

# Virtual Outdoors Treadmill Experience

The project offers an innovative Virtual Reality (VR) treadmill application, enhancing indoor running experiences by simulating diverse outdoor environments. It integrates advanced technology with fitness, offering users an immersive and cost-effective alternative to traditional outdoor marathons. The app, compatible with 8D treadmills and VR glasses, features customizable running scenarios, real-time statistics, and interactive interface elements, tailored to suit various fitness levels and preferences.

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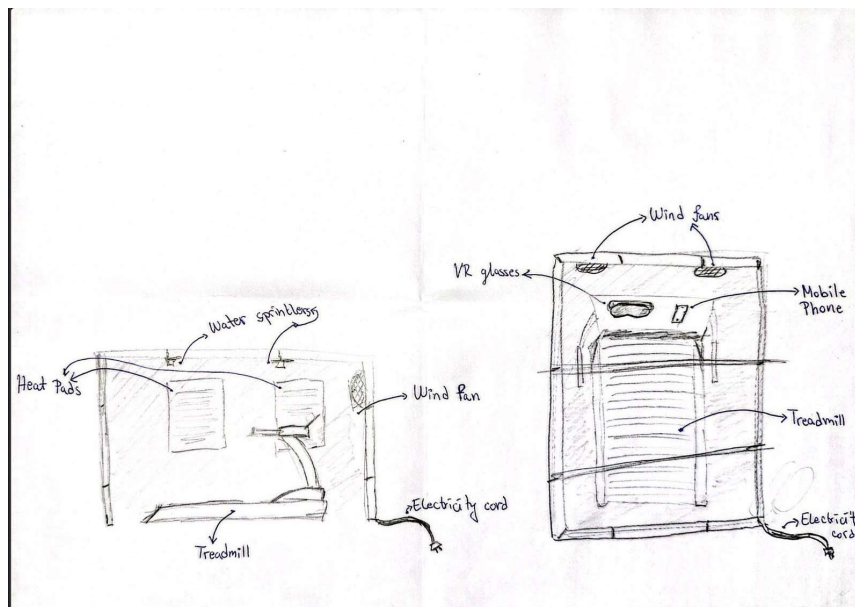
Anastasija Temova (Prototype Designer)

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Vuk Mičić (Video Designer)

## Problem and Solution Overview

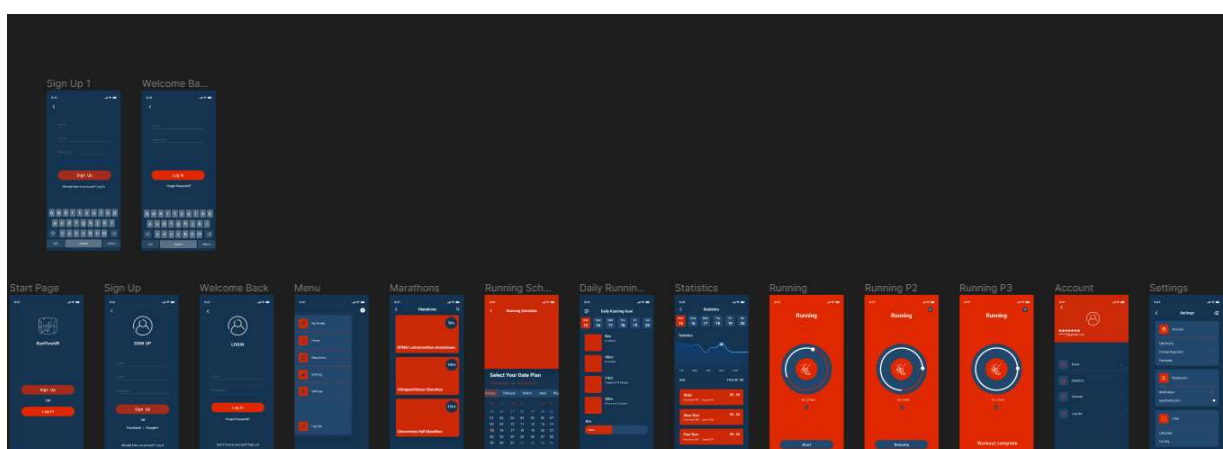
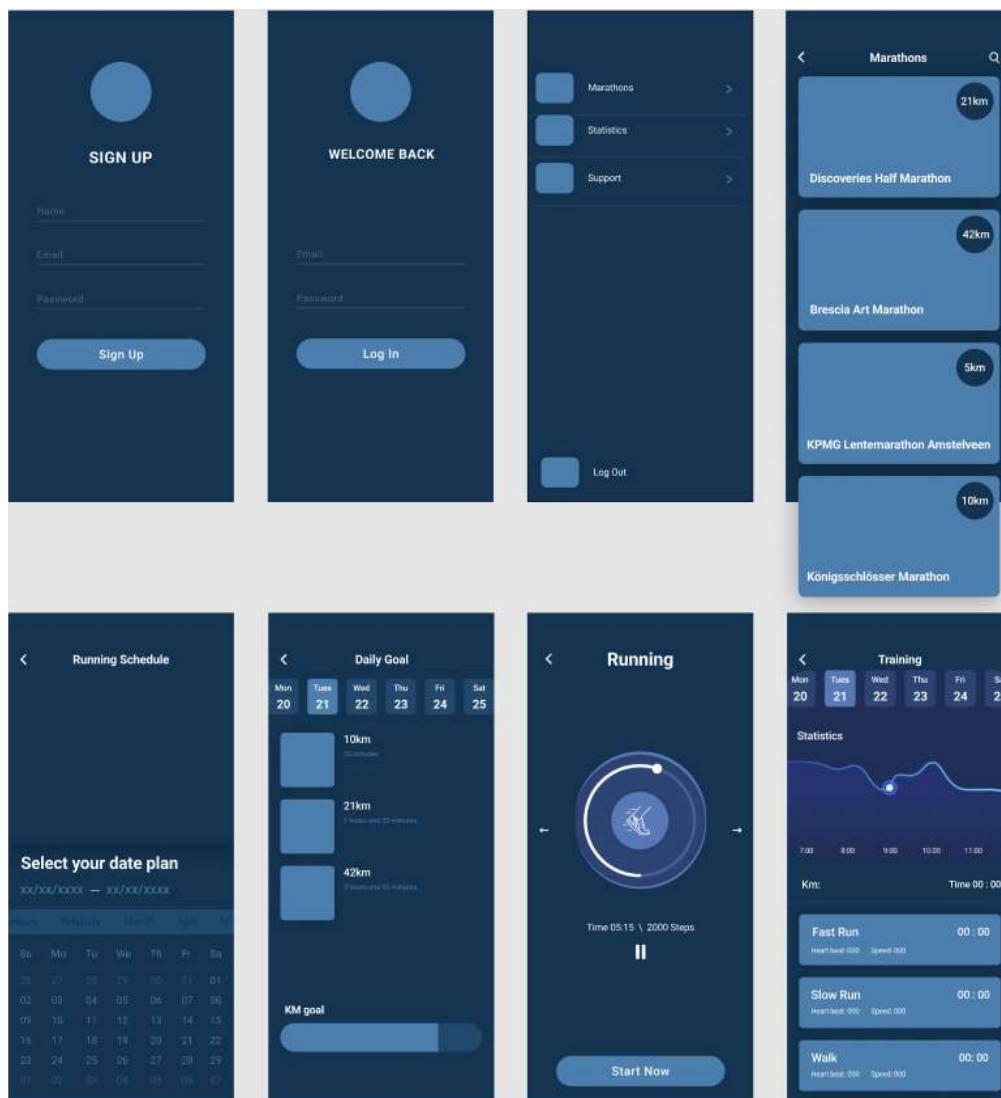
For our project, we've found a significant challenge. Nowadays, many people and runners find it difficult to join marathons because they can be expensive, and even if the marathon itself is not costly, the travel expenses to reach the desired location often become a significant barrier. Introducing an innovative app that works seamlessly with advanced 8D treadmills and virtual reality glasses, transforming the marathon experience. This solution aims to remove financial obstacles, offering a more immersive and affordable alternative.



## Tasks and Final Interface Scenarios

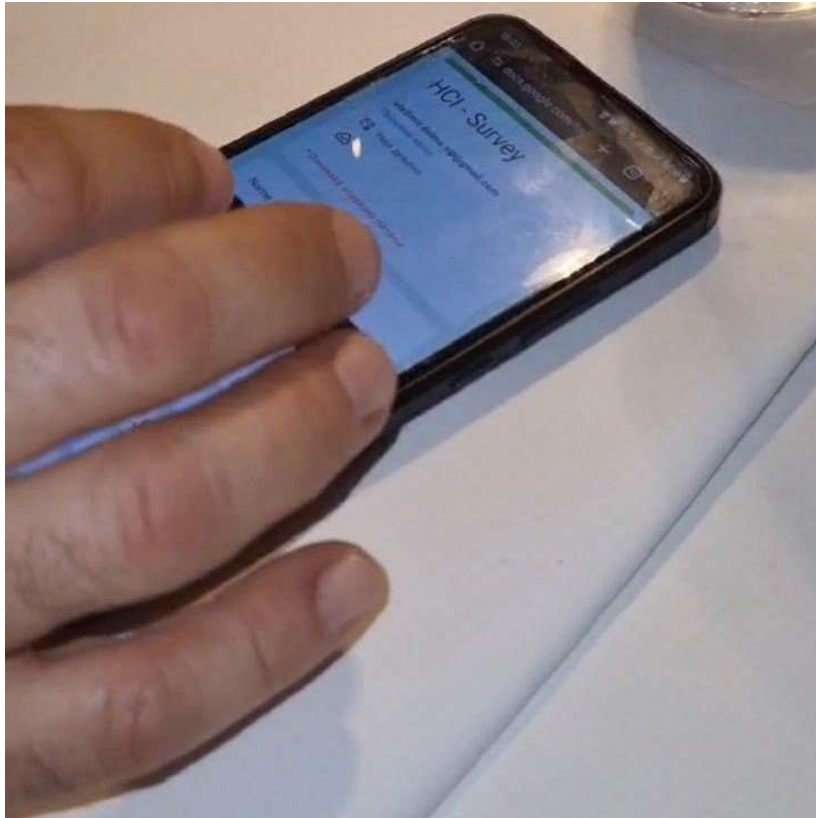
1. **Start Page:** This is the initial screen where users can choose to either log in or sign up.
2. **Sign Up & Welcome Back:** These screens require user input for creating an account or logging in.
3. **Menu:** This screen offers navigation options within the app.
4. **Marathons & Running Schedule:** These screens involve choosing specific plans or events, adding another layer of decision-making complexity.
5. **Daily Running & Statistics:** These screens require understanding and interpretation of data.
6. **Running P1, P2, P3:** These screens show real-time running data.
7. **Account & Settings:** These are the most complex tasks as users can customize their profiles and app settings. They require managing user preferences, providing various customization options, and ensuring changes are reflected throughout the app.

# Design Evolution



## Studies and Major Usability Problems Addressed

In our quest to refine the VR treadmill outdoor experience application, two distinct phases of user testing were conducted. The initial phase involved an insightful online survey targeting individuals aged 30 to 50 years old. This survey provided valuable insights into user preferences for challenging running conditions and paths. Noteworthy findings indicated a preference for mountain trails and hot, sunny weather among participants, setting the foundation for subsequent design considerations.

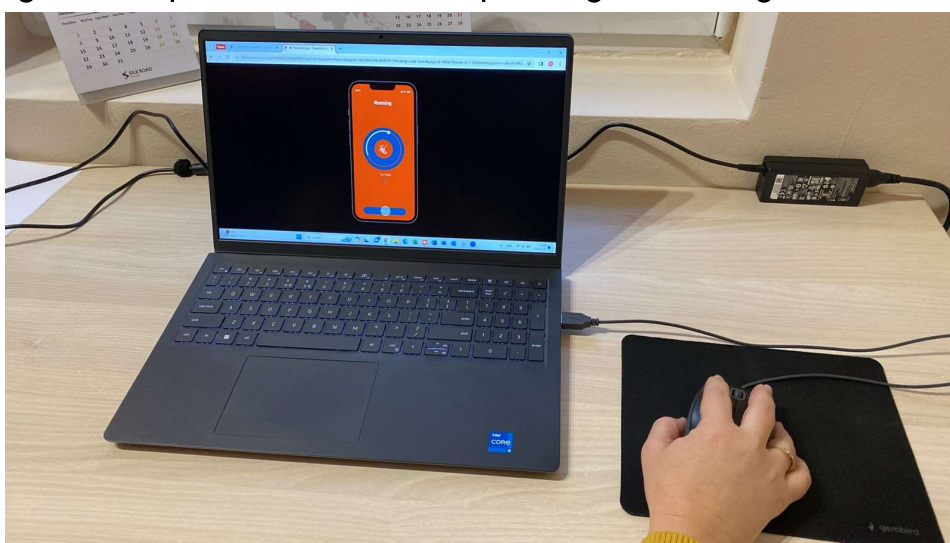


Building upon these insights, the interface testing phase aimed to gather user feedback for iterative improvements. Users appreciated the map feature, acknowledging its contribution to improved orientation within the app. Furthermore, the application's language, characterized by familiar running terminology such as marathons, running schedules, and training, resonated well with the target audience, establishing a seamless connection between the system and the real-world experiences of runners.

Despite positive feedback, user concerns were identified and meticulously addressed. Navigation challenges emerged as users expressed ambiguity about the back button's functionality and uncertainties regarding progress saving. In response, the interface underwent revisions to provide clearer instructions and ensure progress is saved appropriately, enhancing the overall user experience.

Consistency in design elements was a paramount focus. Feedback highlighted inconsistencies in date formats and unit measurements across different screens. In response, the design was refined to adopt the Fri 24 date format uniformly, addressing user concerns and streamlining the interface. Additionally, unit consistency was achieved by retaining only kilometers for both daily goals and running, fostering a more cohesive and user-friendly design.

The positive feedback on error prevention strategies prompted the retention of touch-click interactions, minimizing text entry points and reducing the likelihood of user errors. User suggestions played a pivotal role in shaping the application's features, leading to the introduction of shortcuts for impromptu running sessions and predefined programs. The calendar was also emphasized as a central reference point for daily goals, catering to user preferences for simplified goal management.



Addressing aesthetic concerns, design refinement efforts sought to introduce a more minimalistic and visually appealing interface. An account page and settings page were added based on user needs, providing users with a holistic view of their statistics, logged videos, and customization options for notifications, language, and other preferences.

Acknowledging the importance of user guidance, efforts were made to enhance the application's explanatory elements. This included the addition of error messages and clarifications on the y-axis values in the statistical graph, ensuring users have a comprehensive understanding of the displayed data.

In conclusion, the iterative development process, driven by user feedback, has significantly enhanced the VR treadmill outdoor experience application. The incorporation of user insights has resulted in a more engaging, user-friendly, and effective interface, emphasizing our commitment to continuous refinement for optimal usability and user satisfaction.

# Prototype Implementation

## Tools

In the construction of our project prototype we used Figma as our primary tool. Its comprehensive suite of design and prototyping capabilities enabled us to meticulously craft interface elements and simulate user interactions. Real-time collaboration within Figma was especially beneficial, allowing us to work simultaneously, ensuring consistent design evolution and facilitating immediate feedback integration.

While Figma excelled in most aspects, we encountered challenges with complex user flow interactions. Specifically, the tool's limitations became evident when we attempted to connect multiple pages through a singular interactive element. This led to a less intuitive flow, necessitating a restructuring into new groups to ensure smooth prototype functionality.

To overcome this, we reorganized the navigation flow into separate groups, allowing for clarity and uninterrupted prototype operation. Although this workaround was effective, it highlighted Figma's limitations in handling intricate navigational structures, pointing towards areas for potential enhancement in the tool's future iterations.

In advancing the project, Figma's utility was undisputed, particularly for the interactive and collaborative aspects of design. However, when it came to representing multifaceted navigational paths, the tool's constraints became apparent. Our team innovatively circumvented these challenges by segmenting the user flows into distinct groups. This strategy effectively smoothed out the user experience but also shed light on areas where Figma could evolve. As we progress, we are considering the exploration of additional features or auxiliary tools that could provide more sophisticated management of complex user flows to refine the interactivity of our prototype.



## **Wizard of Oz**

In creating our treadmill VR setup, we used the Wizard of Oz technique to make the experience feel real. This meant using VR headsets and fans without having everything automated just yet. It's like pretending to be the great and powerful Oz when really, it's us pulling the levers. This approach let us see how people would react to a breezy run through a virtual forest, even though we were the ones controlling the wind.

We had to be pretty sneaky with the fans, turning them on and off to match the VR scenes, like a gusty mountain pass or a calm beach jog. This helped us figure out if the whole wind-in-your-face thing made the VR treadmill more fun.

## **Future plans**

Future updates might include customizable features to let users tailor their workouts and social sharing to boost motivation and engagement. Tweaking the settings to give users more control and syncing up with fitness wearables could also give users a more rounded and personal experience.

## Summary

In this report, we explored the development and refinement of a groundbreaking Virtual Reality (VR) treadmill application, designed to enhance the indoor running experience by simulating outdoor environments. The project, spearheaded by Djordje Banovčanin, Rastko Petrovič, Anastasija Temova, and Vuk Mičić, tackled the challenge of making marathons more accessible and affordable. Through two phases of user testing, the team gained valuable insights into user preferences and usability concerns, leading to iterative improvements in the app's interface and functionality. Utilizing Figma for prototype development, we overcame challenges in complex user flow interactions, while the Wizard of Oz technique provided real-time feedback on the immersive experience. Future updates anticipate integrating customizable features and fitness wearable compatibility, aiming to further personalize and enhance the user experience. This VR treadmill app stands out as a pioneering solution in the fitness industry, promising a more engaging and versatile approach to indoor running.