

Common Usability Issues on University's Websites

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Her research interests include web technology, web-based human-computer interaction, website usability methods, user experience, and website quality.

The current projects

- We worked on developing heuristics set for evaluating the usability of university websites iteratively through a reliable methodology (the methodology proposed by Rusu et al., 2018).
- And we are conducting several evaluation experiments on university websites by employing heuristic evaluations in multiple case studies.
- Furthermore, we are writing papers on the proposed set's development and validation. These papers will be submitted soon.

Outlines

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Introduction

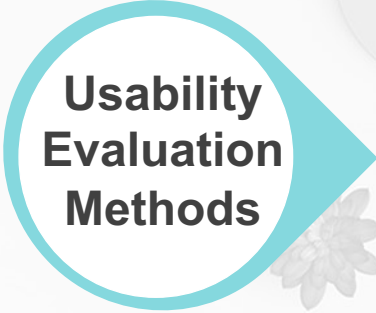
What is Usability?

- A quality attribute that assesses how easy user interfaces are to use (Nielsen definition).
- The effectiveness, efficiency and satisfaction with which specified users can achieve goals specified in a specified context of use (ISO definition).

Usability of University Websites

- Universities' websites importance comes from being....
 - A gateway to provide information and services;
 - A marketing tool to reach potential students.
- Universities should consider usability while developing their websites.

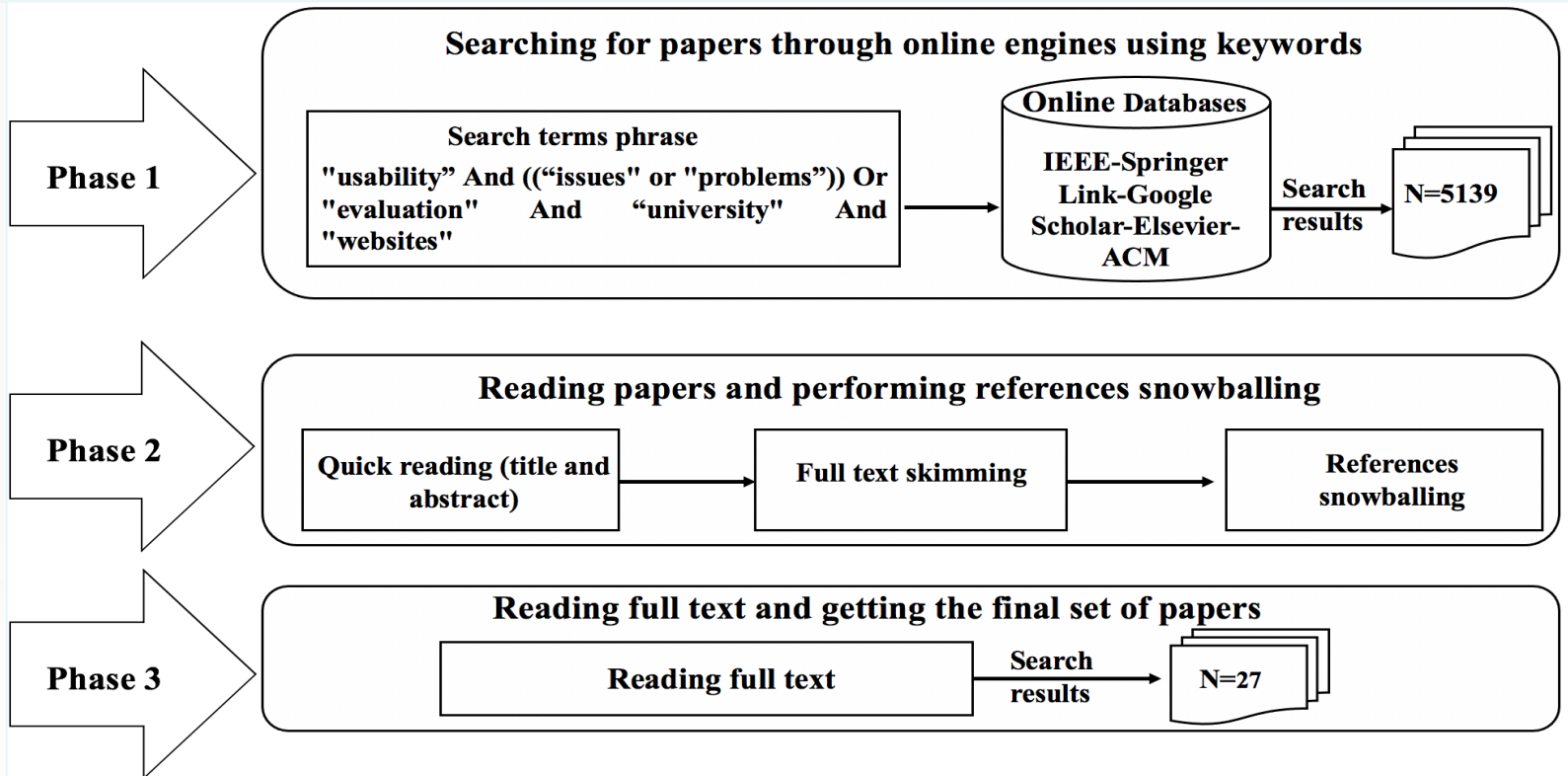
Introduction



Usability Evaluation Methods

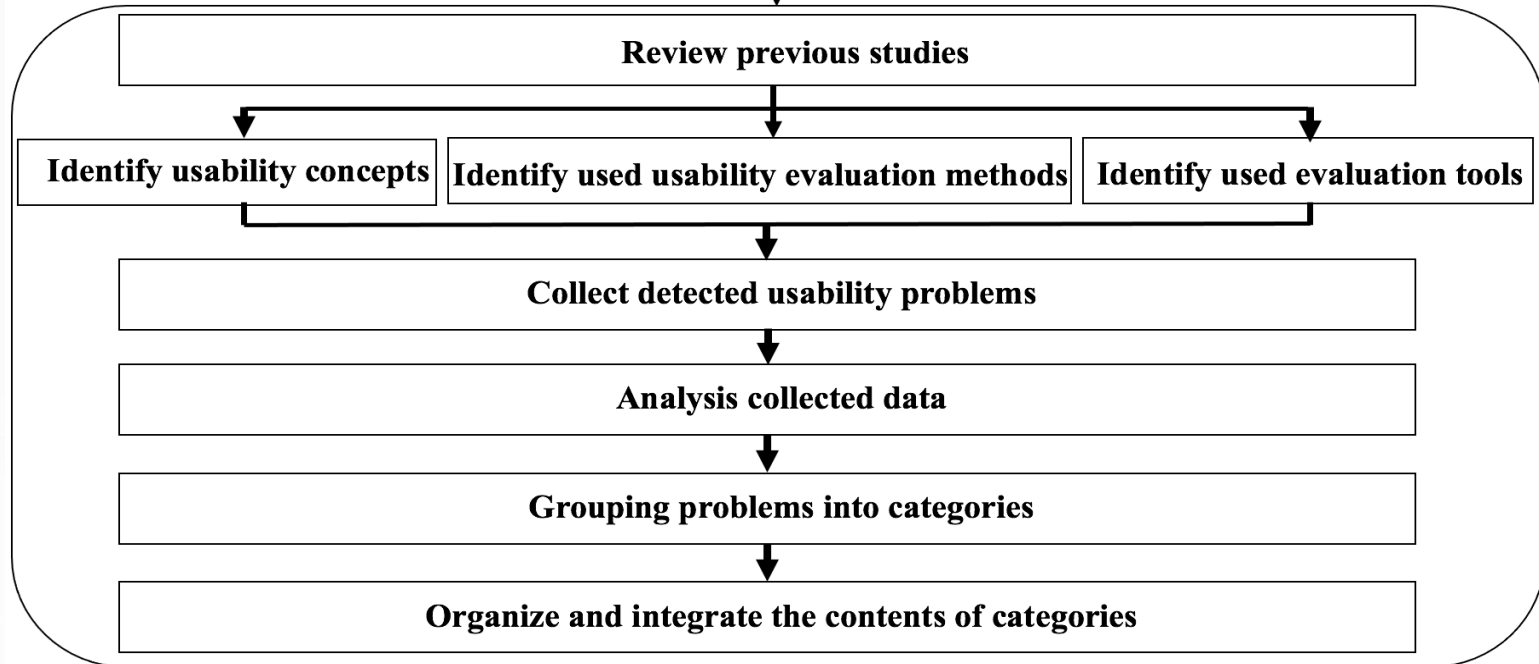
- **Usability evaluation methods (UEMs) used to assess the usability of the user interface.**
- **UEMs are divided into three categories:**
 - (1) User-based methods: involve users in the assessing of the interface, such as questionnaires and interviews.**
 - (2) Experts-based methods: involve number of experts assess the user interface, such as Heuristic evaluation.**
 - (3) Tool-Based Methods: assessing the interface's internal attributes by employing tools, such as HTML ToolBox and SEO PageRank.**

Methodology



Usability issues and solutions

- After the literature survey on usability issues, we extracted and analyzed information as shown concisely in the Figure below.
- Ninety-two specific usability issues were collected and classified into seventeen categories.



Usability issues and solutions

Category Number	Category Name
1	Design Issues
2	Navigation Issues
3	Ease of Use Issues
4	Visibility of system status Issues
5	Load Time Issues
6	Compatibility Issues
7	Content Issues
8	Search Issues
9	User Support Issues
10	Information Architecture Issues
11	Data Entry Forms Issues
12	Accessibility Issues
13	User Familiarity Issues
14	User control and freedom Issues
15	Consistency Issues
16	Prevention of Error Issues
17	Memorability Issues

Usability issues and solutions



Design

Issues

- Overall web page design.
- Inconsistency of fonts and images.
- Appearance issues regarding links and elements.
- An overcrowded element and information.

Solutions

- The design component reflects its intended function.
- The menu items and all page contents align correctly based on the interface language.
- Following standards of navigation, forms, and search facilities.
- Display what user needs when and where they need it.

Usability issues and solutions

Issues

- Users get lost within the website pages.
- Difficulty finding or using a site map.
- Links Errors.
- Global navigation issues.
- Lack of navigation patterns (e.g., breadcrumbs).

Solutions

- Use navigation patterns, such as breadcrumbs.
- Navigation options should be implemented correctly.
- The global navigation includes the main content categories.
- The University logo should be linked with the 'Home Page'.
- All links should open expected pages.
- appropriate design of the site map and a site index(A-Z).

Navigation

Usability issues and solutions

	Issues	Solutions
Ease of Use	<ul style="list-style-type: none">• Difficulty in interaction with a website.• Lack of support in more than one language.• Lack of considering the usage for disabled individuals.	<ul style="list-style-type: none">• The design component reflects its intended function.• Supporting the native of most users and other commonly used languages.• Following standards of navigation, forms, and search facilities.
Visibility of System Status	<ul style="list-style-type: none">• Invisibility of search query.• Invisibility of other processes status.• Invisibility of selected icons and links status.	<ul style="list-style-type: none">• Users should always know the progress of any query or process.• Use an appropriate color after clicking the link or button.

Ease of Use

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- Users should always know the progress of any query or process.
- Use an appropriate color after clicking the link or button.

Usability issues and solutions

Issues

Solutions

Load Time

- Too slow load time of website.

- The load time of the site's pages is reasonable.
- Frequently refreshed pages are not burdened with many multimedia elements.

Compatibility

- Browsers Incompatibility.
- Devices Incompatibility.

- Pages must work or display appropriately under different browsers and devices.
- Test the sites through common web browsers by employing tools.

Usability issues and solutions



Content

Issues

- Inadequate Information.
- Empty Pages.
- Old Information.
- Inappropriate content.
- Information Classification issues.
- Labels of Links and Button issues.
- Content Errors (e.g., punctuation or grammatical errors).
- Lack of Technical Information.

Solutions

- Information should be accurate, updated, and consistent.
- Accessing information should also be quick and easy for students.
- Offering information regarding the file types.
- Offering contact services.

Usability issues and solutions

Search

Issues

- Ineffectiveness of search tools.
- Limitation of search scope.
- Intolerance of Errors (e.g., misspellings)
- Lack of refining and filtering mechanism
- Lack of research suggestions.
- Lack of support features (e.g., autocomplete).

Solutions

- Access and search tools should be well worked.
- Offering refining and filtering mechanisms, alternative search suggestions, support features.
- The search scope should include the entire site.

Usability issues and solutions

User Support

Issues

- Lack of help and documentation.
- Lack of support for login and authentication processes.
- Lack of support for services.
- Lack of search support.
- Lack of helpful error messages.
- Use of technical language in error messages.

Solutions

- The site should provide FAQ and documentation obviously.
- Provide helpful error messages.
- Provide immediate feedback in plain language.
- Offering support for students and staff (e.g., Online enrolment).

Usability issues and solutions

	Issues	Solutions
Information Architecture	<ul style="list-style-type: none">• Labeling issues.• Hierarchy issues.• Organizational systems issues.	<ul style="list-style-type: none">• Avoid deep hierarchy.• Terminology and links labels should be self-explanatory.• Logically organize information
Data Entry Forms	<ul style="list-style-type: none">• Form Fields and Text Area Problems.• Form button problems.• Form Feedback problems.• Label alignment problems.• Unhelpful error messages.• Form functionality issues.	<ul style="list-style-type: none">• Offering features that help students and staff input the correct data in the form fields.

Information Architecture

Data Entry Forms

Usability issues and solutions

Issues

Solutions

Familiarity

- Matching the real-world convention issues.
- Using unfamiliar terminology.
- Illogical form structure and elements alignment.

- Following real-world conventions.

User Control and Freedom

- Lack of ways to undo actions.
- Lack of navigation options.

- Make users feel in control in many situations.
- Offering multiple navigation options
- Help students undo some entries or exit from situations.

Usability issues and solutions

	Issues	Solutions
Consistency	<ul style="list-style-type: none">• Unexpected placement of elements.• Navigation Inconsistency.• Content Inconsistency.• Design Inconsistency.• Search Facility Inconsistency.	<ul style="list-style-type: none">• The load time of the site's pages is reasonable.• Frequently refreshed pages are not burdened with many multimedia elements.
Accessibility	<ul style="list-style-type: none">• Accessibility issues regarding performing tasks.• Accessibility issues regarding design• Forms accessibility issues.• Accessibility issues regarding navigation.	<ul style="list-style-type: none">• The site accessible for diverse user groups, including disabled.

Consistency

Accessibility

Usability issues and solutions

Issues

Solutions

Prevention of Error

- Lack of preventing errors of forms.
- Content ambiguity or presentation errors.
- Links errors issues (e.g., invalid and unimplemented links).
- Search facility errors.

- The site must prevent potential errors in links, content, and forms.
- provide an assistance on pages with high error occurrences.

Memorability

- Memorization of Information.
- Memorization of task's Instructions.
- Memorization of navigational paths deep.

- Students should not have to remember information.
- System usage instructions should be simple and visible.

Conclusion and future work

Conclusion

- We have identified and analyzed ninety-two different usability issues mentioned in earlier studies.
- We classified them into seventeen categories based on usability aspects violations.
- We found an agreement among most of the reviewed studies as they mainly focused on some standard usability features, such as design, navigation, and content.
- The developers could focus on these features to investigate and improve the usability of university sites.

Future work

- We aim to develop a new set of heuristics that could be used as a comprehensive and reliable instrument for evaluating the usability of university sites.
- We are planning to have a follow-up empirical study to update the usability problems list and identify the severity and frequency of those problems.



Thank you