Lecture: Expert Reviews/Heuristic Evaluations

Lecture: Expert Reviews/ Heuristic Evaluations

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GIT 542: Usability and User Experience



Text Caption: Lecture: Expert Reviews/Heuristic Evaluations

Slide Notes:

Welcome to the lecture on expert reviews. This also includes heuristic evaluations, which I'm going to be talking about mostly in this lecture. But before I start talking about that, I want to define usability in exactly what an expert review is.

And I apologize in advance. This is a pretty long lecture. It's probably the longest one in the course, but there's a lot to talk about, so bear with me.

What is usability?

What is usability?

- Determining whether a typical user can perform tasks on a website (or application)
- · Normally measured through testing
 - Expert review (ex. heuristic evaluation)
 - User review (ex. task-based observation testing)

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GIT 542: Usability and User Experience



Text Caption: Determining whether a typical user can perform tasks on a website (or application)

Text Caption: Normally measured through testing

Text Caption: Expert review (ex. heuristic evaluation)

Text Caption: User review (ex. task-based observation testing)

Slide Notes:

Usability is defined by determining whether a typical user can perform tasks on any kind of system. It can be a website, an application, a car infotainment system, whatever system. You need... you need to test with real users.

Now, normally you can measure testing with real users, which is basically user review. An example is task-based observation testing, but you can also do expert reviews, such as heuristic evaluations. Obviously testing with actual users is the goal, but you can do some internal reviews to help drive what your user testing materials will be. One of those methods includes a heuristic evaluation. This is where you as a web professional, or other web professionals rate the site based on specific heuristics or guidelines.

User reviews is just what it sounds like: users are looking at and working with the site. Task-based observation testing is where you create tasks for a user to perform, and you find participants that are part of the target audience. That's the important part: members of your target audience. And you test... test them with these tasks. These tests can be moderated, with you in the room, or remote, or even unmoderated.

As I mentioned, there are numerous types of testing. Some you may have heard of included SUS, which is also known as the System Usability Scale. There is focus groups, interviews, card sorting (which is really good for information architecture testing), click-tracking, eye-tracking... and so much more. Some types of testing are good for one project but not for another. It should be determined on a case-by-case basis.

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There's a link in the Reading section of this module named Practical UX Methods, and this gives you a good look at the myriad options you have for user experience testing. It also gives you an idea of what materials you need, how long a typical session will last, and steps for how to conduct the testing.

Usability components

Usability components

- Ease of learning
- Efficiency
- · Low error rate
- Memorability
- · User satisfaction

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GIT 542: Usability and User Experience



Text Caption: Ease of learning

Text Caption : Efficiency

Text Caption: Low error rate

Text Caption : Memorability

Text Caption: User satisfaction

Slide Notes:

Regardless of the type of testing you do, there's always going to be specific components in mind. And these are... these five that you see on the screen are Jakob Nielsen's usability components. They are ease of learning (how easy is the system to learn), efficiency (how efficiently can a user perform a task), low error rate... obviously we would prefer there to be a no error rate but unfortunately, that's not always possible. There is no system that is 100% error free, so keep those error rates as low as you possibly can. There's memorability (can someone leave the site for a week or two and come back and still be able to maneuver their way around), and user satisfaction (how satisfied are the users with the user experience).

These five components should be kept in mind with all usability evaluations, whether it's heuristics, focus group, card sorting task-based observation testing, SUS, etc.

Heuristic evaluation

Heuristic evaluation

- Purpose = uncover usability issues
- · "Expert" evaluation of current site
- · Look at site and compare with usability guidelines

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GIT 542: Usability and User Experience



Text Caption : Purpose = uncover usability issues

Text Caption: "Expert" evaluation of current site

Text Caption: Look at site and compare with usability guidelines

Slide Notes:

A heuristic evaluation is a way to uncover usability issues.

It's an "expert" evaluation of a current site. Now I have expert in quotes because normally you would do the heuristic evaluation after you know who your users are, since you would be approaching the review as an expert, but looking at it through the eyes of the user. In this case, in this assignment, however, you will be looking at the site just as an expert to identify any issues you believe are there. This way you can go into your user research knowing there are questions that need to be answered by the users in order to find the best solution for fixing issues. By doing this, you will have more well-informed questions for your users.

So about those guidelines. There are scores of them out there. If you Google "web heuristics," you'll find plenty. Basically they all have something in common, and those are the usability components that I talked about a few slides ago.

Heuristic evaluation

Heuristic evaluation

- · More than one reviewer is desired
- · Use trusted, recognized guidelines
- Evaluation lasts one to two hours, depending on site size

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GIT 542: Usability and User Experience



Text Caption: More than one reviewer is desired

Text Caption : Use trusted, recognized guidelines

Text Caption: Evaluation lasts one to two hours, depending on site size

Slide Notes:

With heuristic evaluations, normally more than one reviewer is desired because it's just like with users: you can't find all of the usability issues with one user; more than one person can find different issues. You are going to be, for this assignment, the one reviewer. However your group mates are going to be your other reviewers.

You need to use trusted recognized guidelines. And I'm going to talk about some in a minute.

A normal evaluation lasts one or two hours, depending on the site's size. You want to make this a careful sifting through the interface to uncover any possible usability issues. There is some extra material in the module about how you can conduct a successful heuristic evaluation.

Jakob Nielsen's Heuristics

- · FEEDBACK: Visibility of system status
- METAPHOR: Match between system & real world
- · NAVIGATION: User control & freedom
- CONSISTENCY: Consistency & standards
- PREVENTION: Error prevention
- · MEMORY: Recognition rather than recall
- · EFFICIENCY: Flexibility & efficiency of use
- · DESIGN: Aesthetic & minimalist design
- RECOVERY: Help users recognize, diagnose & recover from errors

· HELP: Help & documentation

Source: https://www.nngroup.com/articles/ten-usability-heuristics/

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GIT 542: Usability and User Experience

Text Caption: FEEDBACK: Visibility of system status

Text Caption: METAPHOR: Match between system & real world

Text Caption: NAVIGATION: User control & freedom

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Text Caption: RECOVERY: Help users recognize, diagnose & recover from errors

Text Caption : HELP: Help & documentation

Text Caption: Source: https://www.nngroup.com/articles/ten-usability-heuristics/

Slide Notes:

What you are seeing on the screen - feedback, metaphor, navigation, consistency, prevention, memory, efficiency, design, recovery and help - these are Jakob Nielsen's 10 heuristics, and these are probably the most well-known heuristics in the industry.

But that does not mean they are all of the heuristics available. Some usability professionals have created heuristics that are specific to types of websites or systems, such as ecommerce sites. Different industries will even create their own heuristics, using known heuristics such as Nielsen's as a basis. Depending on the type of site or system you are evaluating, make sure you are using the heuristics that best fit the project.

And for your is one of your assignments, you are going to be using Nielsen's 10 heuristics. I'll go over each with examples on the following slides.

Jakob Nielsen's Heuristics

· FEEDBACK: Visibility of system status



Sources: http://www.useit.com/papers/heuristic/heuristic_list.html http://designingwebinterfaces.com/6-tips-for-a-great-flex-ux-part-5

GIT 542: Usability and User Experience



Text Caption : FEEDBACK: Visibility of system status

Text Caption: Sources: http://www.useit.com/papers/heuristic/heuristic_list.html
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Slide Notes:

Note that most of these examples are from software or websites that either no longer exist or are several iterations old, but they perfectly demonstrate each of these specific heuristics, and most of these are from Jakob Nielsen himself.

So, feedback is the visibility of the system status. This means users should be informed of what is happening by giving timely feedback. It's not about users giving feedback via a contact form or email. This is the system telling the user if there is an issue.

The first example's from Windows Live, which no longer exists, but you've seen this in many other sites. As a matter of fact, when ASU tells you "oh your password is more than 180 days old," you get the same type of feedback. It tells you the strength of your password.

The second is from Tick.com, but it's fairly common as well. You can't remember... "I can't remember my password," so you click a button and type in your email, and then sometimes you don't get anything. But it's really good to give the user feedback saying, "hey, your password has been emailed to you," kind of a reminder that "I need to check my email pretty soon."

Jakob Nielsen's Heuristics

· METAPHOR: Match between system & real world



Sources: http://www.useit.com/papers/heuristic/heuristic_list.html http://designingwebinterfaces.com/6-tips-for-a-great-flex-ux-part-5

GIT 542: Usability and User Experience



Text Caption: METAPHOR: Match between system & real world

Text Caption: Sources: http://www.useit.com/papers/heuristic/heuristic_list.html
Text Caption: http://designingwebinterfaces.com/6-tips-for-a-great-flex-ux-part-5

Slide Notes:

Metaphor is a match between the system and the real world. Always "speak the users' language" -- use explanations and processes that the user will find familiar.

This example probably looks familiar to some of you. It's an older version of the iTunes interface. It shows categories of Music, Movies, TV Shows, etc. These are all familiar. You could go listen to it, watch it, and be real cute with your naming, your nomenclature. But that isn't what users recognize.

Jakob Nielsen's Heuristics

· NAVIGATION: User control & freedom



Sources: http://www.useit.com/papers/heuristic/heuristic_list.html http://designingwebinterfaces.com/6-lips-for-a-great-flex-ux-part-5

GIT 542: Usability and User Experience



Text Caption: NAVIGATION: User control & freedom

Text Caption: Sources: http://www.useit.com/papers/heuristic/heuristic_list.html
Text Caption: http://designingwebinterfaces.com/6-tips-for-a-great-flex-ux-part-5

Slide Notes:

Navigation is user control and freedom. Always give users an "emergency exit", so to speak. Give them a way out, even it is the logo, which is known convention... what we call "convention," meaning that users have come to learn that the logo is usually a link to the home page. And when it isn't, they get kind of frustrated.

Users always want to find a way out. You never want to have the user get stuck in a dead end and the only way out is the back button.

This example is from the old design of Wufoo, which is an online form gallery. It still exists. It clearly shows where the user is by changing the links on the far left to gold. So now it says it's on surveys, and the template steps from orange to green. So I am on step 1, green means I am on step 1 and that's a customer satisfaction survey.

Jakob Nielsen's Heuristics

· CONSISTENCY: Consistency & standards



Sources: http://www.useit.com/papers/heuristic/heuristic_list.html http://designingwebinterfaces.com/6-tips-for-a-great-flex-ux-part-5

GIT 542: Usability and User Experience



Text Caption: CONSISTENCY: Consistency & standards

Text Caption: Sources: http://www.useit.com/papers/heuristic/heuristic_list.html
Text Caption: http://designingwebinterfaces.com/6-tips-for-a-great-flex-ux-part-5

Slide Notes:

Consistency has to do with consistency and standards. Use known conventions - I mentioned before, conventions - for any actions and situations users may encounter. Make the labels intuitive.

This screenshot is from an old version of Gmail, and even though the color may have changed, these are relatively the same. I do have to say that with the current version of Gmail, I'm not crazy about the word "Snooze". What exactly does that mean? OK, I get that it means it's something that I have not sent out yet. I'm putting it, you know, send this out a week from now, many cultures may not realize what that means.

The main reason that the majority of these are the same - inbox, starred, chats, sent, drafts, spam, trash - is because other email clients such as Outlook - I can't think of any other major ones right now - but these will have the same or similar labels. It's a standard of sorts.

Jakob Nielsen's Heuristics

· PREVENTION: Error prevention



Sources: http://www.useit.com/papers/heuristic/heuristic_list.html http://designingwebinterfaces.com/6-tips-for-a-great-flex-ux-part-5

GIT 542: Usability and User Experience



Text Caption : PREVENTION: Error prevention

Text Caption: Sources: http://www.useit.com/papers/heuristic/heuristic_list.html
Text Caption: http://designingwebinterfaces.com/6-tips-for-a-great-flex-ux-part-5

Slide Notes:

Prevention is all out error prevention. Keep errors to an absolute minimum by checking for errors or giving users the ability to back out of an action before committing to it. Have you ever bought something on a website and you get a pop up that says, "Are you sure?" Or if you are submitting something that says, "Are you sure?" That's giving the user the ability to back out if they want to.

This example is from Usability Post and unfortunately, this... this is a blog that hasn't been updated in five or six years, and it's too bad because it had some really great posts. It might not be clear from the screenshot right away, but the Update button has been grayed out and will remain that way until the user either enters something in the text field or attaches a file. Then the button enables and gives a visual cue with a color change to the user that they are able to up to upload.

Jakob Nielsen's Heuristics

· MEMORY: Recognition rather than recall



Sources: http://www.useit.com/papers/heuristic/heuristic_list.html http://designingwebinterfaces.com/6-tips-for-a-great-flex-ux-part-5

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Text Caption : MEMORY: Recognition rather than recall

Text Caption: Sources: http://www.useit.com/papers/heuristic/heuristic_list.html
Text Caption: http://designingwebinterfaces.com/6-tips-for-a-great-flex-ux-part-5

Slide Notes:

Memory has to do with not making the user remember things. It's recognition rather than recall. You want them to recognize things rather than recall what their meaning is or what they look like. Make options to user visible and learnable.

This screenshot is from Keynote, but you've seen this in several programs. I'm sure... I know that PowerPoint does this, Google Docs does this... I think Google Sheets does it, but I know the Google Slides does this, too. So it's showing you not just the font name, but also showing you the actual font style. This is so users won't need to remember what each font is. You know, they see the name Bank Gothic... I can't remember what that looks like. This shows them not only the name of it, but what it looks like. It makes for easier choosing of fonts.

Jakob Nielsen's Heuristics

· EFFICIENCY: Flexibility & efficiency of use



Sources: http://www.useit.com/papers/heuristic/heuristic_list.html http://designingwebinterfaces.com/6-tips-for-a-great-flex-ux-part-5

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Text Caption: EFFICIENCY: Flexibility & efficiency of use

Text Caption: Sources: http://www.useit.com/papers/heuristic/heuristic_list.html
Text Caption: http://designingwebinterfaces.com/6-tips-for-a-great-flex-ux-part-5

Slide Notes:

Efficiency has to do with efficiency of use and giving the users the ability to tailor their actions. Give users options to tailor actions they use frequently to keep efficiency at an optimal level.

This screenshot is from the program OmniFocus, and it shows the common shortcuts for users to help them be more efficient, so efficiently get through their work.

Google is very good at this. When you start typing something in Google, search suggestions pop up. It's the same concept, as is the whole idea of personalization. Amazon is a whiz at this. I go into Amazon and I can go back to my old orders and take a look at what I bought six months ago and go, "oh, yeah, that's what it was." And then there's a button that says Buy Now or Add to Cart, and that just helps my experience be more user friendly. And it also helps me accomplish my tasks faster.

Jakob Nielsen's Heuristics

· DESIGN: Aesthetic & minimalist design



Sources: http://www.useit.com/papers/heuristic/heuristic_list.html http://designingwebinterfaces.com/6-tips-for-a-great-flex-ux-part-5

GIT 542: Usability and User Experience



Text Caption : DESIGN: Aesthetic & minimalist design

Text Caption: Sources: http://www.useit.com/papers/heuristic/heuristic_list.html
Text Caption: http://designingwebinterfaces.com/6-tips-for-a-great-flex-ux-part-5

Slide Notes:

Design is all about the aesthetics but it's also about minimalist design. Remove excessive, irrelevant graphics. That's usually one of the biggest places. If a piece of information does not further the message of the company or have a strong purpose for being there, get rid of it. Don't fill space just to fill it. White space is your friend!

This example is from a website called Kontain, and this is its search menu. And this search menu really exemplifies four of the principles of visual design.

The first is contrast. You can see the bold text is used for the two labels in the search. There's Search and then there's Tags.

Repetition... the orange, blue and green text match the media types. You can see Photos, Videos and Audio.

Alignment... there is a strong left alignment of the text, and right aligned is the dropdown.

And proximity... it's very hard to see from this screenshot, but there's a very light rule, a very light gray line that is used to separate the Search area from the Tags area. So that there's no question these are two different things.

Sources: http://www.useit.com/papers/heuristic/heuristic_list.html http://designingwebinterfaces.com/6-tips-for-a-great-flex-ux-part-5

Jakob Nielsen's Heuristics

RECOVERY: Help users recognize, diagnose & recover from errors

Or start a new account

Choses a username (no appared)

Bott a proxy soor. Presse
Choses a password

In Choses a password

Pressword Pres

GIT 542: Usability and User Experience



Text Caption: RECOVERY: Help users recognize, diagnose & recover from errors

Text Caption: Sources: http://www.useit.com/papers/heuristic/heuristic_list.html
Text Caption: http://designingwebinterfaces.com/6-tips-for-a-great-flex-ux-part-5

Slide Notes:

Recovery is giving users the help they need to recognize, diagnose and recover from any errors, because let's face it, errors are going to happen. Nothing is 100%. Nothing is perfect. So assume there will be errors that are happening. Try to keep them to a minimum. But when they do happen, give the user a way to fix it.

Clearly indicate any errors. Don't use codes or numbers: Error number 592BX. What does that mean? Doesn't mean anything to a user. Doesn't even mean anything to me. They need to be clearly worded and give the users a solution.

The first example is from Digg, but you've seen this many places. When you're signing up for something new - let's say I want to get a new account with Amazon. So I go to type in a username. This right away tells you in those little pink boxes that username is already taken. Same thing with the password. If you don't have the specifics for a password - you need to use numbers and letters and a special character, things like that - it automatically pops up. I can't tell you how many sites I have been to where I go through all of this. I type in the username. I type in the password. I want I retype my password. I go through the rest of the form, and then it comes back and, you know, I click Submit and it goes, "oh, that name is already taken, that password, your passwords don't match." And that's very frustrating. This example shows it right away.

The other example on the screen is something that every site should have, in my opinion, and that's a custom, what we call a 404 page. It's basically known as the page not found page. This one is humorous, which is fine if it fits the theme of your site, but the most important part is that it provides links to the user as possible solutions to give them a way out or give them a way to browse the blog, things like that, or back to the home page. Maybe you want to take a look at our products... something that gets them out of that situation without forcing them to use the back button.

Jakob Nielsen's Heuristics

HELP: Help & documentation



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Text Caption : HELP: Help & documentation

Text Caption: Sources: http://www.useit.com/papers/heuristic/heuristic_list.html
Text Caption: http://designingwebinterfaces.com/6-tips-for-a-great-flex-ux-part-5

Slide Notes:

The final is Help, and that's help and documentation. Provide documentation online when necessary and make sure it's clearly worded.

This first screenshot is from Picnik, which is an online image editing program. This particular help would be considered contextual, meaning it has to do with a specific topic. The other screenshot is from Zenoss, and it illustrates a tooltip-type of help. A user mouses over the question mark in a box, and the tip box pops up with helpful information. This is seen everywhere. This also is considered convention.

Heuristic evaluation - severity scale

Heuristic evaluation - severity scale

0. No usability issue present

1. Cosmetic

Issue does not affect usability but should be fixed

2. Minor

Users easily find workaround but issue should be fixed when possible (low priority)

3. Major

Users find workarounds with some difficulty, so issue should be fixed as soon as feasible (high priority)

4. Catastrophic

Users cannot find workaround and issue must be fixed immediately

Source: https://www.nngroup.com/articles/how-to-rate-the-severity-of-usability-problems/

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GIT 542: Usability and User Experience



Text Caption: 0. No usability issue present

Text Caption: 1. Cosmetic. Issue does not affect usability but should be fixed

Text Caption: 2. Minor. Users easily find workaround but issue should be fixed when possible (low priority)

Text Caption: 3. Major. Users find workarounds with some difficulty, so issue should be fixed as soon as feasible (high priority)

Text Caption : 4. Catastrophic. Users cannot find workaround and issue must be fixed immediately

Text Caption : Source: https://www.nngroup.com/articles/how-to-rate-the-severity-of-usability-problems/

Slide Notes:

You should have some kind of scale that rates the severity of the usability issue. You need to have a way to prioritize what will be fixed first and what can be put on the backburner if necessary.

There are several out there but I like the five-point scale that Jacob Nielsen created. And this is 0 through 4. 0 means there is no usability issue present. 1 is a cosmetic issue. It doesn't affect the usability, but it should be fixed. It could just be a graphic that is pixilated or the copyright date in the footer is from last year. These don't affect the user's experience but for credibility's sake, they should be fixed when you can.

Now a minor issue is something that users can't easily find a work around, but the issue should be fixed when possible. So it's given a lower priority, and major issues is users can find a workaround but it takes a little bit for them to figure it out. The name of our book is Don't Make Me

Think. Major issues are making users think so that should be fixed as soon as feasibly possible. That means it's a high priority.

And then catastrophic is it negatively affects the user experience and the user cannot find a work around. They're in a dead end or a link isn't working or a form isn't working correctly. That has to be fixed immediately.

Heuristic evaluation - UX process

Heuristic evaluation - UX process



Image source: Usabilia Information source: Interaction Design Foundation

GIT 542: Usability and User Experience



Text Caption: Image source: Usabilia

Text Caption : Information source: Interaction Design Foundation

Slide Notes:

Normally, anything with the word "test" or "review" would fall under stage 5, or the Test stage of the UX process. However, the way we are using the heuristic evaluation, doing this at the beginning of the project to look at what problems are there, this is part of the Empathize stage. The idea with this evaluation is for you to look at the product, gather as much information about it as you can, and identify any problems you think could be usability issues. The actual testing with users during the Test stage will let you know if you were right or wrong with your assessment.

Assignment information

Assignment information

- · Perform heuristic evaluation on site
- Group mates will perform heuristic evaluation as well

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GIT 542: Usability and User Experience



Text Caption : Perform heuristic evaluation on site

Text Caption: Group mates will perform heuristic evaluation as well

Slide Notes:

All this talk about heuristic evaluations means your assignment is to do a heuristic evaluation using Nielsen's heuristics and the severity scale of your choice. There is a great article that sums up the most common scales for heuristic evaluation. Note that you aren't just giving each a rating. Note that you are not just giving a rating. I do expect to see examples of areas in the site and justification from those examples for your ratings.

Most times, the heuristic evaluation is performed as an initial evaluation of the site, before the more "hard-core" usability testing is done. Heuristic evaluations give you a good basis from which to plan the next phases of testing. For this assignment, however, the idea of the heuristic evaluation is for you to get a really good feel of the site and any issues that you think may cause usability issues.

As mentioned in this lecture, more than one evaluator is preferred, and your teammates will be performing an evaluation as well. You can use this evaluation to help you on future assignments in this course.

Lecture: Expert Reviews/Heuristic Evaluations

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Text Caption: Lecture: Expert Reviews/Heuristic Evaluations

Slide Notes:

That's it for this lecture on heuristic evaluations. Check the module for more information. There are some really good materials on how to conduct a heuristic evaluation, and check the assignment instructions for what you need to do.