Electric vehicle sharing service

Redesign of the GoodMoovs UX and UI & Building an online community

GoodMoovs.com

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Summary

This research aims to identify and redesign aspects of the current GoodMoovs app. The goal of this proposed redesign is to improve the experience of the user while using the app, to promote an online community that stimulates and helps the users, and to lower the amount of calls to customer service center of GoodMoovs.

During the first phase, we found problems related to the app by conducting a literature review, analyses, and expert interviews. We expected to find problem areas within the GoodMoovs app, problem areas for the users within the process of the GoodMoovs service, and to gather different opinions from stakeholders about the current app and experience of the users. We substitute the feedback from GM users for stakeholders of GM, per GoodMoovs wishes. These stakeholders provided their knowledge of their users to provide feedback on the current GM app, their users' wishes. During these interviews, we found GoodMoovs' focus was the technical functioning of the app and they took limited time to focus on the user experience and user interface. Therefore, it was important to reflect on the app and the troubles the users have while using the GoodMoovs service. We did this by collecting literature about effective UI and UX design. Through literature about effective UI and UX, we accumulated design guidelines that improve both these aspects within an app. The focus of these design guidelines was consistency, to reduce the memory load, and to engineer for errors. The design guidelines pointed out weak aspects in the GoodMoovs app or showed aspects that were not included in the current GoodMoovs app. Besides looking at the app to find problem areas, we wanted to find problems users were having that should be incorporated in the app. We looked at the call log of the GM customer service and interviewed a customer service employee. Combining all this information, we could start to create an objective for a solution in phase 2.

In phase 2, firstly we accumulate instruction design guidelines from literature to create instructions in the GM app. Secondly, we investigated the tasks the user needs to perform and the functionalities the GM app requires in a functional- and task analysis. This provided the opportunity to investigate limitations regarding the experience. Based on this analysis and the previous phase, we created the requirements that needed to be incorporated in this redesign. We divided these into must haves, should haves, could haves, and will not have this time, according to the MOSCOW method (Agile Business Consortium, n.d.). While creating designs in phase 3 and creating the prototype in phase 4, the must haves and should haves were the most important requirements to incorporate.

The next phase, phase 3, focused on the design and development of conceptual designs for the UX/UI and the community. Through ideation and iteration, we created concepts to present to the stakeholders of GM. Based on their feedback and the requirements as validation, these concepts will be worked out in a prototype to create a detailed design. The feedback and requirements showed weak points in the designs that needed to be improved in the prototype.

Phase 4 was to demonstrate the proposed redesign and its function was to show and simulate the experience of the user. Therefore, it was an interactive prototype. The prototype incorporated the new design of GM. The prototype was evaluated in phase 5, this evaluation was done with the stakeholders again and the requirements. Phase 5 was to look critically at the prototype and find weak points. Since we have gathered knowledge regarding UX/UI design, we also took a critical look to find more weak points besides those the stakeholders and requirements pointed out. Reflecting

on phase 5, the stakeholders had limited time to try out the prototype. They had about an afternoon to try it out. In hindsight, this should have been longer so they could review it more in-depth. We did mention the stakeholders could sent feedback after the feedback session in case they thought of more feedback. During the session, we followed the assignment to go through the prototype. A counterargument to this, the assignment was a little unclear, so the stakeholders might have misunderstood a step.

Any weak points related to this design were incorporated in the recommendations that were mentioned in phase 6. Lastly, in phase 7 we answered our main research question.

The outcome of this bachelor assignment is a research of problems related to the GM service, effective UX and UI design, building a community, and a prototype to show the experience of the improved aspects of the GM app.

Introduction

Smartphones are unthinkable in our society. There are over 2.7 billion smartphone users across the world (Blair, 2020). We use them to call, text, and even more functions with different apps. In 2020, the Apple app store has 2.2 million apps available, while the Google Play Store has 2.8 million apps. Additionally, we downloaded 205 billion apps worldwide (Blair, 2020). We can assume, according to those numbers, that most of us have apps on our smartphones. Probably multiple different apps and we even downloaded and deleted some more. We could have deleted these because they were no longer useful, they required in-app payments that we did not want, or they could have been too complex and difficult to use. How come there are certain apps where we instantly understand their functions? How come with others, it feels like a maze to figure out how to achieve certain goals? While using an app, we have a goal to use that app and an experience while trying to achieve that goal. If an app is well designed, we can reach our goal as fast and easily as possible because its user interface guides us to our goal. This assignment will look into the user experience and user interface of the GoodMoovs app.

GoodMoovs is a company that created a service for its users to share electrical vehicles. This service is accessible as an app for Android and iPhone, and a web version. Their goal with this service is to speed up the transition to fossil-free mobility by encouraging the use of electric shared vehicles. GoodMoovs currently has 205 electric shared cars and 75 shared e-bikes at 40 locations throughout the Netherlands. Their service is also internationally available in Belgium, Germany, and the United Kingdom. The GoodMoovs sharing platform, app, and web version, allow the user reserve, access, and return these e-vehicles. The user is can use their smartphone and the GoodMoovs app to open and close the e-vehicles. GoodMoovs does not own these vehicles, but users can connect their e-vehicles to share them with other users. If issues occur during a reservation, the user can call the 24/7 help desk and GoodMoovs will provide support.

GoodMoovs is a growing company, new users are joining as a member every day. During these reservations, issues can occur. These issues can be related to the app or issues outside of the app. GoodMoovs provides a 24/7 help desk to assist users when problems occur. Their main goal while creating the app and the web version was for the technical functionalities to work. GoodMoovs has paid limited attention to the user experience and the user interface. Since, they are growing relatively quickly, GoodMoovs wants to focus on these two aspects of their app. Additionally, to provide solutions to problems related to the GoodMoovs service through the app. GoodMoovs wants to improve the app to solve issues, but also provide users with an online community where users can contact each other regarding issues. Therefore, the main objective of this research is the following:
The aim of this assignment is twofold. Firstly, to propose an effective[1] redesign of the GoodMoovs (GM) User Interface (UI) and User eXperience (UX) by including features that help both to reduce the need of direct support from the service center and to enable users to get in contact with a community that stimulates users into more usage and excitement of the GoodMoovs services while supporting each other in solving problems related to the GM service.

[1] An effective redesign would: 1) increase the number of issues that can be directly solved through the app and/or, 2) reduce the number of support calls that the service center receives; and 3) facilitate the communication between GM users.

Research Methodology

The research type of this assignment is a qualitative research. We will use qualitative research because we want to understand concepts and collect in-depth insights on topics that are not well understood (Streefkerk, 2020). In this case, we want to understand more about the concepts of UX, UI design and building a community to apply these insights to the redesign of the GM app. To achieve the objectives of this assignment, the following main research question has been defined:

What would be an effective redesign of the GoodMoovs app regarding the UX and UI design, and a redesign that promotes the foundation of a users' community?

The phases used in this research methodology are based on *A Design Research methodology for Information Systems Research* (Peffers, Tuunanen, Rothenberger, & Chatterjee, 2007). These phases include central questions with sub questions underneath to help gather information needed in the subsequent phases. And in the end, to answer the main research question of this research.

The introduction mentions GM has bicycles and cars available of rent. In this research, we focus on the service GM provides with regards to cars. We acknowledge GM also rents bicycles, but we assume the service is similar. Additionally, GM does not solely have an app, they also have a portal. During this research, our focus is the app. However, we acknowledge there is a portal too and provide a mock-up for the portal regarding our redesign too.

Phase 1 Problem identification

Phase 1 focuses on the definition of an effective UI/UX design and a community platform. This definition translates into design guidelines. The design guidelines form the basis, these will help to recognize problems within the current GoodMoovs app. This phase establishes the problem this research wants to solve. Using the guidelines previously mentioned, we will review the GoodMoovs app. We will also look at what problems users need to call customer service. The goal for analysis of the GM customer service is to see what problems currently solved by the customer service could later be solved in the app by the users.

Phase one will focus on answering these central questions and sub-questions:

1. What design guidelines are relevant for the effective redesign of UX and UI design?
   - 1.1 What is the definition of an effective UI design and UX design?
   - 1.2 What criteria can be derived from theories on effective UI design and UX design?
   - 1.3 Which aspects of the design guidelines are currently not included in the GoodMoovs app?

2. From the users' perspective, what aspects are relevant for the effective redesign of the GoodMoovs app?
   - 2.1 Who are the current users of the GoodMoovs app?
   - 2.2 What do users find frustrating and helpful when using the current GoodMoovs app?
   - 2.3 What addition/feature do users lack in the GoodMoovs app?

3. What aspects are relevant for the effective introduction of a community platform to challenge/stimulate users of the GoodMoovs's community?
   - 3.1 What kind of behavior changes should the community platform induce?

3.2 What techniques are used to stimulate users within an online community?

4. From the company's perspective, what aspects are relevant for the effective redesign of the GoodMoovs app with regards to the construction of a community platform?
   4.1 What are the wishes within the GoodMoovs company for a community platform?
   4.2 What kind of user does GoodMoovs want to attract to such a community?
   4.3 What kind of contact does GoodMoovs want in a community platform?

5. What are problems involving the current design of the GoodMoovs app when compared to the calls received by the service center?
   5.1 What are problems that cause users to call customer service and which of these problems can the user solve themselves?
   5.2 What methods are used by the service center employee to solve the problems in these calls?
   5.3 What are criteria to categorize a problem from easy to difficult?
   5.4 What are wishes and needs of a service center employee with regards to a redesign of the GM app that would reduce the number of support calls they receive?

Phase 2 Define objectives for a solution

Phase 2 has the goal to define objectives for a solution. Phase 1 was about determining what the problem was and in phase 2, we will look at the options to improve the user experience by adding new features to the GM app. Additionally, we look at the requirements that will help us review future designs based on its effectiveness.

Phase 2 will focus on answering these central questions and sub-questions:

6. What are additional functions in the GM app that improve the user experience based on the current tasks within the GM app?
   6.1 What are the tasks in the GM app while using the GM service?
   6.2 What functions does the GM app have?
   6.3 What functions can be added to the GM app to improve the user experience?

7. What are requirements that help solve the problems identified in phase 1?
   7.1 What are requirements based on the design guidelines of effective UI/UX design?
   7.2 What are requirements based on the experience of the current users?
   7.3 What are requirements based on the literature review to challenge and/or stimulate users in a community platform?
   7.4 What are requirements based on GoodMoovs' design guidelines for a community platform?

Phase 3 Design and development

Phase 3 is about the design and development of the UX/UI conceptual designs, and the community platform conceptual designs. Using the problems of the GM app, the requirements and the additional features, these conceptual designs can be created. After creating these concepts, they will be validated by comparing them to the requirements. Based on this validation, the concepts will possibly be combined and turned into the detailed design.

8. What aspects of the conceptual designs need to be changed?
   8.1 To what extent do the concepts meet the requirements?

8.2 What are the opinions of stakeholders about the changed design?
8.3 What requirements should change to provide a better redesign?

Phase 4 Demonstration

Phase 4 concerns creating a prototype. This will be a static prototype that solves one or more instances of the problem. This prototype will consider the new design style created by GoodMoovs to create a fitting prototype for GoodMoovs' style. It is good to create this prototype in the most realistic sense; this will help to test the prototype later for its usefulness.

Phase 5 Evaluation

During phase 5 an evaluation of the prototype will be conducted. This evaluation shows what parts of the prototype work, or which parts of these designs are not functional. Additionally, in this phase it is important to review what requirements are not included into the design yet. We will use some of the GM stakeholders, the requirements, and our knowledge to evaluate prototype.

Phase 6 Recommendations

Compiling all the knowledge gathered in the previous phases provides recommendations for further development and implementation of the final design.

Phase 7 Conclusion

Phase seven will discuss the main research question, answer it, and reflect on what could be improved during the design process.

The above mentioned central and sub-questions will be answered through the following methods. Each method will be used for specific questions, as indicated at the end of each point.

I. Literature review: literature review will help to provide the knowledge needed to create the design guidelines. Using literature review will make sure the knowledge behind the design guidelines is correct and accurate. This method is used to give answer to RQs: 1.1, 1.2, 1.3, 3.2.

II. GoodMoovs app analysis: using the design guidelines to see which aspects are included, this is useful to determine what parts need to be included in the redesign. This method is used to give answer to RQ 1.3.

III. Target group analysis: the target group analysis looks at the type of users of the GoodMoovs app. This is useful to consider the limitations or opportunities these users have with regards to, for example, age. This method is used to give answer to RQ 2.1.

IV. Expert interview with the client: the goal of this interview is to create a well-defined preferred outcome of the redesign. If the literature review of the documents from GM requires more specific information, then an expert interview will provide more specific information. This method will be used to gather more in-depth information on RQs: 2.2, 2.3, 3.1, 4.1, 4.2, 4.3.
Expert interview with a customer service employee: this interview will provide insight in the usual methods they use to solve a problem during a call. They will also provide documents that help customer service employees during a call, this will provide a clearer overview of how certain problems are solved. This method is used to give answer to RQs: 5.2, 5.3, 5.4.

Expert interview with the stakeholders: we discuss the designs with important stakeholders e.g. the CEO, the developers or the customer service employees to see what design they prefer. This will be used to select the conceptual designs or parts of them to turn into the detailed deigns, but also to evaluate the detailed design. This method is used to give answer to RQs: 8.2.

V. Desk research: desk research will be done on an arbitrary number of calls to find knowledge on which problems customer service employees deal with and how to categorize problems from easy to difficult. Creating this overview will help to determine what problems are feasible for users to solve by themselves when a suitable feature is included in the app. This method is used to give answer to RQ 5.1.

VI. Functional- and task analysis: this analysis will investigate the tasks of the user while using the GM service, the app's necessary functions, and what improvements can be made in the current app by adding additional features. This analysis looks at the main goal of the user, the sub-goal, tasks, sub-tasks, and functions of the GM app. This method is used to give answer to RQ 6.1, 6.2, 6.3.

VII. Requirement analysis: we use the design guidelines, the problems found in phase 1, and the functional- and task analysis to create a set of requirements. We use these requirements to review our design solutions for our research objectives, this will be done with our concepts and our prototype. This method is used to give answer to RQs: 7.1, 7.2, 7.3, 7.4, 8.1, 8.3.