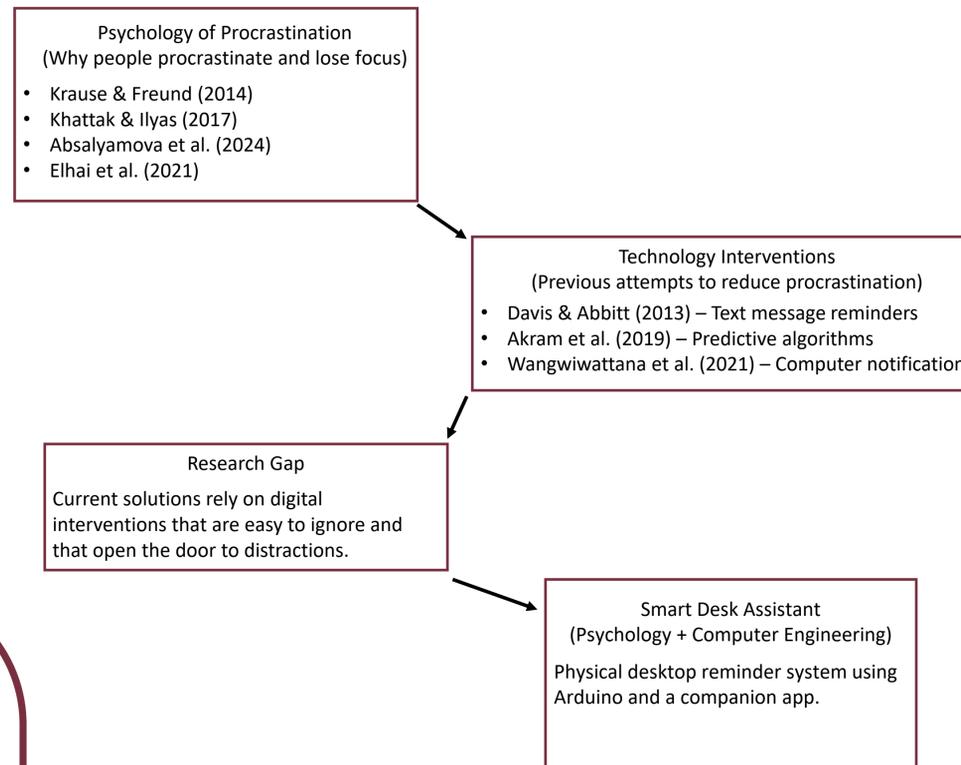


Abstract

Many people have a hard time staying on task when working, whether it be homework, a job, or a simple task around the house. What's more, digital distractions contribute significantly to this problem. Research shows that digital distractions are linked to lower productivity. Previously, engineers have utilized digital reminders to solve this problem. However, these notifications can be easily ignored, and they potentially worsen the problem by opening the door to digital distractions. In addition, there isn't much significant research on combining psychological research with a physical desktop assistant. So, can a smart desk assistant that detects when you get distracted via a companion app help reduce procrastination and distraction by giving you reminders to stay focused? To address this question, I will be building and testing an Arduino powered smart desk assistant. An app for the desktop assistant will also be created to work with the physical robot. The app will detect the user's procrastination and distraction and then send a signal to the robot to remind the user to stay focused. Testing will then determine the effectiveness of the proposed solution. The significance of this study is in the integration of psychology and computer engineering to create a working tool that reduces procrastination and distraction, thus increasing productivity.

Literature Map



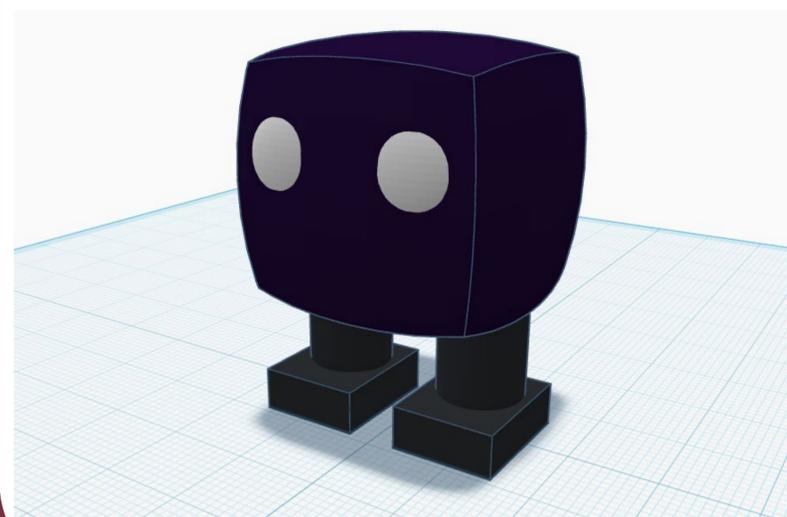
Future Plans

The next step is to fully build and improve the smart desk assistant. The robot will be created using an Arduino with motion, light, and sound sensors to detect when a user gets distracted. The system will be tested and adjusted to make sure it is accurate and does not give too many false alerts. The companion desktop app will also be improved to better track focus and send signals to the robot when distraction is detected. Future testing will include more users and longer study periods to measure how well the device improves focus and productivity. Overall, future work will focus on bringing the robot to life and making it reliable, user-friendly, and effective at reducing procrastination.

Introduction

Many students or engineers lose focus or procrastinate tasks while studying or coding. Digital distractions can lead to procrastination and loss of focus, and with the prevalence of computer-based work environments, this issue only becomes larger. Research shows that productivity is negatively impacted by procrastination and losing focus. It has also been found that the main causes of procrastination are low motivation, low self-esteem, emotional stressors, etc. Furthermore, digital distractions are linked to lower productivity. Previous solutions to the problem include text message reminders, predictive algorithms that use homework submission data, and computer notifications. However, these solutions come with clear gaps and limitations. Text messages open the door to digital distractions, computer notifications go easily dismissed, and predictive algorithms only give us insight into the problem they don't posit an actual solution. Furthermore, there isn't any research on combining psychological research with a physical desktop assistant. This presents a question: Can a smart desk assistant that uses sensors (e.g. motion, light, or sound) to detect when you get distracted help reduce procrastination and distraction by giving you reminders to stay focused? The methodology of addressing this question involves building and testing an Arduino powered smart desk assistant. A companion app for the desktop assistant will also be scripted to function side-by-side with the physical robot. The app will detect the user's procrastination and distraction and then send a signal to the robot to remind the user to stay focused. Testing will then determine the effectiveness of the proposed solution. The significance of this study is in the integration of psychology and computer engineering to create a working tool that reduces procrastination and distraction, thus increasing productivity.

Working Visual



References

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