Individual Project – Excel Mobile

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1 INTRODUCTION

Microsoft Excel has long stood as the gold standard for spreadsheet management and data analysis. Since its release in 1985, Excel has remained a cornerstone tool across professions, from business and academia to healthcare and personal finance. In the modern era of mobile computing and data access, Excel continues to be widely used, yet its mobile interface remains limited in usability and functionality compared to its desktop counterpart. As more users rely on smartphones and tablets for productivity, a thoughtful redesign of Excel's mobile experience is critical to meet the needs of today's users.

This project aims to investigate the needs of mobile Excel users and propose a redesigned interface tailored to their unique challenges. The redesign process follows a human-centered design framework, progressing through key stages including needfinding, ideation, low-fidelity prototyping, and iterative evaluation. The goal is to develop a high-fidelity prototype that enhances usability, streamlines core tasks, and better supports real-world mobile workflows.

Users of Excel want to view, manipulate, and analyze data whether they are on a desktop or a phone, and the goal of the redesigned interface is to make sure that these users are better equipped to complete the tasks they want to complete on a mobile device, in the same way that they can on their desktop.

2 NEEDFINDING PLAN

The needfinding plan for this redesign project will consist of 2 activities. The first activity will be a survey among excel users within the class and outside the class. The second needfinding activity will be a heuristic review with Excel users to understand issues with the current Excel interface on mobile devices and to get their direct feedback to solve these issues.

2.1 Survey

For the survey, participants will be adults from a variety of professional backgrounds. Recruitment will be conducted through two main channels. First, a post

will be made on the Ed Discussion board for the course, which will primarily attract Georgia Tech OMSCS students who are enrolled in the class. These participants are likely to have experience using Excel in academic or professional contexts, particularly in technical or data-oriented workflows. Second, additional participants will be recruited by reaching out to working professionals within my personal and professional network. This approach will help ensure a broader perspective on Excel usage across different industries and contexts. The aim is to gather a diverse set of responses to better understand the challenges and needs associated with using Excel on mobile devices.

The survey will contain multiple types of questions such as multiple select, multiple choice, and open-ended clarification questions. These questions will provide insights into qualificative and quantifiable data. These questions will focus on how often they use Excel on mobile, what tasks they try to accomplish, what features they find frustrating or difficult to use, and what improvements they would like to see. The insights from this needfinding process will directly inform the design priorities and user requirements for our mobile Excel redesign. The survey will be hosted on the PeerSurvey platform for the ease of use for OMSCS students and will be analyzed using personal software.

2.2 Heuristic Evaluation

For the heuristic evaluation, participants will be recruited by reaching out to working professionals within my personal and professional network. Their familiarity with mobile interfaces and technical workflows makes them well-suited to identify usability issues in the Excel mobile application. The evaluation will be guided by three specific heuristics from Nielsen's usability framework: Consistency and Standards, Recognition Rather than Recall, and Flexibility and Efficiency of Use. Evaluators will explore the app with these heuristics in mind, identifying where the interface fails to align with established design principles. For example, they will assess whether the app uses consistent terminology and visual cues (Consistency and Standards), whether important options are visible or require users to remember hidden steps (Recognition Rather than Recall), and whether experienced users can complete tasks efficiently without excessive steps (Flexibility and Efficiency of Use). Participants will document observed issues, specify which heuristic is violated, and provide a severity rating for each

problem. These insights will help identify core usability flaws and inform the redesign of the Excel mobile interface.

3 NEEDFINDING RESULTS

3.1 Survey Results

3.2 Heuristic Evaluation Results