Team Progress Report #2

Team Name: zenscape

Team Members: Bryce Olivier, Harrison Juneau, Madelyn Zambiasi, Preston Schnell, Sadie Forbes, Zavien Kellum

Project Goal:

Help users train to improve task management through managing tasks that induce cognitive load and problem solving while experiencing varying levels of sensory distractions.

Implementation Vehicle:

Our implementation vehicles have remained the same. Our implementation vehicle consists of two parts: Virtual Reality and Physical Computing. We are using Unity to develop the Virtual Reality Experience, and we are using Arduino with a Pulse Sensor to develop the physical computing aspect.

MVP and User Experience:

For our MVP, our idea has evolved. We have introduced a narrative aspect into our game, where the user is an intern at a company called ZenScape. The choice of environment is expanded upon later in the document. The user is presented with various office tasks to complete as their job. Their task performance, efficiency, and heart rate is monitored. We aim to have three environments, which we will call "days" for our intern, and five different tasks within these three environments. At the end of each day, the user will be provided with detailed feedback about how they performed. Now, we can expand upon what the experience will look like from our user's eyes.

Upon entering Zenscape, the user will encounter a loading screen. Since this is an MVP, we will assume that each time playing will be the user's first time. This is important because we need to record baseline measurements of their heart rate in order to compare it to their heart rate once they start playing through the experience. If this was a full experience, then the user's baseline heart rate would be recorded and saved. After taking the baseline measurement, the game will begin. The user will find themself at a desk in an office where they can fully turn around in an immersive environment. As of now, the plan is to keep the user stationary and have the entirety of the gameplay happen at the desk. An intercom and visual indicators will be used in the game to alert the user on what tasks (which are listed later in the report) need to be completed. The user will then try to complete these tasks within an allotted amount of time. The user will also be distracted by events in the game to make it harder to focus on the tasks. These distractions will be things such as a mosquito buzzing, the lights flickering, or even an earthquake. The user will be able to see an indicator of how fast or slow their heart rate is while playing the game on an HUD or a screen in the room. The user will make it through each level while trying to maintain their stress levels and complete their tasks effectively and efficiently. At the end of the experience, the user will be provided with detailed feedback about how they

performed. This feedback will contain their heart rate and stats for how well they performed on certain tasks as well as how unwell they performed when faced with certain distractions. This way they can learn what they struggle with and aim to improve the next time they play.

Environment Choice:

Our decision to implement Zenscape in an office environment has multiple justifications. We believe that this environment best serves our goal from both a logical and artistic perspective.

Logically, an office environment is ideal because of its real-world relevance. By choosing an environment that many are familiar with, we can create a comfortable context for users. Also, offices are work environments that offer a wide range of tasks. Multitasking and cognitive challenges are common in office settings, which aligns with our goal. Next, offices are filled with sensory distractions we can use such as background noise, conversations, and visual stimuli like screens and office equipment. Finally, since we are on a tight timeline, this environment should be effective but achievable. While the tasks and distractions that can occur in an office are wide-ranging, the structure of the environment is relatively static and controlled, making it easier to accurately represent. We believe it's the perfect controlled environment for our timeline.

Artistically, we want an experience that goes beyond a traditional office simulation. We believe that if leveraged correctly, Zenscape can include thought-provoking commentary on the modern work environment. The name suggests a utopian and calming workspace, aligning with corporate wellness ideals. However, the irony lies in placing users in a multitasking office setting, highlighting the contrast between claimed wellness priorities and potential workplace stress. Including subtle humor and commentary into gameplay enhances user engagement, ensuring active participation and immersion. We think this increased engagement ensures that users are actively participating in the game, immersing themselves in the experience, and therefore enhancing the effectiveness of the cognitive tasks and challenges. We hope that introducing thought-provoking elements into the game can help players internalize the insights and skills gained in the VR experience. We want the impressions of the game to extend beyond the virtual environment, supporting our goal of creating an experience that is immersive and effective.

Tasks:

For our tasks, we plan to have approximately five total for the MVP. Our tasks will consist of small memory challenges as well as sorting and organizing tasks. Below, we elaborate on three of these tasks.

Our first task that we plan on implementing is a sorting task that will include a stack of files. These files will have to be sorted through; each file will either say "approved" and the user

has to file them in the correct location, or the files may say “declined” and will have to be disposed of by shredding them.

For our next task, we will implement a memory challenge where the user has to fill up their coffee mug. Once this mug is full, it will be too hot for the user to drink and will be penalized if they drink the coffee while it’s still too hot. If the coffee is too cold when they drink from the mug, they will also be penalized and have to pour the coffee out as well as remake a cup. The goal of this task is for the user to find the optimal amount of time to wait for their coffee to be the correct temperature to drink without it being too hot or cold. This task will work well as a time management building task due to the user having to keep the thought of when to drink their coffee in the back of their head while completing other tasks.

Our third task revolves around answering phone calls. Users will receive various calls that need to be redirected to the correct department. Identifying and ending "spam" calls in time is crucial to avoid penalties. For important phone calls, users will use memorized keypad extensions to redirect them promptly. Department extensions may be available on a sticky note in the desk drawer, encouraging users to memorize them for quicker response times.

We have brainstormed additional tasks, which we will have detailed extensively by our midterm report.

Progress Overview:

So far, we have created a virtual reality project in Unity and implemented a player controller. The player controller allows for a virtual reality headset and handheld controllers to be used in the game. We have also designed our 3D office model that we intend to use for the game. Once we transfer the assets to Unity, the model will be completely explorable inside virtual reality. The Arduino and pulse sensor are being configured and once finished will be added to the Unity project through a downloadable Unity library.

Color Palette for ZenScape

This iteration, we designed a color palette and a working logo. It’s designed to complement an office environment without seeming too boring or corporate. Anchored by a beige neutral, the palette introduces a warm peach color to brighten the space. Blues and greens are used to evoke feelings of peace and growth. According to color theory, blues can be calming and relaxing. We used blue as a primary color to create a calming feeling throughout the virtual space, trying to simulate a balance of relaxation and focus.

Overall, our capstone project is progressing well, and we're enthusiastic about future iterations. Using in-class feedback, we've elaborated on task design, environment clarification, and goal summarization and clarity. We aim to create an MVP that effectively aligns with our goal, and we look forward to refining and enhancing Zenscape in the coming phases.