

Microinteractions in AR applications

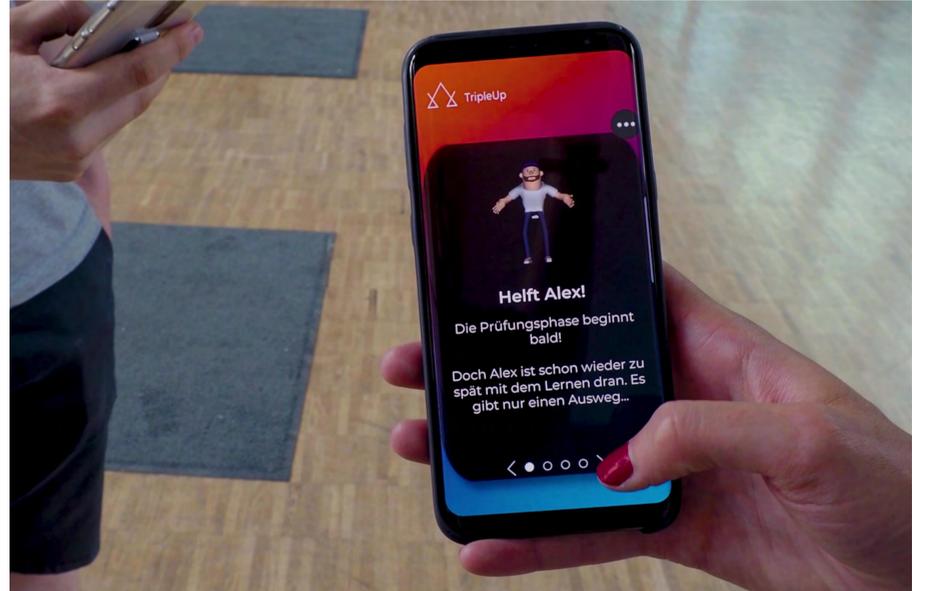
- Using the example of the multiplayer AR game TripleUp

Abstract

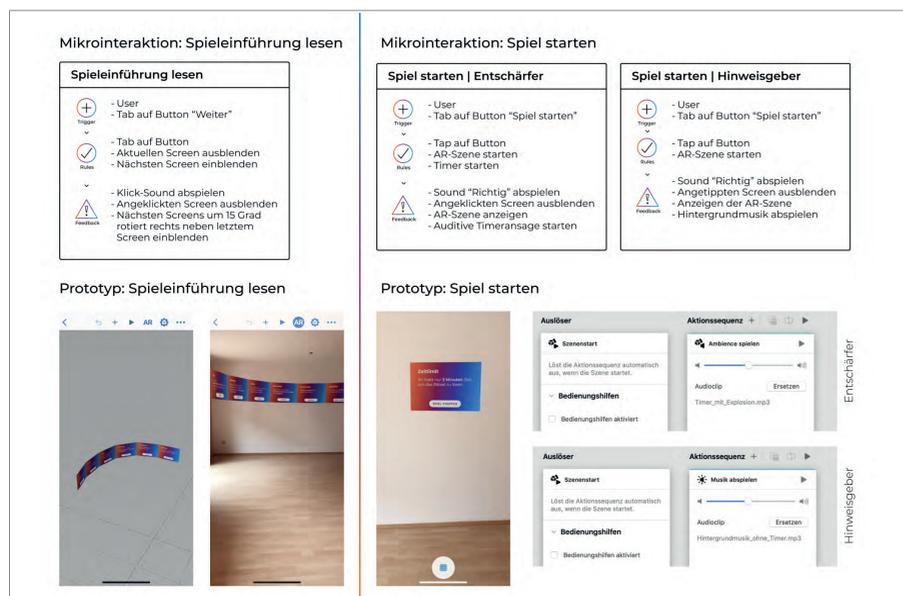
Augmented reality technology, or AR for short, has been gaining more and more attention in recent years in various fields, such as education, entertainment and marketing. However, many consumers have little or no experience using AR environments, which can make it difficult to interact and operate in AR apps. While user interface standards have evolved over time for websites and apps in 2D space, there are no established design and operating conventions in the AR space yet.

Therefore, to avoid comprehension and operation problems, it is useful to examine the interaction points within the AR application in detail. These individual interactions are called microinteractions. Through the exemplary study of microinteractions in the multiplayer AR game TripleUp, which was developed in the master project, it is discussed the ways in which microinteractions can facilitate entry into the new interaction environment.

Using the user-centric Lean UX method, the interaction points in the AR app TripleUp are revised using prototypes in two iterations. Finally, based on the findings, basic principles for the design of microinteractions in AR are derived.



First prototype of the multiplayer AR game TripleUp, created in the master project



Examples of designed microinteractions and prototypical implementation

Special Focus

The aim of the work is to demonstrate, using the example of the multiplayer AR game TripleUp, to what extent the entry and execution of tasks in AR can be improved by the user-centered conception of the microinteractions.

In this context, it is investigated which design principles are used in the area of augmented reality and how comparable AR apps solve user interaction. Research on the topic of microinteractions determines how microinteractions are to be identified and designed within the AR app TripleUp. The analysis of the context of use and the target group reveal the problems and needs of the users. In order to identify the microinteractions and the associated problems in the prototype TripleUp, the existing user tests are analyzed.

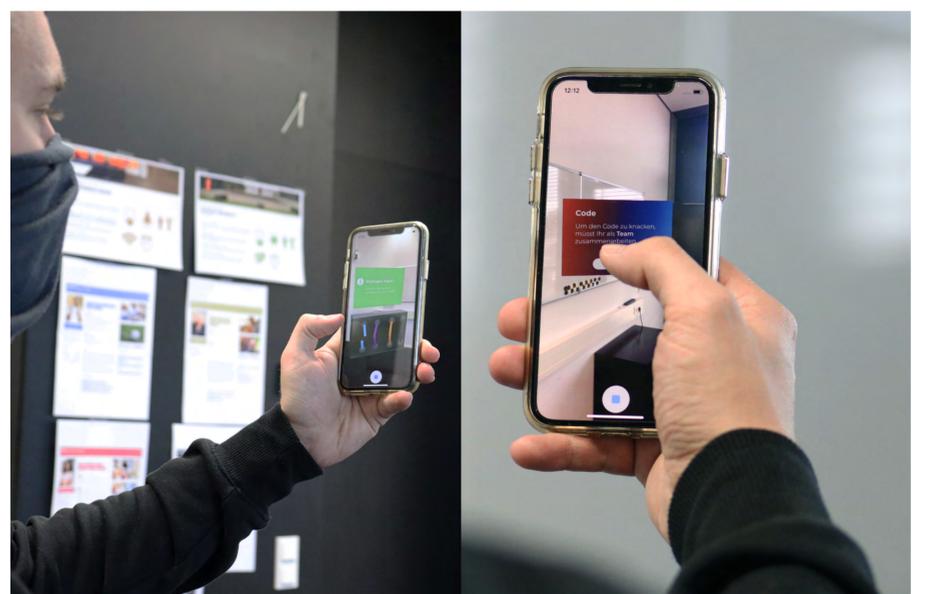
The iterative development of the AR prototype is validated by usability tests. The exemplary interaction concept is then used to derive general principles for the conception of microinteractions in AR applications.

Result and Future Work

The design of microinteractions in AR applications has a strong impact on user experience and usability. Microinteractions can be especially supportive when navigating and interacting in AR space. Thus, getting started with AR can be made easier through well-designed microinteractions, especially for users with no prior experience.

The design of microinteractions in AR is about giving feedback to the user and thus avoiding errors on the part of the user. In order to achieve this goal, three factors were identified which are important in the design of microinteractions in augmented reality. In order to positively influence the user experience in augmented reality, functionality, comprehensibility and operability should always be in focus when designing microinteractions.

The research findings are to be seen as the first basis. The work offers UX designers and AR developers initial approaches for the conception of microinteractions within an AR application. Future work can quantitatively validate the practices and results in AR application from other areas.



Usability testing of the second prototype



**Hochschule
Augsburg** University of
Applied Sciences

Contact

jennifersalgut27@hotmail.de

Supervisor

Prof. KP Ludwig John

