IBM Developer Website:

Comparative Analysis

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Executive Summary

This comparative analysis compares six competitors to IBM developer website. We evaluate the products in terms of the excellence of technical information, community features, and the ease of use on a scale matrix. From our analysis we find that IBM Developer website is strong in terms of learning resources and technical tutorials, yet it needs further implementation regarding community engagement and ease of navigation. We commend that IBM Developer considers categorizing contents targeting specific users, improving visual hierarchy, and prioritizing 'Answer' section.

Introduction

IBM Developer is a website created to give developers who use IBM tools and products a platform for finding relevant tutorials and information. It features information about upcoming developer events, hosts a blog, and has an 'Answers' section where users can post questions. Content can be filtered by type (tutorials, news articles, etc), specific topic (security, AI, etc), or industry (gaming, finance, etc).

In order to better understand how IBM can improve the Community features and overall usability of the Developer site, we have conducted a comparative evaluation of several competing or similar products and services. When deciding which products we were going to include in our analysis, we considered three main factors. The most important was the target audience: while there is variation in the exact subset each target audience belonged to, all products we analyzed were targeted at programmers and developers of some type. The other factors were used to determine what level of comparison we would use: the exact nature of the service(s) offered by the product, and the medium used. The primary questions we sought to answer were what features these products had in common vs. how they differentiated themselves from one another, and how they stacked up in terms of usability.

Methods

We first had to determine which competitors would be appropriate to include. Based on our conversations with our clients at IBM as well as our preliminary research on major technology companies, we chose five services as the IBM Developer website's competitors, and categorized them as such:

Type	Description	Competitors
Direct	Those that offer the same functions, through the same way as IBM developer website.	Microsoft Developer
Partial	Those that offer some but not all functions, through the same way as IBM developer website.	Oracle Developer
Indirect	Those that offer the same functions, through a totally different way as IBM developer website.	Official Document Manuals
Parallel	Those that offer some kind of functions to similar audiences but not directly competing with IBM developer website.	Github
Analogous	Those that are non-competitors, but may offer great ideas on how to provide function better.	Stack Overflow

After selecting the competitors, we created a scaled matrix to evaluate and compare them with several criteria. We used the findings from our interviews as a guide for creating effective criteria. Since our clients wanted us to focus on community features, and our interviewees all cared about usability, we split our scaled matrix (which can be found in the Appendix) into four main sections:

- Technical Information
- Community Features
- Other Features
- Ease of use

We used four ranks to evaluate each section: excellent, good, acceptable, and poor; and assigned scores so that each section would have a total score and we could easily compare the competitors. Using these scores, we can gauge their strengths and weaknesses and give more effective recommendations.

Findings

Direct competitor: Microsoft Developer

Microsoft Developer website is the direct competitor for IBM Developer, since both websites offer learning resources, community forums, and other programs for developers.

Both websites offer extensive resources on topics including application development, data storage, and cloud services. However, Microsoft differs in that its homepage has two seperate paths for startup developers and students to explore relevant content, whereas IBM is categorized only by industry (gaming, finance, etc) without targeting specific users. Regarding community features, IBM and Microsoft both provide a supportive network and forums for developers to learn from each other. However, because of the quantity of information, they are also alike in that finding resources can be difficult. Differences can be seen in their news and open source sections. IBM has abundant information about recent news, while Microsoft lacks a news section on the homepage, and IBM offers open source code for developers, but Microsoft does not.

The sites are similar regarding ease of use. It is not easy to navigate either website. They both have many subsections under the main categories, and the functions of the sections can be unclear. Searching is also not straightforward for either website. Microsoft lacks the option to sort the results, although it does offer a 'source' and 'topic' filter. IBM provides a better searching experience in that it includes both filter and sort features. However, neither gives clear thumbnails for search results, making it difficult for users to browse results. Furthermore, users of both sites may feel confused in that they have many links to different domains which lack return links to the main sites. Overall, IBM and Microsoft both provide a great quantity of resources and a strong community, but lack clear content categorization and helpful navigation.

Partial competitor: Oracle Developer

Oracle Developer is a platform that shares resources and access to different tools, with plenty of functions similar to IBM Developer. However, with its heavier emphasis on databases, we consider Oracle a partial competitor.

Oracle and IBM both have similar resources, offering documentation and tutorials. Outstanding resources offered by Oracle include predictions for what will change in the developer world and up-to-date news on current releases, making Oracle an excellent online gathering place for developers who like to keep up on the latest news. The only weakness here is that Oracle's resources are only offered in English, limiting its usefulness to users speaking other languages. While the community features of IBM and Oracle are similar, Oracle's tend to have better ease of use and a more helpful design. Unlike the Oracle blog, the IBM blog cannot be searched, making it difficult to find content. The Oracle events page also highlights recent important events

with colors and a larger font, attracting users to read more details. For open source code, Oracle has links to files on GitHub as well as links to storage on its own website, whereas IBM only links to GitHub.

Regarding ease of use, Oracle's navigation bar divides the site's content into 10 main sections, allowing users to find content directly instead of searching. Although IBM Developer is good compared to many websites with similar functions, it loses points compared to Oracle for its poor searchability and complicated layout.

Analogous comparison: Stack Overflow

Stack Overflow is a question-and-answer site for developers that allows users to post their own questions, answer others' posts, and vote on how helpful or unhelpful answers are. We have chosen Stack Overflow as an analogous comparison because while they both target developers, they are not the same type of service. Stack Overflow is primarily a question-and-answer format, while IBM Developer has a much broader scope.

Stack Overflow was cited as one of the most popular resources by several of our interviewees, who stated that the 'Q-and-A' function would be very helpful for solving problems. Answers are often straightforward and provide sample code directly related to the question, and the ability to vote on answers and sort by rating makes it easy to find reliable information. However, one interviewee stated that he would only search for content on Stack Overflow through Google rather than navigating within the site due to its poor searchability.

IBM Developer does have a Q&A section called 'Answers' for developers to post about coding problems, but it is separate from the main site and is only accessible through a small link called "Answers" at the bottom of the main page, meaning many users could miss it entirely. Regarding to the site itself, the site serves the same function as Stack Overflow, although users only have the option to vote up on helpful answers rather than vote down on incorrect ones to filter them out.

Parallel comparison: GitHub

GitHub is a version control system allowing users to store code files in online repositories and track different iterations of their projects. It also facilitates collaboration by allowing owners to add other users as collaborators to their repositories, and serves as a massive database of tutorials and open-source code which can be found in its 'Explore' section. There is also a community forum for questions and discussions and a blog about programming-related news and events. We are using GitHub as a parallel comparison because while some of its services are very similar to those on IBM Developer and there is significant overlap of their target audiences, their primary functions differ, as demonstrated by IBM Developer using GitHub to host its open source code rather than using a platform of its own to perform the same function.

We found the greatest weakness of GitHub to be the user interface. The website has a small upper navigation bar, and a large navigational footer; however, the format

and content of them change depending from one section of the site to another, making it difficult for the user to keep track of where they are within the site; we often found it simpler to Google a desired part of the site rather than try to navigate to it internally. Additionally, as with IBM, the Community Forums lack Stack Overflow's traditional comment voting system, only offering the option to 'like' helpful posts.

GitHub offers a paid membership for $7/month; however, nearly all of the main functions of the site are available to users with free accounts, with the fee letting users create private repositories with as many collaborators as they would like (nonpaying members being limited to three per repository), and they are given access to more tools.

Indirect competitor: Official document manuals

The traditional method of providing information to developers is paper manuals included with physical copies of software. Official documentation offers a great quantity of technical information but obviously lacks any community features and cannot be updated without sending a new manual as it is not web-based. It is thus much more limited than any of the web-based services we have examined. However, manuals do have something to teach us about navigation and categorization, since if they are well organized with tables of contents and alphabetical indexes it is easy to find specific pieces of information.

Recommendations

Based on our comparative evaluation and previously collected data from our interviews, we have come up with several recommendations for improving the IBM Developer website.

Firstly, we recommend that IBM categorize the contents by the different types of expected users to make it easier for them find what they need. With the current structure, roughly categorized by industry, users may feel lost and confused while navigating the site. Categorizing according to different user groups (such as students, startup developers, etc) similar to Microsoft could help users find what they need more quickly, and could especially be helpful for newer coders who are not sure where to start. This would guide users to the most helpful tools and resources that are endorsed by professionals and would save them time and energy finding what they need.

Secondly, the 'Answers' section is currently isolated from the main Developer site, only accessible from the homepage through a small link at the very bottom. A new user may not even realize that the Answers section exists, and may only be able to find it through an external Web search. All the developers we interviewed cited question-and-answer sections as being their favorite features of online developer resources, so we continue to strongly recommend that the link to the Answers section be given more prominence, ideally with a link on the upper navigation bar. Additionally, the main Developer site and the Answers site have vastly different designs and layouts, with different color schemes and navigation bars. The main site is is themed around a darker grey and features an upper navigation bar, while the Answers site has a much lighter grey and not only lacks the upper navigation bar, but any link back to the IBM Developer homepage. Standardizing these aspects would make for a much more unified, easily navigable site.

Lastly, we also recommend that IBM improve the visual hierarchy of the site to further place more emphasis on community features such as Answers; for example, replacing the search bar in the center of the homepage with a section highlighting upcoming events and recent news (given that there is already a search button in the upper righthand corner).

Discussion

This report analyzes five different resources that are similar to the IBM Developer site using consistent criteria for evaluation; however, there are limitations to our analysis in terms of perspective and time.

While we did use our previous interview findings to develop our criteria, since our team members are not professional developers or long-time users, our perspectives may not represent the viewpoints of our main target users. Another limitation is the time constraint of the evaluation. Since we were only analyzing the competitors within the space of a week, some features may need to be used for a longer time in order for a more accurate result; for instance, an analysis of the Q&A platforms would benefit from a longer period of time to observe user engagement and answer quality. We lacked the time to deeply investigate the community features and we could only examine them from a surface level. However, we strive to give as accurate of an evaluation as possible by using diverse perspectives in hopes of minimizing these limitations.

In order to continue our analysis of IBM Developer, for our next steps we are going to conduct surveys and a heuristic evaluation. To improve on the limitations we have discussed, we will be including the perspectives from professional developers and long-time users who can provide more holistic and accurate opinions.

Conclusion

We have evaluated five competitors to the IBM Developer site with criteria involving technical information, community features, and ease of use. From our analysis, we find that IBM Developer has balanced performance in all categories, but there are aspects that would benefit from further changes. In order to improve the ease of navigation and to increase user engagement, we recommend that IBM categorizes site content according to different types of target users, improves the visual hierarchy of the design, and emphasizes the 'Answers' section on the homepage. Since our analysis is limited by time and perspectives, we are going to conduct a survey and a heuristic evaluation to improve the accuracy and depth of our research.

Appendices

Scaled Matrix:

Scale: 3 = Excellent, 2 = Good, 1 = Acceptable, 0 = Poor or Not Applicable

Criteria	IBM Developer	Microsoft Developer	Oracle Developer	Github	Stack Overflow	Official document-ation
Technical Information						
Tutorials	3	3	3	3	3	1
Service and Support	2	2	3	3	3	1
Has information on many languages	3	3	0	3	0	0
Provides official vendor documentation	3	3	3	3	1	2
Information is kept up to date as products change	1	3	3	2	2	0
Total	12	14	12	14	8	4
Community Features						
Blog	2	3	3	3	0	0
Q&A Platform	2	2	2	3	3	0
Community voting on answers	1	3	1	1	3	0
Conference/event information	1	2	3	2	1	0
News articles	3	0	3	2	0	0
Open source code	3	0	3	3	3	0

Total	12	10	14	14	10	0
Other Features						
Allows for storing code/version control	1	1	1	3	0	0
Allows collaboration on code	1	1	1	2	0	0
Ease of Use						
Structure is easy to navigate	2	1	3	2	2	2
All sections are easy to find	1	1	2	2	2	2
Website is easily searchable	1	2	2	2	3	1
How much is usable without signing in	2	3	3	1	2	3
How much is usable without paying membership fee	3	3	3	2	3	3
Cost of membership fee (if applicable)	N/A	N/A	N/A	$7/month for individuals	N/A	N/A
Ease of contacting customer service	1	1	1	2	2	1
Total	10	11	14	11	14	12

References:

https://developer.ibm.com/

https://developer.microsoft.com/en-us/

https://developer.oracle.com/

https://github.com/

http://stackoverflow.com/