, based on the success measured and the principles of usability, this task was successful because the process aligned with users’ expectations, and both the search box and the search results were easy to use and understand.

***Task 4: Find two related and recent (from 2018-2022) articles about Inkscape.***

**Task 4 was successful**, and completed by all participants with relative ease. One observed issue indicates it is a low priority because it did not impact completion rates. As stated above with regards to Task 3, we believe that Task 4 was also successful due to the process being aligned with users’ overall expectations. Despite one user having experienced minimal issues finding the desired results due to an additional input of year in their search terms, for the most part, the search box function and the results obtained were easy to use and understand.

***Task 5: Find a way to comment on the most recent article in the magazine.***

**Task 5 was successful**, and completed by all but one participant. The issue observed was determined to be of low priority because it was not due to usability, rather it was self-created by the participant because they “went rogue” and did not navigate to the most recent article as directed; therefore, the comment section of the article they chose had been closed. Once again, as stated above with regards to Tasks 3 and 4, we believe that Task 5 was also successful due to the comment process being aligned with users’ overall expectations, the clear visibility and clear indication that the “Comment” text indicated active hyperlinks to article comments from the home page.

***Task 6: Create an account to write for Fedora Magazine. (CUE, DSC, NAV)***

**Task 6 was successful**, and completed by all participants, however, the process was **not completely intuitive** for them. Despite 100% completion, the various levels of issues experienced by testers were shown by the most colorful row within the heat map in Table 2 (pg. 15-16). Overall, P3 found it difficult to decide the pathway to register, first, clicking on “Become an editor,” then reviewing the content within the Docs area, but only hovering over the left sidebar collapsible navigation area where the related “Contributing as a Writer” was located and not clicking on anything. They ended up using the back button to return to the home page, and realized the “Become a writer” link was in the right sidebar navigation of the home page. After navigating to that page, they were finally able to find the “get access” hyperlink from within the page content. The participant thought they were only able to locate that link because of “dumb luck” and remarked that creating an account was an important enough process to deserve its own page with procedure information.

P1 felt confused about the process as well, and said it wasn't clear if registering meant that they were a writer, or if there were additional steps to take after registering. During their initial inspection of the home page, similarly, P3 wondered aloud if being an editor was the same as being a member.

Ultimately, most testers experienced an average issue impact rate above two, indicating minor usability problems. Even though the issue impact rates indicated only minor usability issues, addressing this issue was determined to be of **medium-high priority**. Despite no serious impact on completion rates, creating an account is a task that, if able to be completed using a more simple and evident pathway, will illustrate the website's ease of use to potential contributors. By making the account set-up process more visible like the "Subscribe" button, more efficient and more transparent based on average users' expectations of similar websites, Fedora Magazine has the ability to encourage more new contributors.

***Task 7: Find a way to suggest a new article idea.***

**Task 7 was successful**, and completed by all participants with relative ease. Any issue impact was determined to be of low priority because they were either cosmetic or minor usability problems and did not impact completion rates. Once again, as stated earlier with regards to Tasks 3, 4 and 5, we believe that Task 7 was also successful due to the clear visibility of the "Propose a new article" text within the page navigated to from the "Become a writer" link on the home page. This process and terms used were also aligned with users' overall expectations of similar websites.

***Task 8: Find a page where you can find the Writing Guidelines. (CUE, DSC, NAV)***

**Task 8 was inconsistent** in terms of participants' successful completion rates and issue impact ratings, with two participants experiencing no issues, while the other three experienced minor to major usability problems, resulting in two participants not being able to complete the task.

P1 first tried using the search box on the home page and input "article formatting," which returned no helpful results. Then they tried to find the info by clicking the "Become a writer" link from the home page's right sidebar navigation. Next, they clicked the "Editorial Workflow - Writing" hyperlink, scrolled down until they saw "2. Write it", where the "Writing Guidelines" hyperlink was located. Once they clicked the Writing Guidelines, P1 commented that there was no "style guide," and it would be easier if [Fedora Magazine] said, "We use APA; writers are familiar with standards."

Similarly, P4 was confused and had a hard time deciding which possible link on the right sidebar of the home page to try to find the guidelines, noting it "could be any of them." Once they decided on the "Become an editor" link, they were able to see the "editorial checklist" hyperlink, and clicked on that to reach the "Checklist for editors" on the "Editorial Checklist" page. While this checklist did provide some guidelines and had the "Writing Guidelines" hyperlink, P4 thought this was as far as they needed to navigate to find the official writing guidelines. In addition, they said about the checklist area, "This is very detailed; I feel like I discovered this by accident; there are too many places that could have this information."

P4 made two discoveries of note. At the end of their time attempting to complete this task, they finally discovered the breadcrumb navigation in Fedora Docs, and tried clicking on "Fedora Magazine" in those breadcrumbs, which went directly to the "About

Fedora Magazine” page in the Docs area, not to the Fedora Magazine home page as they expected. As a verbal proponent of breadcrumbs and more visible navigation and our closest match to the persona of the Magazine’s users, P4 wanted to make sure the site designers know these breadcrumbs should work.

Also, P5 said they were mildly frustrated after attempting to find the writing guidelines by clicking on “Propose a new article” and clicking around the Fedora Docs area and looking specifically for the word “formatting.” They also commented there was no search function available in Fedora Docs/forum area. Back at the Magazine home page, P5 tried using the search box and input terms “format”, and “format article.” They reviewed the template for authors that came up in the results and gave up.

This issue is determined to be of **medium-high priority** because it negatively impacted completion rates. If finding the writing guidelines can be completed following a more simple and evident pathway, again, the Magazine will illustrate the website’s ease of use to potential contributors. Such as the previous issues addressed in Task 7, by making the writing guidelines more visible like the “Subscribe” button or the “propose an article” hypertext on the “Contributing as a Fedora Magazine Writer” page, it will be a more efficient process and align more closely with average users’ expectations of similar websites, increasing Fedora Magazine’s likelihood of gaining new contributors.

***Task 9: Explore the website to see if Fedora Magazine offers topic suggestions or topics under consideration. (CUE, DSC, NAV)***

Task 9 was inconsistent in terms of participants' successful completion rates and issue impact ratings, with only one participant completing the task with no issues, while the other four experienced minor to major usability problems, resulting in three

participants not being able to complete the task. Multiple participants tried using the search box on the home page to search for terms including, "article topics," "article topic current," "articles current topics," and "article topic areas," which all returned no helpful results. Several also thought they had found the area for topic suggestions when they went back to Fedora Docs and reached the forum instead of trying the "Fedora Magazine Kanban board" hypertext.

This issue is determined to be of **medium-high priority** because it negatively impacted completion rates. As was true in Task 8, if finding the area with article ideas can be completed following a more simple and evident pathway, the Magazine will again illustrate the website's ease of use to potential contributors. Such as the previous issues addressed in Tasks 7 and 8, by making the articles ideas area more obvious and visible like the "propose an article" hypertext on the "Contributing as a Fedora Magazine Writer" page, it will be a more efficient process and align more closely with average users' expectations of similar websites, once again increasing Fedora Magazine's likelihood of gaining new contributors.

### ***Navigational Pathways***

Capturing the variance in pathways that participants took and their verbal comments, you'll notice that we found the specific tasks that required the user to go outside of the Fedora Magazine website (and into Fedora Docs or Accounts) were only **easy and completed with confidence if there was one primary, clear path.**

For instance, Task 7: Find a way to suggest a new article idea. To accomplish that task, the user needed to: 1. Click Propose a new article, 2. Click Fedora Magazine Discourse forum, and, 3. Enter their login info. There is really only one clear path to

accomplish this task, which testers by and large used with little issue and high confidence.

On the other hand, Task 8: Find a page where you can find the Writing Guidelines. There are several paths one could take to complete that task from the home page, which seems to cause users to feel much more uncertainty about their actions, instead of confidence. One possible route to find the Writing Guidelines: 1. Click Become a writer, 2. Click Writing Guidelines (from left sidebar navigation). Alternately, a second possible route: 1. Click Become a writer, 2. Click Editorial Workflow-Writing (within text), 3. Click Writing Guidelines (within text); with a second possible option for the third step: Click Here's a template you can use (within text) to go to a template back within the Magazine site; and a third possible option for the third step: Click style, grammar and SEO guidelines (within text).

As you can see from the data and their comments, participants were confused when there were multiple, but different pathways to achieve the desired results. Note, Tasks 6 and 9 also required users to go outside of the Fedora Magazine website, which again impacted the overall usability and user satisfaction.

### ***Post-Task Ratings***

Participants indicated favorable results related to both ease and confidence for all tasks except Task 1, with average ratings of 2.4 and 2.2, respectively. The only other task with any average rating below 4 was the difficulty rating of Task 9 (3.8).

Based on quantitative data alone, Tasks 3, 4 and 5 were the easiest tasks for testers to complete with the most confidence, which indicates that the **area with the articles was the easiest for testers to use**. When coupled with qualitative findings, the

area with the articles was again confirmed easiest to use, with the exception of the current search functions.

Task 2 was also found to be easy to complete with confidence, which indicates that the **email signup box was easy to use** as well. The only variance to the quantitative data was the opinion of one tester who indicated that they wanted to see special interest groups for subscribers.

### ***Debriefing Survey (System Usability Scale)***

Finally, as quantitatively measured by the SUS, **Fedora Magazine's usability is average.**

Participants indicated overall **agreement** with:

- I would imagine that most people would learn to use this site very quickly.
- I felt very confident using the site.

Participants indicated **neutral** opinion, which indicates neither agreement or disagreement with:

- I think that I would like to use this site frequently.
- I thought the site was easy to use.
- I found the various parts of this site were well integrated.
- I thought there was too much inconsistency on this site.

Participants indicated overall **disagreement** with:

- I found the site unnecessarily complex.
- I think that I would need the support of a technical person to be able to use this site.
- I found the site very cumbersome to use.
- I needed to learn a lot of things before I could get going with this site.

While the initial ratings from the testers' mostly indicated favorable experiences, their SUS scores were 67.5, 85, 65, 32.5 and 90 respectively (see Table 5). The average SUS score was 68, which **indicates a "C" grade**, in the 41-59 percentile, one

level below “Good” and two levels above the “OK” level of usability rating (Brooke, 1996). Additionally, according to Jeff Sauro (2011), SUS scores above 68 would be considered above average and anything below 68 is below average; the Magazine is perfectly sandwiched between average and below average.

### ***Weaknesses of Testing Iteration***

One weakness of the testing iteration we wanted to share was the difficulty of identifying testers that exactly fit the specific niche of anticipated users of Fedora Magazine. While our participants were as similar as possible to the personas representing potential users of Fedora Magazine based on their experience and interests, our participants primarily reported they would not anticipate using the website personally, mainly because they were not close enough to the intended niche community. This insight may encourage the Magazine to try to broaden its contributor network by reaching out more within the OSS community related to other software beyond Fedora Linux.

### ***Conclusion***

In 2001, Jakob Nielsen said, “you can only predict about a quarter of how well a design works from knowing how much users say they like it.” While our participants said they liked the Fedora Magazine website, data from observing their interactions with the site and the comments they made during those interactions pointed slightly otherwise.

As a recap, our original research questions included:

- Can users successfully subscribe to the e-newsletter?
- Can users effectively search for articles?
- Can users easily create accounts?
- Can authors/editors easily log in?
- Can writers/editors easily find topics to write about?
- Can writers/editors easily submit topics to write about?

Our overarching research question was twofold: *can users complete tasks they would expect to complete while visiting the Fedora Magazine site as a **reader** and as a **contributor**?* Overall, the answer to all of the questions, based on our participants' experience and opinions is "yes, for the most part," indicating that **Fedora Magazine is mostly easy to use and satisfying to users.**

In 2006, five years after the quote he made noted above, Jakob Nielsen also said, "Luckily, you don't have to measure usability to improve it. Usually, it's enough to test with a handful of users and revise the design in the direction indicated by a qualitative analysis of their behavior. When you see several people being stumped by the same design element, you don't really need to know how much the users are being delayed. If it's hurting users, change it or get rid of it."

Based on both the qualitative and quantitative data gained by our usability testing, **Fedora Magazine has a few fairly easy opportunities to vastly improve usability and their potential to reach more contributors.**

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## Recommendations

### ***Final Considerations***

Our final recommendations connect your priority for Fedora Magazine to encourage new contributors with the data we obtained from our participants' experiences and opinions using Fedora Magazine, their expectations of websites in general, and best practices for design as drawn from established UX industry literature discussed in the previous section.

As a reminder, we discussed three top priorities from Tog's First Principles of Interaction Design (2014): Consistency with User Expectations, Discoverability, and Visible Navigation (see Table 6). That being said, we also did a deeper dive into the content within Fedora Docs and the Fedora Project, and ended up discovering the Fedora Community Blog.

As noted in the introduction, although Fedora Magazine is intended for multiple users, including consistent readers and content contributors, contributors aren't necessarily the main audience of the Magazine. Fedora Magazine's sister blog called the Fedora Community Blog is more specifically geared toward contributors, and delivers more high level Fedora-specific news, updates, and calls for help from actual contributors within the Fedora community.

The current Community Blog website (see Graphic 1) appears very active in terms of user engagement, and appears similar to the look and feel of the Fedora Magazine website, but with a more modern and sleek appearance that includes a very prominent navigation area visible at the top of each page throughout the site. The navigation area includes action items extremely similar to those of Fedora Magazine, using very obvious terms that efficiently guide the user to discover their pathway of choice with ease and confidence based on their expectations.

Furthermore, each of the pages linked within the main navigation area are housed within the Community Blog, i.e. users are not led outside the blog into Fedora Docs to find information about contributing, which makes the tasks related to contributing seem quick and easy to accomplish. The articles are categorized more specifically by categories and tags. Users can easily choose an area of interest from the

primary site navigation instead of relying on the search bar alone (which is difficult to locate on the Community Blog).

There is also an area of the Community Blog home page highlighting recent posts and comments that may serve as an example. Overall, the general article structure without page numbers on the home page may be an example of how to mitigate any feelings of being overwhelmed by heavy volumes of content.

Finally, the Community Blog notably has a direct link to the Fedora Magazine site on its home page, which creates the possibility for more thoughtful connection of the Community with the Magazine. On the other hand, we did not find the Community Blog mentioned anywhere on the Magazine site, based on heavily reviewing the areas our task scenarios were primarily focused in.

For these reasons, the Fedora Community Blog website may be a helpful illustration of a possible template, or one like it, to consider when upgrading the overall WordPress template Fedora Magazine is currently using.

### Graphic 1: Community Blog website



News and updates for about the Fedora Project community that develops supports and promotes Fedora. For more information, and to download the Fedora OS head to [Get Fedora](#). For general news about the Fedora OS, check out the [Fedora Magazine](#)

## Major Recommendations

Based on the details we've provided, we recommend Fedora Magazine complete three major updates:

- Update the current WordPress template to more closely fit the style used by the Community Blog site. This will solve at least 95% of all mentioned usability issues and bring more visibility to the most typical tasks.
- Add a tagline at the top of the home page. This will establish a clear purpose of the site for visitors who discover the Magazine.
- Update the “Fedora Magazine” links within Fedora Docs and ensure they go to the Fedora Magazine home page (see Graphic 2). This will solve 100% of navigation issues involving the transition from Docs area back to the Magazine since the info is housed in both areas.

### Graphic 2: Fedora Magazine breadcrumb links within Fedora Docs that don't link to the Magazine home page



In addition, we can suggest two quickly loading and accessible WordPress templates that will fit the Magazine's needs and look and feel similar to the Community Blog: "[Kadence](#)", which is confirmed to be WCAG 2.0 compliant, and "[GeneratePress](#)", also confirmed to be WCAG 2.0 compliant.

Additional tasks advised as part of updating the overall template:

- Add an "About" link to the Magazine site home page primary navigation.
- Use a "Categories" link to organize the site content.
- Use a "Follow" link to connect frequent visitors to site content.
- Use a "Contribute" link to provide potential contributors with information.
- Use a "Login" link to the Magazine site home page primary navigation to go directly to Fedora Accounts login/register page.
- Bring forward the most explicit and important info from the "[Docs Fedora Magazine page](#)" and the "[Docs Fedora Magazine Editorial Workflow page](#)" to populate the "About" and "Contribute" parent-level pages that can point to Fedora Docs for more information.

Here is a list of the issues participants experienced that will be resolved by the three primary solutions above:

- Users were not easily able to find the "About" page.
- Users were unable to find breadcrumb navigation, so they had to use the back button repeatedly.
- Users experienced frustration/confusion navigating between the Fedora Magazine and Fedora Docs sites.

- Users were not confident about navigation pathways and task completion due to excessive or unclear options.
- Users were not easily able to find certain areas due to unspecified hyperlinks.

### ***Minor Recommendations***

As time and capacity allows for the Fedora Magazine design team, some secondary recommendation we have include:

- Perform both a content inventory and a content audit of the interrelated pages in the Fedora Docs area. Use these exercises to pick apart the pieces that work together to create the whole user experience, and restructure the pieces to fit into the areas outlined by the updated site primary navigation options.
  - Use these exercises to determine where there is unnecessary or redundant content that can be removed and extra navigational steps that can be avoided/streamlined.
- Use a new window when users navigate outside of Fedora Magazine to Fedora Docs or Fedora Accounts to retain users' original location in the Fedora Magazine website and make the difference in platform apparent without being obtrusive.
- Update the search bar to include more filter and sort options, and tag details. Also, add auto-populated hint text and keep recent searches available when using the search bar.
- Add a link connecting to the Fedora Community Blog to illustrate a closely connected community and increase back and forth interaction and engagement.

By incorporating the three major recommendations and making time for the secondary recommendations as possible, we believe you will make Fedora Magazine easier for your users to navigate with confidence, which will help encourage new content contributors in the future.

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## Appendices

### Appendix A: Recruitment Screening Questionnaire

	P1	P2	P3	P4	P5
Are you willing to participate in a usability test on a website? (See participation requirements below.)	Yes	Yes	Yes	Yes	Yes
What is your level of experience with open-source software (OSS)?	Some experience	Some experience	Great deal of experience	Great deal of experience	Some experience
Do you currently use Linux or a distribution of Linux?	No	No	No	No	No
What is your level of engagement with the OSS community (e.g. discussion forums, blogs, social media, etc.)?	Occasionally engaged	Not engaged	Occasionally engaged	Frequently engaged	Occasionally engaged
What are the reasons for your engagement with the OSS community?	Recreational/ personal reasons	n/a	Professional reasons	Professional and recreational/ personal reasons	Professional reasons
Have you ever contributed to a tech blog or professional journal as an author?	Yes	No	No	I don't know/ remember	No
Have you ever contributed to a tech blog or professional journal as an editor?	No	No	No	No	No
Please tell us a website you frequently visit for OSS or technology-related information.	GitHub	Mostly Reddit and ArsTechnica; occasionally stackoverflow or github	<a href="http://Digitaltrends.com">Digitaltrends.com</a>	GitHub, InkScape Vector Software, Audacity Audio Tools, Elevator Learning Object Repository-GitHub, Blender, MeshMaker, etc.	<a href="http://www.avixa.org">www.avixa.org</a>

**Appendix B: Background Questionnaire (Participant Demographics)**

	P1	P2	P3	P4	P5
Which of the following do you most identify with? Select one.	Male	Female	Male	Male	Male
Which of the following age groups best describes you? Select one. (You must be 18 years of age or older to participate.)	Born 1965 to 1976	Born 1977 to 1995	Born 1965 to 1976	Born 1946 to 1964	Born 1965 to 1976
Which of the following ethnic backgrounds best applies to you? Select all that apply.	White / Caucasian	White / Caucasian	White / Caucasian	White / Caucasian	White / Caucasian
Where are you currently located? Please tell us the city, state, and country.	North Oaks, MN, USA	Roseville MN USA	Minneapolis, MN USA	Anoka, MN USA	Fergus Falls, MN
Which of the following levels of education best applies to you? Select one.	Master's degree or above	Other	Other	Master's degree or above	Bachelor's degree
Which of the following marital status best applies to you? Select one.	Divorced	Married	Married	Married	Married
Which of the following disability status best applies to you? Select one.	Not disabled	Not disabled	Not disabled	Not disabled	Not disabled
Which of the following employment status best applies to you? Select one.	Contract/ Temporary	Employed Full-Time	Employed Full-Time	Employed Full-Time	Employed Full-Time
If you are employed, what is your main occupation? (For example, educator, computer programmer, computer analyst)	Biomedical engineering consultant	IT Project Coordinator	Sales Professional	Academic Tech and Instructional Design	IT/AV Professional
Which of the following annual household income levels best applies to you? Select one.	\$100,000 - \$200,000	\$100,000 - \$200,000	\$50,000 - \$100,000	\$100,000 - \$200,000	\$100,000 - \$200,000
Which languages are you capable of speaking fluently? Select all that apply.	English	English	English	English	English
Where were you born? Please tell us the city, state, and country.	Tulsa, OK, USA	San Andreas CA USA	Atlanta, GA USA	Fosston, MN Polk County	Fergus Falls, MN
Have you ever visited Fedora Magazine?	No	No	No	No	No
How frequently do you visit Fedora Magazine?	n/a	n/a	n/a	n/a	n/a

**Appendix C: Initial Impressions**

<b>Q1</b>	<b>What is your first impression of the website?</b>
<b>P1</b>	Seems like less of a magazine and more of a Linux supporter, not sure if Fedora Magazine is a front for software or independent magazine. Wondered if there was a coincidence wrt hats
<b>P2</b>	Clean
<b>P3</b>	Not professional, looks like a WordPress template. Doesn't look like a magazine, looks like a blog archive
<b>P4</b>	87 pages. Overwhelming, colorful, repetitive. Struggling to find engagement. Finding themes but no big picture. Tip of the iceberg, unsure of the whys and wheres.
<b>P5</b>	Looks easy to access. All the articles are up front and you can scroll down. Search bar is up front right at the top. Subscribe to the email is right there. Chronological order.
<b>Q2</b>	<b>What 3 words come to mind?</b>
<b>P1</b>	Blue, articles, Linux
<b>P2</b>	Clean, clear, simple
<b>P3</b>	Wordpress, blog, template
<b>P4</b>	Busy, disorganized, concept of dead-end or dark alley
<b>P5</b>	Ease of use
<b>Q3</b>	<b>Who do you think would use this website?</b>
<b>P1</b>	Linux enthusiasts
<b>P2</b>	Widely accessible. Folks new to content. Efficient design also for expert users.
<b>P3</b>	Headlines indicate advertising merch or something from Fedora. Confused about Fedora- is it a product? Oh, it's a Linux bundle (based on scrolling through the home page).
<b>P4</b>	Fedora Linux website. Confused about theses through- mentions gaming, OSS, test days, distribution
<b>P5</b>	Those interested in the IT field, programming, setting up Linux, using that OS
<b>Q4</b>	<b>What do you think this website is for?</b>
<b>P1</b>	Advertise for RedHat
<b>P2</b>	OS w fan base, info and fun stuff
<b>P3</b>	For Linux users with a distribution of Linux called Fedora. You need to know what Fedora is to come to this website.

<b>P4</b>	Struggling to see... OS community website
<b>P5</b>	I'm not up-to-date on Linux, but is Fedora a version of Linux? Those who are programmers in Linux.
<b>Q5</b>	<b>How would you use it?</b>
<b>P1</b>	Recent articles as a Linux user. Maybe interested in a t-shirt
<b>P2</b>	News about Fedora, gaming and merch, technical resource, fan community based on content but not evident in home page/ navigation
<b>P3</b>	If you want to install Linux, you can use it to research if Fedora Linux would be a good fit for your needs.
<b>P4</b>	User community for Fedora. Seems to offer high end Linux administration services and community building. News for critical processes. Not for Sunday gamers.
<b>P5</b>	Probably to keep up-to-date on the latest use cases and newest version.

## Appendix E: Task Instructions and Measures of Successful Completion

Task	Complete Instructions Provided to Participants	Measure of Completion
1	You are interested in learning more about open-source software and your intro to computer science professor suggested you check out Fedora Magazine. Navigate to the "About Fedora Magazine" page.	The participant needs to reach the <b>About Fedora</b> page.
2	You have heard Fedora is a great resource for GNOME and Linux, and want to stay up-to-date on new articles and releases. Sign up to receive new articles from Fedora Magazine in your inbox.	The participant needs to enter a test email address into the <b>subscribe</b> box (this generates an error message).
3	You'd like to write an article about the use of WireGuard to implement VPNs on Fedora Linux. Explore the website to see if anything has been written on the topic.	The participant needs to <b>find the specific article</b> on WireGuard to implement VPNs on Fedora Linux.
4	Your team at work wants to begin using Inkscape to design a new infographic for new clients. Find two related and recent (from 2018-2022) articles about Inkscape.	The participant needs to <b>find two recent articles</b> on Inkscape.
5	Find a way to comment on the most recent article in the magazine.	The participant needs to find a way to <b>comment</b> on the most recent article found on the home page.
6	You've been reading Fedora Magazine for a few months and like the content. Now, you want to get involved as a writer. Create an account to write for Fedora Magazine.	The participant needs to enter the test information into the <b>Register</b> tab (this generates an error message).
7	You have an idea for an article that you would like to see on the Fedora Magazine website. Find a way to suggest a new article idea.	The participant needs to find the <b>Fedora Magazine Discourse forum</b> .
8	You're interested in writing an article for Fedora Magazine, but you are unsure of how to appropriately format your article for style and format. Find a page where you can find that information.	The participant needs to find the <b>Writing Guidelines</b> page.
9	You'd like to write an article for Fedora Magazine but aren't sure what to write about. Explore the website to see if Fedora Magazine offers topic suggestions or topics under consideration.	The participant needs to find the <b>Fedora Magazine Kanban board</b> .

**Appendix F: Final Impressions**

<b>Q1</b>	<b>What is your final impression of the site?</b>
<b>P1</b>	Interesting resource for people who use Linux. Community magazine associated with Red Hat, help articles, future desire to write/publish.
<b>P2</b>	Fairly straight forward. Visual difference between home page and forum areas was surprising but could be understandable.
<b>P3</b>	Doesn't look like a magazine. Easy to find articles, if you know how to use the search bar. There is no explanation about the site. If you came from a Google search, you would be flummoxed. Sounds like a magazine about hats. For possible users, it is not useless but I don't have any idea why to use it.
<b>P4</b>	Colorful, fairly attractive. Base site navigation works very well. Off road is hard to navigate. "There is lots of good stuff there... and I am a proponent of everything that they are trying to do, that said, I would have a very difficult time finding stuff". More lucky than anticipated. Some sites were better than others. Lots of text and organization is up to the overwhelming reader, so much going on. There needs to be some better visual cues (e.g., becoming an editor and proposing an article. Many parts, you get partway in and not really sure what the next steps are. Simple to engage writers, content in natural flow that doesn't jump around.
<b>P5</b>	Intuitive for end users. Most important things up front, search, and submissions.
<b>Q2</b>	<b>Did your impression change over the course of testing the site?</b>
<b>P1</b>	Got more favorable, improved. Clear instructions for writers are very useful (not necessarily common).
<b>P2</b>	Not really, pretty pleased.
<b>P3</b>	Tasks got easier, but right side links. Got used to them being there and being the action area.
<b>P4</b>	Gradually better as I discovered pieces. Search tools could be useful with advanced filters, tag info... no organizing principles for end users, all in my head, collecting tags manually seems inefficient. Find interesting topics and use logical terms for deeper search. Search functions could impact ability to get new writers-challenges are common, similar problems with these websites. Super admins are not graphical user interface people. Someone who could understand context or ideas. It is all there, it's just obfuscated by layers and layers and layers of words. It just needs to be something more intuitive, e.g. navigating to Inkscape topics easily, graphics with Linux- should be approachable from the home page. Levels of organization and visual cue design needs to be improved.
<b>P5</b>	No change in impressions.
<b>Q3</b>	<b>What was the best part of the experience using the site?</b>
<b>P1</b>	Seeing articles for an active user may spark interest. Consider how to add "notify me if someone writes" feature to Kanban.
<b>P2</b>	Clean layout without flashy content. Simplicity of design.

<b>P3</b>	Search bar at the top.
<b>P4</b>	Discovering content and community actively supporting OSS. Somewhat graphical pleasing. Could be improved. Lack of human faces.
<b>P5</b>	Everything was easy to navigate. If I were an end user with interest on those topics, I would come back again.
<b>Q4</b>	<b>What was the most frustrating part of the site experience?</b>
<b>P1</b>	Finding "About Page"- inability to find made them think the site was for a competitor.
<b>P2</b>	Not being able to find "About Page" was like "front door of business opening the wrong way" and could have led to more irritation. Irritation mitigated by rest of experience.
<b>P3</b>	Finding the About info. Had to glean from article titles. No text links or menus at the top that indicated that they would not be able to use the site. Concept of "magazine" which has feature articles, but Fedora Magazine site organization wasn't as expected for a magazine. A magazine equals specific expectations of user experience. Looks like a back end WordPress template, which might appeal to Linux users who might not want the glitzy masthead and don't need explanation. Different levels of users, this is high-level niche that new author should fit in
<b>P4</b>	Getting into areas I couldn't get back out of, search filters. If Fedora is home page, fly out tags for new users would be helpful (title html); mentioned not seeing any warning that he was leaving the site. Recommend opening a new tab.
<b>P5</b>	Getting lost and having to use the back button to get back to the home page. Noticed Fedora Magazine button under About section at the bottom of the Fedora Docs page did go back to the Fedora Magazine home page (unlike Fedora Magazine breadcrumbs at the top of the same pages, which went to About Fedora Magazine page within Docs area, not Fedora Magazine home page.
<b>Q5</b>	<b>Is there anything specifically that you would recommend changing to improve your experience using the Fedora Magazine website?</b>
<b>P1</b>	Recommend a link back to the home page from every page (e.g. pages in forum area).
<b>P2</b>	Contact info on the front page. Site navigation.
<b>P3</b>	Text links, categorical organization and tags to help any level of user navigate the site.
<b>P4</b>	Improve search functions and organization. Improve accessibility of tags. Shouldn't have to manually write down tags as users, we should know what they are (hierarchy of tags). Visual evidence and organizing principles. Major headlines. Visually Fedora Magazine is lean, mean, 6 or 7 for a magazine. Looks more like an "award ribbon"- joked about this being a hat website, if it's software, it should be more obvious
<b>P5</b>	Adding a register link along with the other options above the search box to add attention.
<b>Q6</b>	<b>Would you recommend the site to colleagues or friends? Why or why not?</b>
<b>P1</b>	If Linux users, yes.

<b>P2</b>	If Fedora users, yes.
<b>P3</b>	High-level users only, niche, computer mods, bleeding edge technology.
<b>P4</b>	“At this point, I don’t think I would”. If I could send links that were inside, I would bookmark applications. I don’t think I would recommend it as it sits. It needs love in various roles. They need to understand the purpose of the site, if it’s to encourage authors, that needs to be a whole lot more transparent and intuitive. Recommend building more intuitive workflows.
<b>P5</b>	If colleagues were interested in Linux, yes. Seems accessible.