

# Fitness Gamification

## Gamifying Physical Exercise using a Mobile Application

### Graduate



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**Initial Situation:** In today's world, gamification is used and implemented in more and more aspects of daily life. The purpose of gamification is to motivate users to do certain things. Another growing market is physical exercise, especially with young people. An increasing amount of people are trying to do more physical exercise. Everyone agrees that physical exercise is the key to a healthy life, but the main problem is that people often need more motivation. So we see massive potential in solutions that address this problem. A potential solution to motivate people to do more sports is a platform that gamifies physical exercise and makes it a fun, competitive game that can be played between friends and other users. The need for physical exercise and the motivation to do it will draw people to platforms and solutions like this.

**Objective:** With this project, we aim to build a platform mobile app of this type. The main goal is to create an initial version of such a platform. That means we want to create an app that allows users to challenge their friends and other users to do physical exercises. We will implement various gamification aspects, such as allowing users to achieve milestones, track their data, and display that to other users. We plan to use a "turn-based" approach for the challenges, allowing users to play with users in an "async" fashion. That means participants can be online at different times.

**Conclusion:** In this project, we created a prototype for a mobile app that gamifies physical exercise. We created this mobile App using React Native and Expo in our Frontend and Firebase as our Backend. Our App allows users to create an account using their phone number and challenge anyone in their contact list or a random user. The user can select the challenge type and duration one has to perform in the challenge. Challenges then get completed in a turn-based fashion. A user performs a challenge, and it gets sent to his opponent. The opponent can then perform, and it will get sent back. This goes back and forth until one user cannot beat the other user's score. We will track various statistics for the user, which will be displayed in his profile and displayed to other users to generate a more competitive and gamified environment. We implemented one challenge type for this initial version, "Pull-ups." In the future, this should be extended to allow the user to perform various challenges and can generally be expanded upon due to the modularity we considered while implementing it.

### Advisor

Prof. Frank Koch

### Co-Examiner

Prof. Hansjörg Huser,  
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### Subject Area

Software, Application  
Design, Miscellaneous

### Project Partner

AdaptIT GmbH, St.  
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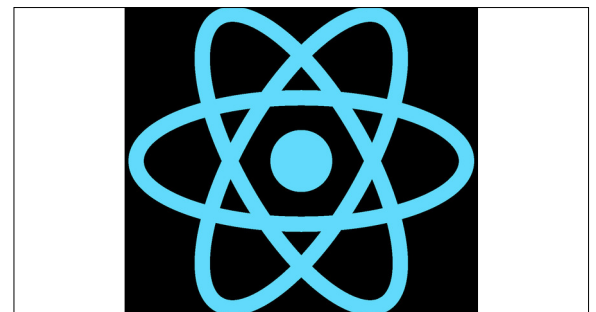
### Firebase

<https://firebase.google.com/images/social.png>



### React Native

<https://shorturl.at/coyBI>



### User Profile Screen

Own presentment

