



User Experience Research Report: edX Discussion Forum – A Heuristic Evaluation

Report Summary

This report documents my heuristics evaluation of the edX discussion forum. A heuristic evaluation, otherwise known as the usability audit, is an evaluation of an interface to measure the usability, effectiveness and efficiency of the interface. It is a cheap, fast and easy – to –use usability engineering method designed by Jakob Nielsen in 1994 to find usability problems in user interface designs. The method involves a small set of evaluators examining the interface and judging its compliance with recognized usability principles (usually the heuristics penned by Jakob Nielsen). Firstly, the evaluators perform independent analysis of the interface based on the heuristics, by noting down their findings and the violations they come across. The observations made by each of the evaluator is then prioritized based on their severity ranging from 0(not a usability problem) and 4(usability catastrophe).The evaluators then meet up and debrief on their various findings and write a research report with suggestions to improve.

A brief introduction to Nielsen's Usability Heuristics

Jakob Nielsen in 1994, designed a set of usability principles that helps to identify usability problems in user interface designs. The heuristics continue to evolve with respect to evolutions in user research and new devices.

The 10 usability heuristics include –

1. Visibility of System Status

Provide users timely and appropriate feedback about the system's status.

2. Match Between System and Real World

Usage of terms and concepts familiar to the user of the system. The information available should be according to what users are accustomed to seeing in the real world.

3. User Control and Freedom

Users must have the freedom to experience their own perceived control as they interact with the system.

4. Consistency and Standards

Usage of terms, icons should be consistent throughout the system rather than introducing new designs for each similar feature.

5. Error Prevention

Prevent errors commonly made by the users by identifying typical errors and redesigning the system to clearly communicate to the user the consequences of the user's actions.

6. Recognition Rather than Recall

Reduce memory load of the users by presenting familiar icons, actions and options whenever possible.

7. Flexibility and Efficiency of Use

The system should be easy and efficient to use by all kinds of people, be it a layman or an expert user of the system.

8. Aesthetic and Minimalist Design

Only display those information that is required for the user to know. Avoid displaying excessive information and design elements.

9. Help Users Recognize, Diagnose and Recover from Errors

Provide error messages understandable to the user on how to recover from the error.

10. Help and Documentation

Document each process of the interface appropriately in such a way that it is easy to use and search through whenever necessary. It may be useful to provide video tutorials and examples for complex procedures that are hard to locate.

Introduction

edX is an online learning platform that provides university level courses formally known as the Massive Open Online Courses(MOOCs) from the world's best universities in a wide range of disciplines. It is a non-profit organization which was jointly initiated by Massachusetts Institute of Technology and Harvard University in 2012. The organization aims to provide a virtual 'real time classroom environment' to those people who have the vigor to learn new things but cannot afford university fees. The courses hosted by edX have weekly learning sequences where each sequence has interactive short videos followed by quizzes and assignments for the student (course taker). The quizzes and assignments help the students to identify their stance and test their understanding once they have finished viewing the weekly lecture. The courses also include references that can be used to study further and gain more intellect on the topic of the lecture. edX also hosts a discussion forum for each course where the student can post and review questions and involve in discussions among their peers as well as the teaching assistants.

Students can opt for different ways to take a course – by auditing the course(absolutely no cost) or by working towards a verified certificate (fees vary by course). Some of the courses are credit eligible too but these totally depend on the university norms. Recently, edX has introduced the 'MicroMasters' program which is a series of graduate-level courses to advance in our careers that provide in-demand skills and critical knowledge to stand out.

Findings and Recommendations

Finding 1. No provision to change font, text size and color of text which is included in other popularly used text editors in the "Add a Post" screen. **Recommendation:** Add feature to change font, text size and color of text to give the user control and freedom of what they want to do.

Finding 2. "Post Anonymously" option in the "Add a Post" screen not working according to its concept. **Recommendation:** Fix the post anonymously option such that it does not display the name of the person who is posting in the forum.

Finding 3. The "Blockquote" formatting option in the "Add a Post" screen merely indents the text instead of showing it as a quote. **Recommendation:** When the user clicks on the blockquote option, it should show the text as a quote.

Finding 4. Widely used text editors use the shortcut "CTRL + U" to underline text. In the discussion forum, it is used to display the text as unordered lists which kind of brings a lag between the system and the real world. **Recommendation:** Try using any other shortcut to bring about unordered lists in the editor box.

Finding 5. No confirmation message upon submitting the post to the forum.
Recommendation: Keep the user informed from time to time regarding the status of the system.

Finding 6. Search results do not highlight the word being searched. **Recommendation:** Add a word highlight option to indicate the word being searched so that the user will know exactly where to look.

Finding 7. While using ordered and unordered list, every time we add an item to the list we need to choose the respective formatting option. **Recommendation:** Let the user use the unordered and ordered lists continuously until they opt out of that formatting option.

Finding 8. While there is an option to post anonymously, there is no option to respond anonymously. **Recommendation:** Add the option of responding to a post anonymously in order to bring about consistency within the system.

Finding 9. There is no option to vote on the comments made on responses to the post, whereas there is an option of voting on the responses as well as the post.
Recommendation: Add the option of voting on the comments made on the responses to a post to bring about consistency within the system.

Finding 10. Every post has an option of voting – upvote or downvote. The upvote is indicated by a plus sign. Whenever a post has been upvoted, the color of the button changes to green, but the plus sign still remains. **Recommendation:** To increase the aesthetic aspect of the button, upon upvoting the symbol can be changed to show the minus sign to indicate to the user that they can reverse their action.

Finding 11. In the forum where we can view all posts, the characters in bold are given in between *****char*****, the ones in italics are given in between **char**, but when we read through the posts, they are shown in bold and italic as per their functionality.
Recommendation: Use the same design throughout the entire system to maintain consistency. Show the characters in the forum also as bold and italics respectively.

Finding 12. Pinned posts on the discussion forum are also shown when a user searches for a particular word irrespective of whether it is relevant to the search word or not.
Recommendation: Search results must only show posts or items relevant to the search.

Severity Rating

The severity of each of the findings is rated based on a five-point scale defined by Nielsen:

- 0 – I don't agree that this is a usability problem at all.
- 1 – Cosmetic problem only, need not be fixed unless extra time is available on the project
- 2 – Minor usability problem – fixing this should be given low priority.
- 3 – Major usability problem – important to fix, so should be given high priority.
- 4 – Usability catastrophe – imperative to fix this before product is released.

Key findings

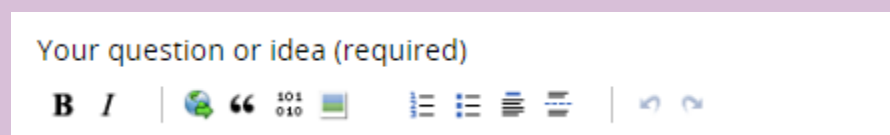
Finding 1. No provision to change font, text size and color of text which is included in other popularly used text editors.

Severity: 2/4

Heuristics Violated: #3 User Control and Freedom, #7 Flexibility and Efficiency of use.

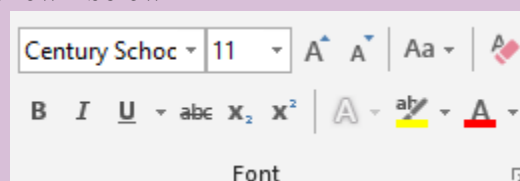
Location: “Add a Post” screen

While adding a post, the screen has no provision to change the font of the text, or the text size and color which are usually preferred by most of the users. This is a violation of Nielsen's third heuristic ‘User Control and Freedom’ and seventh heuristic ‘Flexibility and Efficiency of use’ as the user will not be able to carry out their actions based on their need.



Formatting options available while posting a question or idea

Recommendation: Formatting options such as font change, changing color of the text and text size can be added as shown below –



Formatting options available in widely used text editors

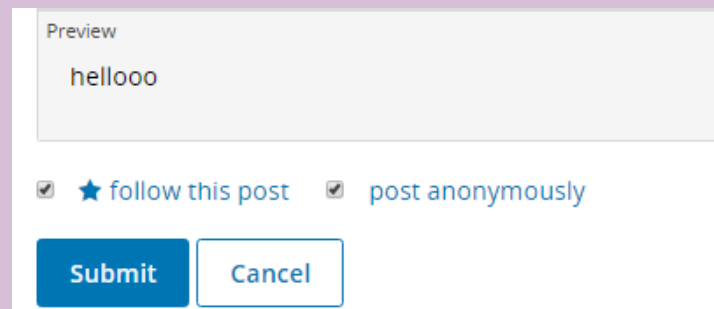
Finding 2. “Post anonymously” feature should work according to its functionality and not display the name of the poster.

Severity: 4/4

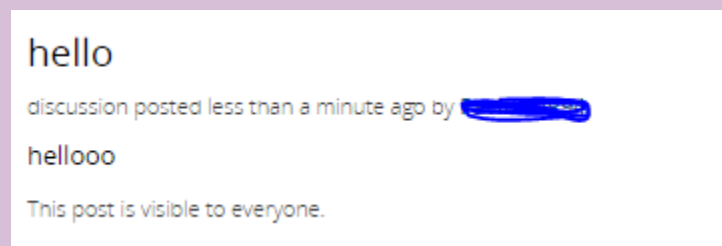
Heuristics Violated: #2 Match between system and real world, #4 Consistency and Standards

Location: “Add a Post” screen and after the post has been submitted.

When a user selects the “post anonymously” option and submits the post, the post displays the name of the poster when it is viewed. This finding violates the second heuristic ‘Match between system and real world’ and fourth heuristic ‘Consistency and standards’ as the stated functionality is overridden by its action.

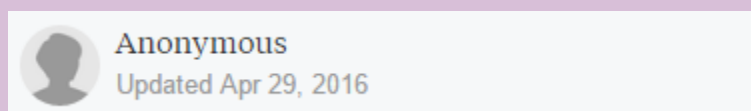
A screenshot of a web form titled "Preview" with the text "hellooo". Below the preview, there are two checkboxes: "follow this post" (checked) and "post anonymously" (checked). At the bottom, there are two buttons: "Submit" and "Cancel".

Choosing the ‘Post anonymously’ option while submitting post

A screenshot of a post displayed on a page. The post title is "hello". Below the title, it says "discussion posted less than a minute ago by" followed by a blue oval containing the name "hellooo". Below the name, it says "hellooo". At the bottom, it says "This post is visible to everyone."

Post displayed alongwith the name of the poster

Recommendation: “Post anonymous” option should result in the query being posted anonymously instead of indicating the user’s name.

A screenshot of an anonymous post. It features a grey silhouette icon, the word "Anonymous" in bold, and the text "Updated Apr 29, 2016".

Sample Anonymous Post

Finding 3. The “Blockquote” formatting option indents the text instead of showing it as a quote.

Severity: 3/4

Heuristics Violated: #4 Consistency and Standards

Location: “Add a Post” screen

The “Blockquote” formatting option just indents the text aside from the main paragraph instead of displaying the whole sequence of text as a quote. This finding violates the fourth heuristic ‘Consistency and Standards’ as the standard of “Blockquote” is not achieved here.

This **is** just a test

done to evaluate the discussion board `print a +b + c`

‘Blockquote’ formatting option as available in the “Add a Post” screen

Recommendation: The blockquote feature should look like a quote instead of just an indentation similar to the one below –

This wonderfully wise and talented girl tragically only lived a very short life. She was quick to smile and to laugh. People described her as extremely talented and she seemed to brighten any room she came into.

wikipedia.org

Arfa Abdul Karim Randhawa (Urdu: ارفع کریم رندھلوا, 2 February 1995 – 14 January 2012) was a Pakistani student and computer prodigy, who in 2004 at the age of nine years became Microsoft Certified Professional (MCP), the youngest in the world before Babar Iqbal in 2008 She was invited by Bill Gates to visit the Microsoft Headquarters in the USA. A science park in Lahore was named after her, the Arfa Software Technology Park.

Sample Blockquote formatting option

Finding 4. Most commonly used “CTRL+U” shortcut is used here to add unordered lists.

Severity: 3/4

Heuristics Violated: #2 Match between system and real world

Location: “Add a Post” screen

The shortcut “CTRL+U” is most widely used by other text editors to underline text. Here, it is used to create unordered lists. This is a violation of Nielsen’s second heuristic ‘Match between system and real world’.

Recommendation: It is best to maintain consistency with other systems in the real world and match them to avoid making the user load their memory. Hence, try using another shortcut to use the unordered lists.

Finding 5. No confirmation message on submitting the post to the screen.

Severity:3/4

Heuristics Violated: #1 Visibility of system status

Location: “After submitting the post” screen

When a user submits the post, there is no feedback about the status of the system as a result of the user’s action. This is a violation of Nielsen’s first heuristic ‘Visibility of System Status’ wherein Nielsen defines the heuristic as “Provide timely and appropriate feedback to the user about the system status” which is completely lacking here.

Recommendation: Inform the user about the system status from time-to-time so that the user is aware of their action’s consequence.

Your message has been sent. [View message](#)

Sample notification shown by Gmail to the user

Finding 6. Search results do not highlight the word that is being searched.

Severity: 3/4

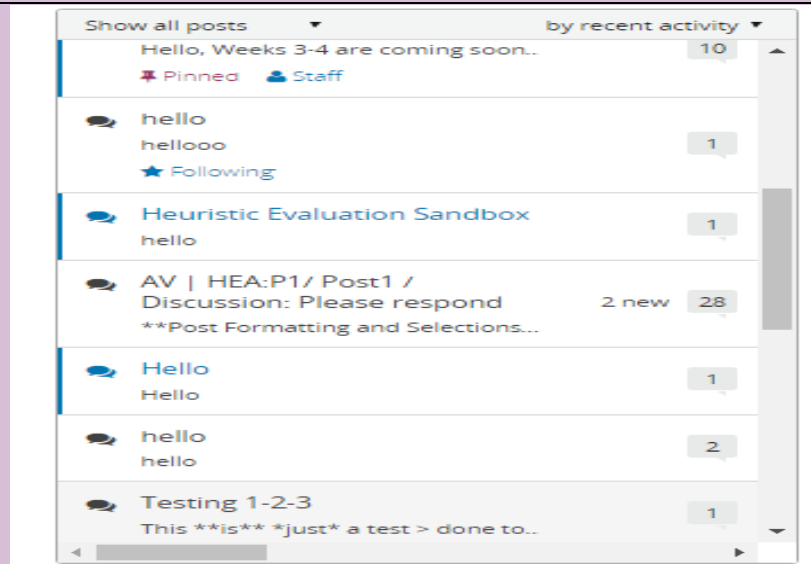
Heuristics Violated: #6 Recognition rather than recall, #8 Aesthetic and minimalist design

Location: Discussion Forum

When a word is being searched using the “Search all posts” feature of the edX discussion forum, the word being searched is not highlighted, making it tedious for the user to hunt for the exact answer they were looking for.

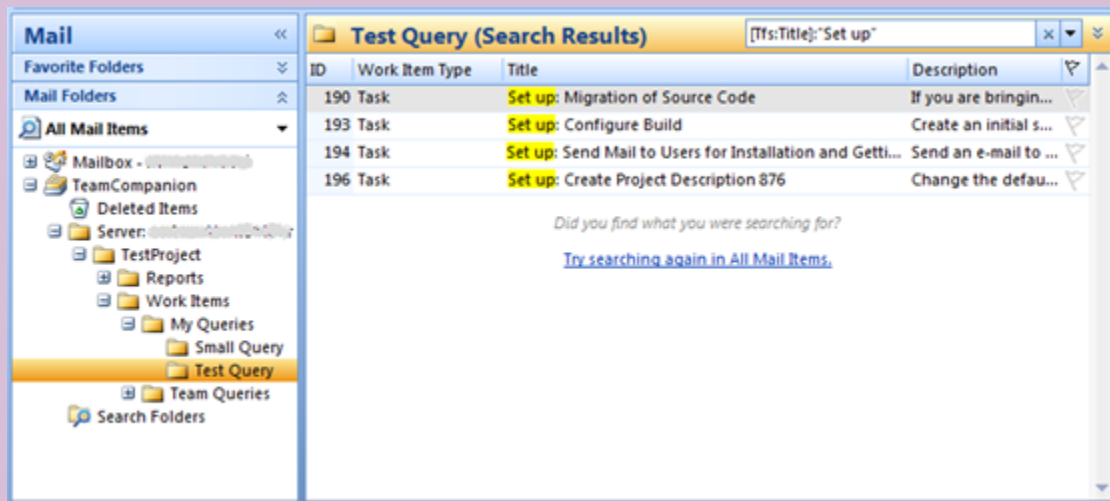
hello

Search



Search does not highlight the word being searched

Recommendation: The search feature can highlight the word being searched so that the system is flexible and efficient to use for the user.



Sample search result highlighting the word searched

Finding 7. While using ordered and unordered list, the user has to click the respective button every time to add a new item to the list

Severity: 2/4

Heuristics Violated: #7 Flexibility and Efficiency of use

Location: “Add a Post” screen

When a user wants to use an unordered list in his/her post, they have to click on the button every time they add an item to the list. In my opinion, this feature is a violation of the

'Flexibility and Efficiency of Use' heuristic as clicking on the button every time kind of makes the whole process tedious.

Recommendation: Let the user use the unordered and ordered lists continuously until they opt out of that formatting option.

Finding 8. No provision to respond to a post anonymously.

Severity: 2/4

Heuristics Violated: #4 Consistency and Standards

Location: "Post" screen

While there is an option to post any question or idea anonymously, there is no provision to respond to a post anonymously. This indicates that the system is not consistent enough in all aspects and thereby violates the "Consistency and Standards" heuristic.

Recommendation: It is recommended to maintain consistent behavior and functionality throughout a system, thereby adding a respond to a post anonymously option would help maintain consistency of the system.

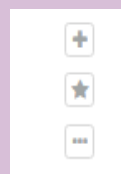
Finding 9. The upvote button is indicated by a 'plus' sign. When a post is upvoted, the color the button changes to green but the 'plus' sign still remains. When the plus sign is clicked once again, the action is reversed and no votes are posted.

Severity: 3/4

Heuristics Violated: #1 Visibility of System Status, #9 Help Users Recognize, Diagnose and Recover from errors

Location: "Post" screen

The button after upvote could have changed to a minus sign and highlighted in green color indicating that the post has been upvoted, but on clicking the button once again can result in a reversal of actual action (removal of vote from the post). This finding is clearly a violation of Nielsen's first heuristic 'Visibility of System Status' and ninth heuristic 'Help Users Recognize, diagnose and recover from errors'



Before Upvoting



After Upvoting

Recommendation: After upvoting, the button can change to a minus sign, helping user to recognize and recover from their errors.

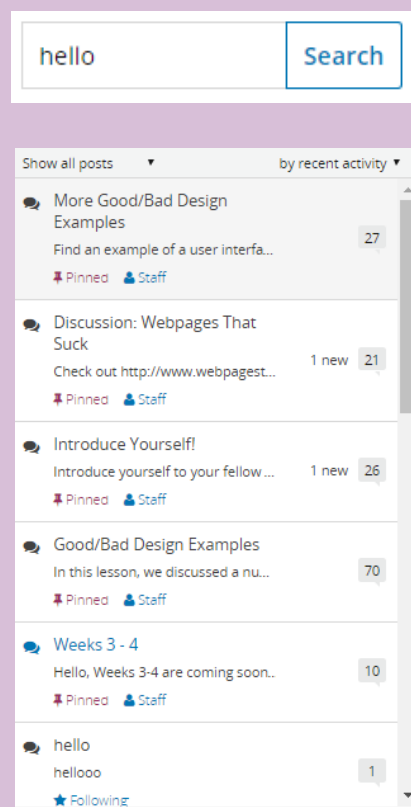
Finding 10. Pinned posts on the discussion forum are also shown when a user searches for a particular word irrespective of whether it is relevant to the search word or not.

Severity: 3/4

Heuristic Violated: #8 Aesthetic and Minimalist Design

Location: Discussion forum

When a user is searching for a specific word or a sentence, they are looking for that sentence, there is no necessity in displaying unwanted and irrelevant posts at that time. This is clearly a violation of the “Aesthetic and Minimalist Design” heuristic as pinned posts are shown in the search results irrespective of whether they are relevant or not.



Search result showing 'Pinned Posts'

Recommendation: It is recommended and suggested to always to stick to what is necessary to user. Displaying too much of information can also one day lead to a design catastrophe.

Conclusion

While my evaluation provided several useful findings, it is important to note that my findings are based only on my opinions and my perspectives. The findings revealed that there were some issues in the design that are imperative to be fixed to enhance edX discussion forum's User Experience.

Implementing the changes requested through the findings and acting based out of the recommendations made and practicality of bringing about the change might result in a significant enhancement of the User Experience.