

# Mapping user test results and complexity analysis to uncover user experience issues

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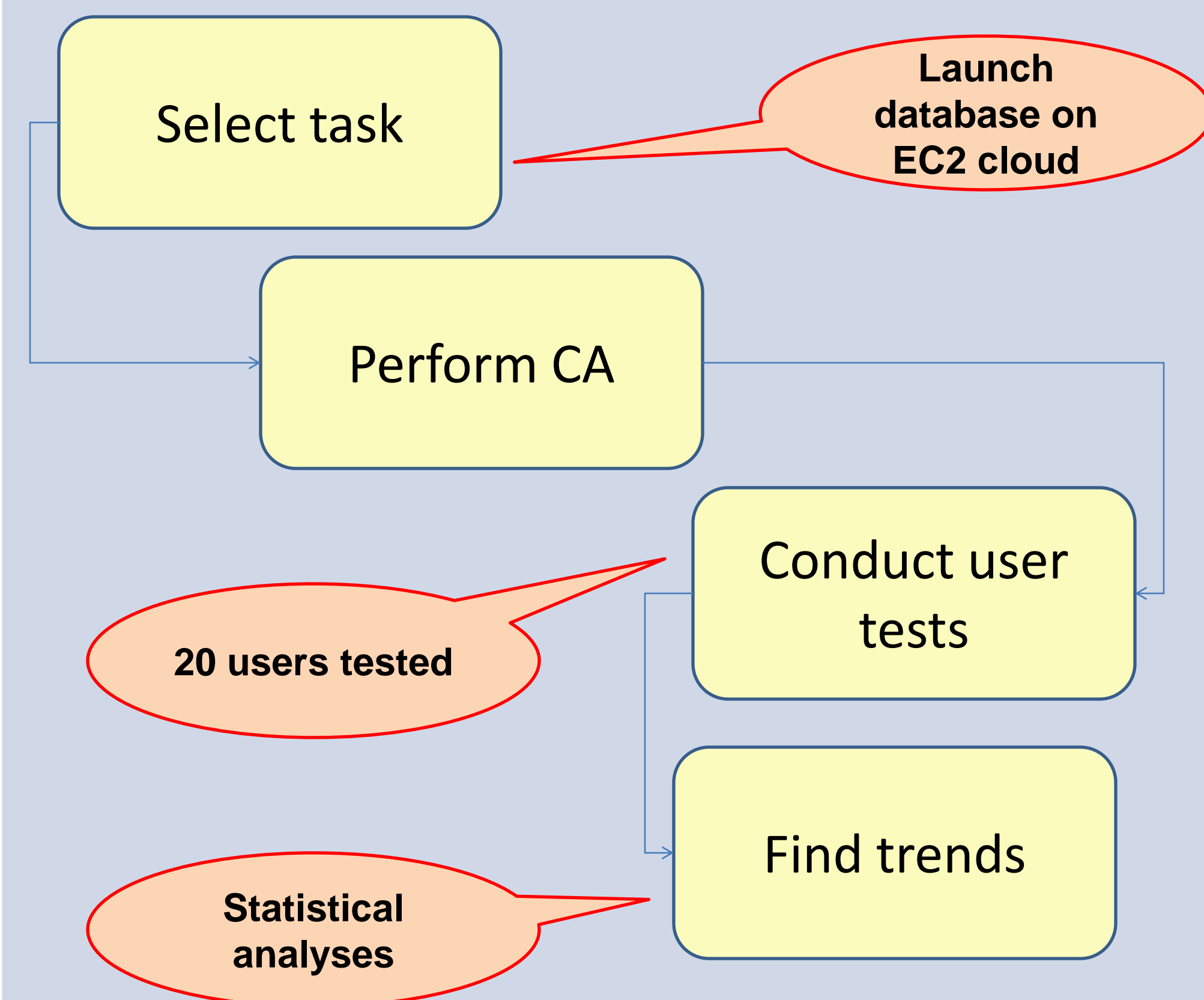
## Introduction

- The Client has made extensive use of the complexity analysis (CA) software evaluation methodology
- CA is a quantitative approach to software usability engineering which assigns complexity scores for dimensions such as error feedback [1]
- Results from CA have been used as justification for significant design changes

## Purpose

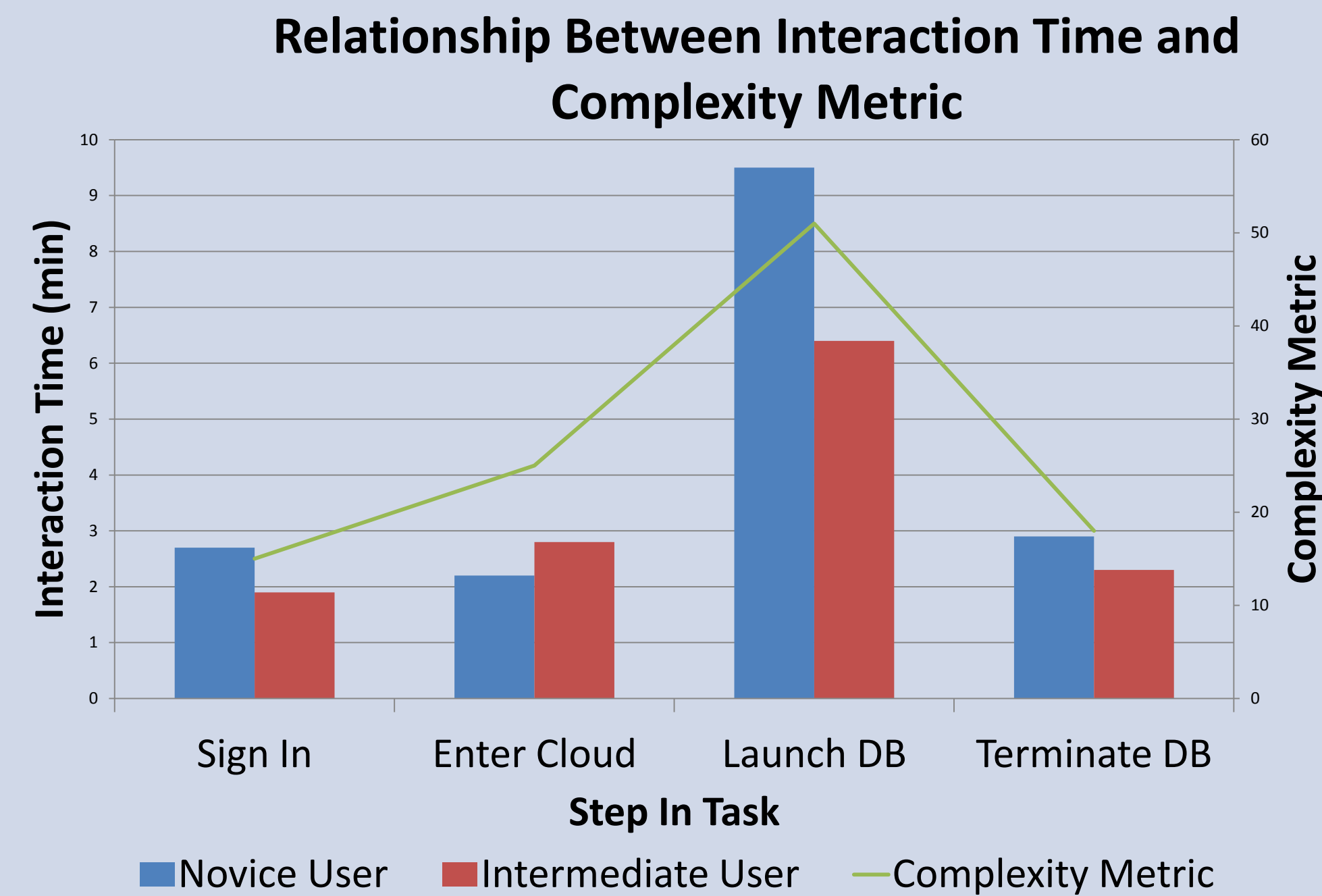
- Systematically evaluate how well complexity analysis results map to usability issues unveiled via user testing
- Investigate possible evaluator effects and how well complexity scores correspond to time-on-task

## Method



## Results

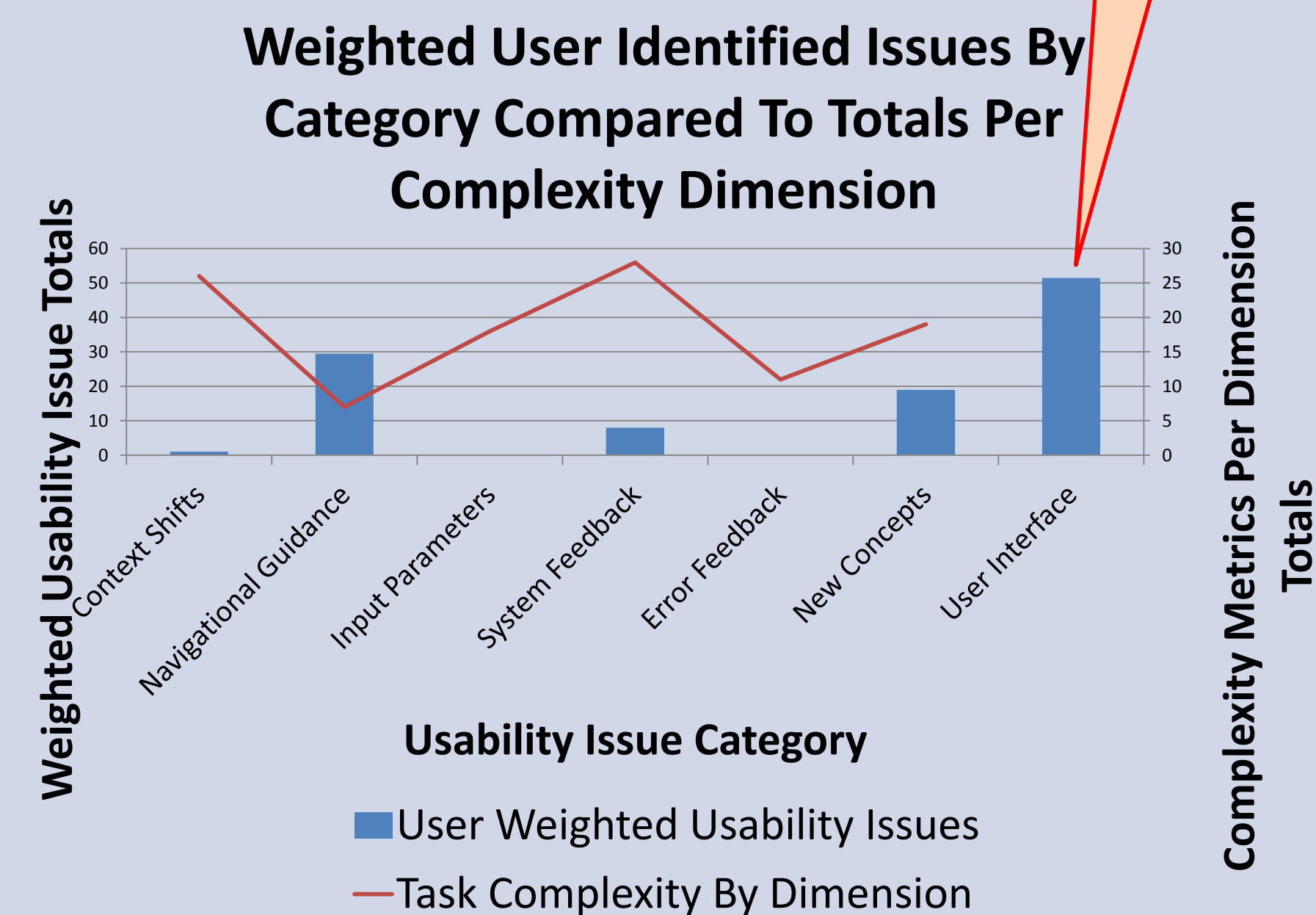
- The following graph demonstrates that CA does very well in predicting interaction times



$0.89 < R^2 < 0.99$

Unidentified user interface issues

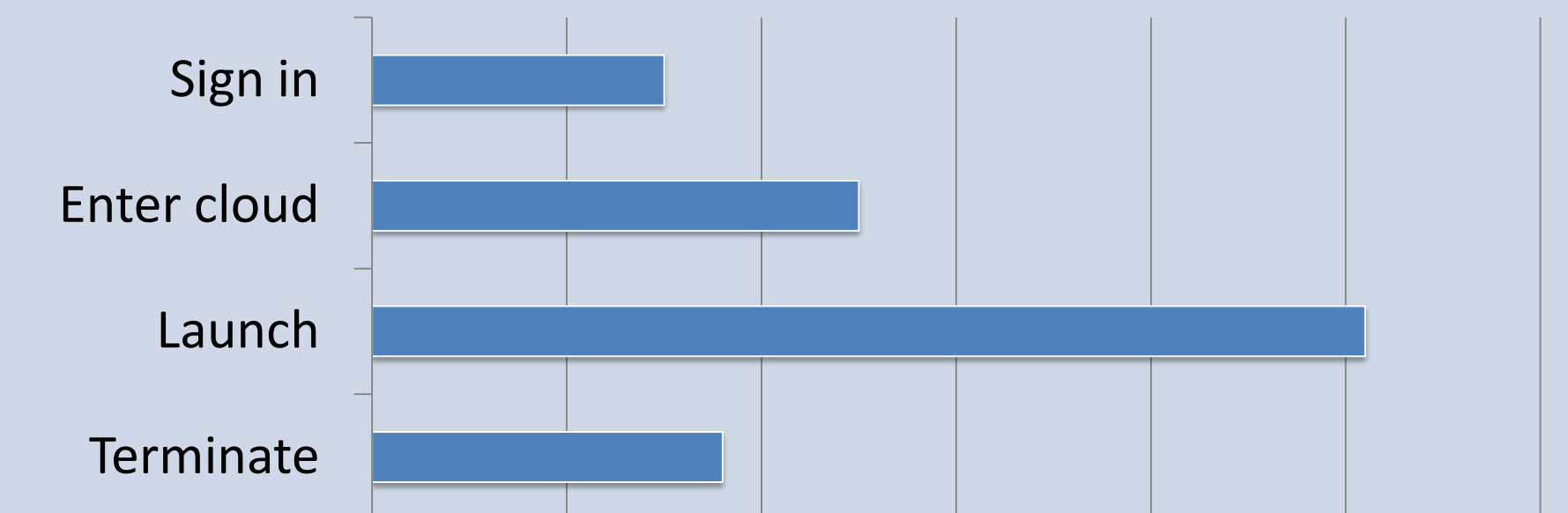
- The following graph demonstrates that CA is not able to anticipate all user-identified issues such as minute interface features



## Results

- The following graph compares complexity scores for subtasks (lower is better)

### Complexity of task "Deploy Database on Amazon Cloud"



## Recommendations

- The core of the CA tool is to remain unchanged, given the interaction time results
- Rating definition changes can be made to account for minor interface usability issues
- Individual dimensions are not good predictors of interaction time, and thus changes can be made

## Future Work

- Further investigate how to link the two methodologies
- Account for expert users

## References

- [1] Sobiesiak, R., & O'Keefe, T. (2011). Complexity Analysis: A Quantitative Approach to Usability Engineering. In Proceedings of the 2011 Conference of the Center for Advanced Studies on Collaborative Research (CASCON).