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# Facilitating Heuristic Evaluation for Novice Evaluators

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# Introduction

- Usability is one of the main objectives of HCI/UX
- There are two main categories for evaluating usability; user-based methods and inspection-based methods.
- HE is an inspection-based method.
- HE is one of the most used usability evaluation methods.
- The idea of HE is simple. Evaluating a system based on a set of rules or heuristics.



# Problem

- There is a gap between novices and experts in terms of the quality of their results.
- Nielsen stated that experts can find roughly 80% of usability issues, while novices can find 51% of usability issues.
- Few years later, a study revealed that novices can only find 23% of usability issues. Which means that the gap is even larger than what Nielsen initially expected.
- Some researchers even said that the results of HE is a product of the evaluator experience rather than the method itself.



# Motivation

- Experts are difficult to find.
- Experts are expensive to hire.
- Some HCI/UX practitioners have no formal education.
- HCI/UX practitioners are sometimes expected to represent the user.
- Some companies hire a single HCI/UX practitioner.
- Poor usability not only has an economic impact, but it could also lead to serious health and safety issues.



# Goal

- The goal of this research effort is to create a step-by-step protocol to help novices perform HE.
- It guides them from the moment they decided to implement HE, until they produce the report.



# Related Work

When looking at the literature, there are four directions:

1. Producing general usability guidelines.
2. Producing domain-specific guidelines.
3. Improving various elements of HE.
4. Enhancing HE for novices.

Although these research efforts provided excellent insight, they did not address the overall issue



# Method

- We planned to conduct at least 12 semi-structured interviews.
- There is no an agreed-upon definition to who is an expert in the field.
- We defined an expert as someone who has at least 4 years of experience as done in similar studies.
- We interviewed 15 usability experts from both academia and industry.
- We asked them to describe their overall experience with HE.
- We used thematic analysis to analyze the responses we got from the participants.



# Results

- Many novices don't have sufficient knowledge about human behavior and usability.
- Usability heuristics should be mapped to human behavior and usability.
- The traditional way of presenting usability heuristics doesn't help novices to fully understand them.
- Novices don't know how to inspect the system. The system should be inspected by user goals.
- The time allocated to perform the evaluation should be reasonable so the evaluator doesn't feel overwhelmed.
- The mood of the evaluator will affect the quality of the evaluation.



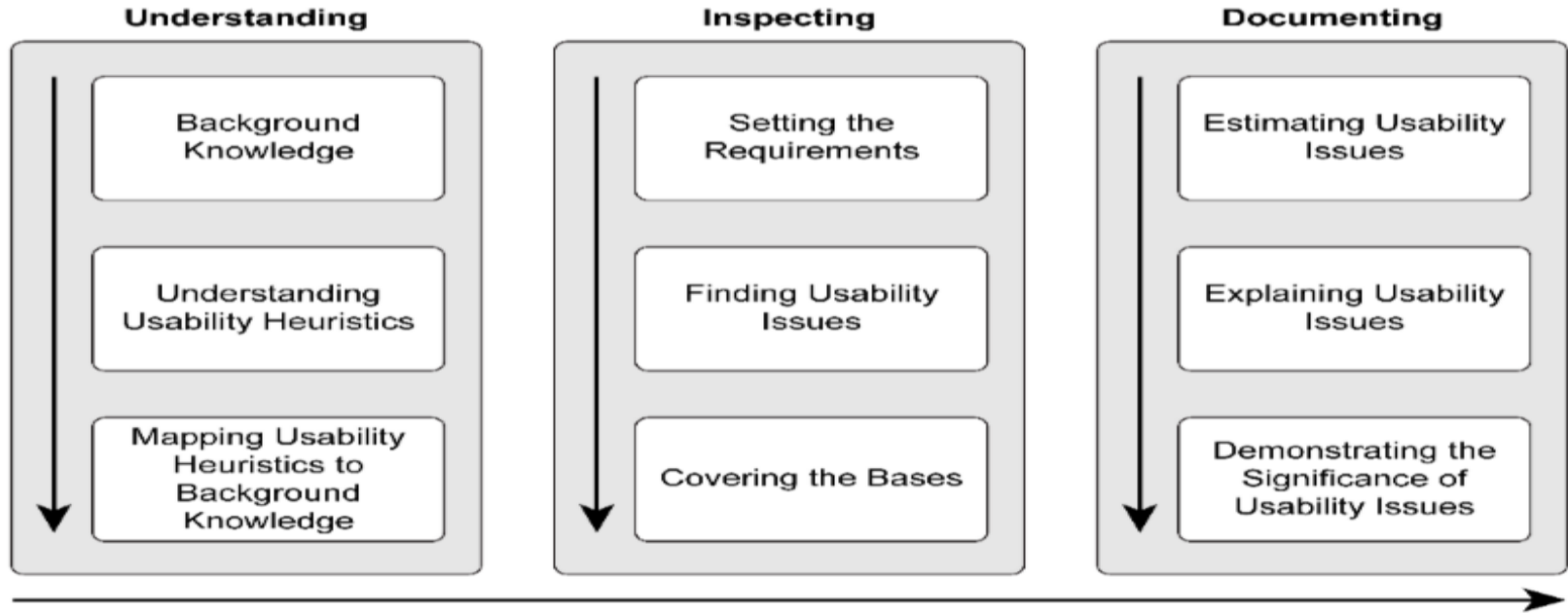


# Results

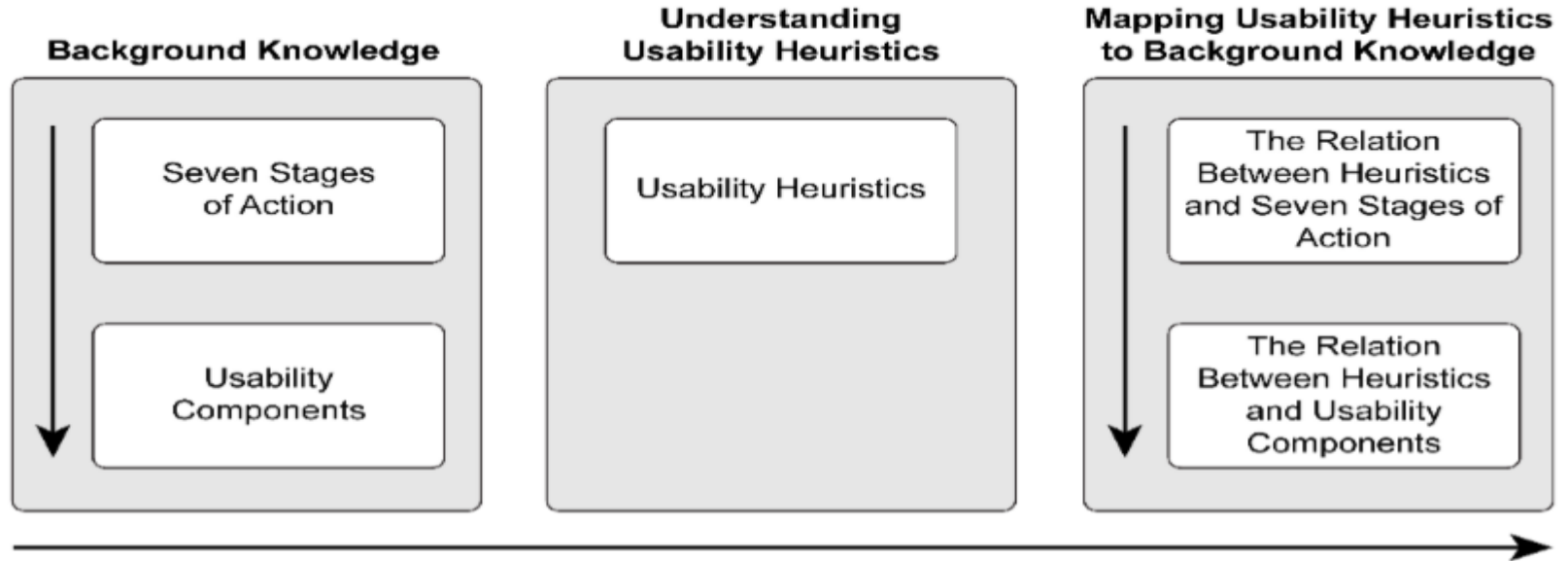
- Novice evaluators tend to think of usability heuristics as a checklist rather than an inspiration.
- To avoid focusing on the heuristics more than needed. Two sessions should be done; one without the heuristics and the other with it.
- Providing a list of common usability mistakes and associate them to each heuristic will help novice evaluators as a double-check procedure.
- To accurately map a usability issue to heuristics and to better rate the issue, the evaluator should do that in light of seven stages of action and usability components.
- To increase the understandability of the report, it is recommended that the evaluator explains the problem in light of seven stages of action and usability components. Also, include some articles, empirical results to back up the claim.



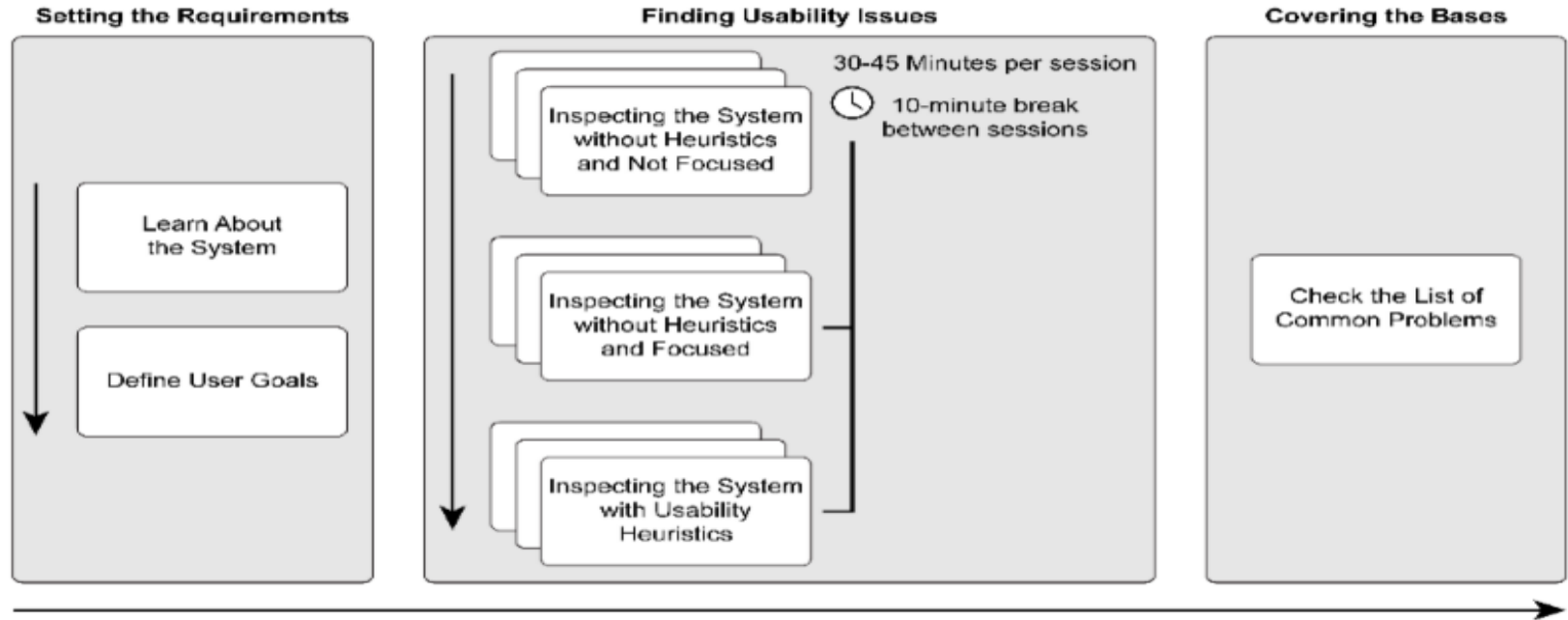
# Coherent Heuristic Evaluation



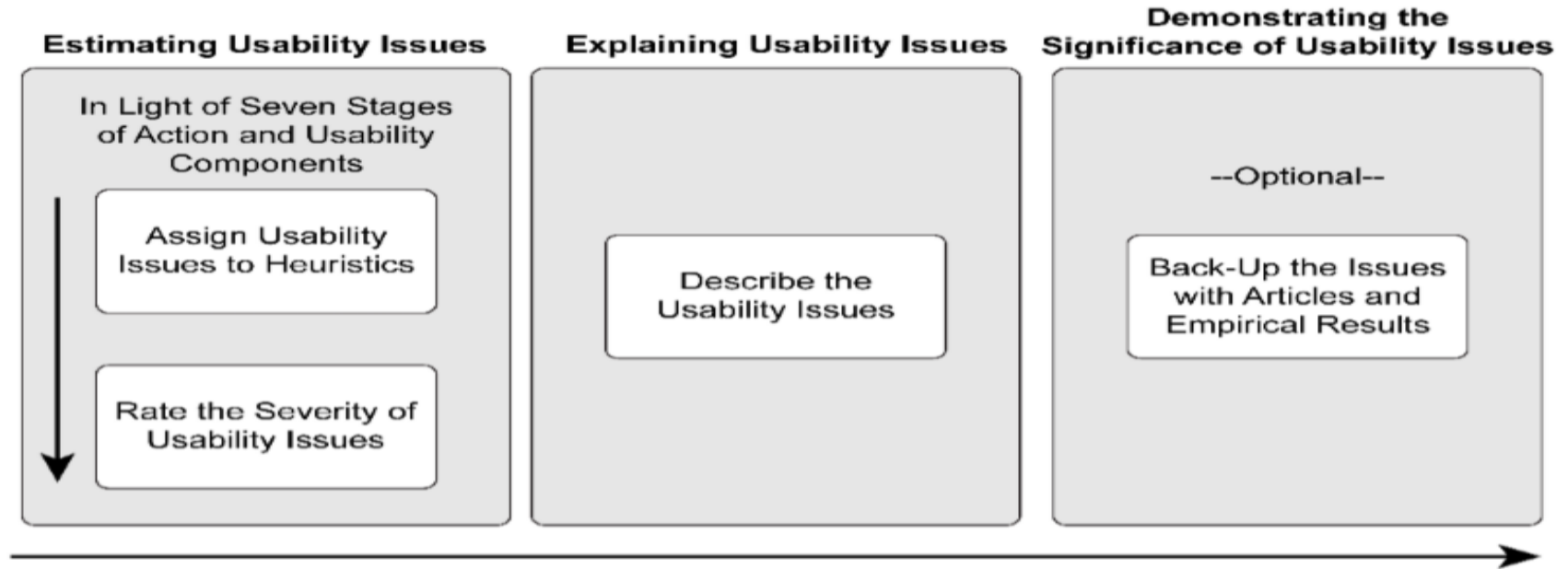
# Understanding



# Inspecting



# Documenting



# Discussion

- Obviously, CoHE is going to require more time than traditional HE.
- But since novices are producing poor results, the additional time and effort is required to potentially produce better results.
- The time and effort needed will subside with time and experience.
- CoHE could be used partially.
- CoHE could benefit experts as well



# Future Work

In the future, we will pursue the following directions:

- We will apply CoHE to a specific set of heuristics.
- We will validate CoHE by comparing it to traditional HE.
- We will examine the applicability of CoHE to a wide range of usability heuristics; both general and domain-specific.



# Published Work

- Abulfaraj A., Steele A. (2020) Coherent Heuristic Evaluation (CoHE): Toward Increasing the Effectiveness of Heuristic Evaluation for Novice Evaluators. In: Design, User Experience, and Usability. Interaction Design. HCII 2020. Lecture Notes in Computer Science, vol 12200. Springer, Cham. [https://doi.org/10.1007/978-3-030-49713-2\\_1](https://doi.org/10.1007/978-3-030-49713-2_1)
- Abulfaraj A., Steele A. (2020) Detailed Usability Heuristics: A Breakdown of Usability Heuristics to Enhance Comprehension for Novice Evaluators. In: HCI International 2020 - Late Breaking Papers: User Experience Design and Case Studies. HCII 2020. Lecture Notes in Computer Science, vol 12423. Springer, Cham. [https://doi.org/10.1007/978-3-030-60114-0\\_1](https://doi.org/10.1007/978-3-030-60114-0_1)





Thank you for listening!  
Any questions?

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