

## Abstract

Our project involves converting three PowerPoint training presentations on STINFO, No Fears Act, and Records Management into engaging web-based games. Commissioned by Robins Air Force Base, our team utilizes Unity WebGL for game development and React/Firebase for website hosting. The goal is to provide personnel with interactive training modules accessible from their desks, enhancing learning retention and engagement. By gamifying the content, we aim to make learning enjoyable while ensuring critical information retention. This interdisciplinary project merges game development and web technologies to modernize training methods and improve educational outcomes for military personnel.

## Introduction

Robins AFB was interested in training development to improve the yearly training experience for their employees. The current training process involves individual trainers learning the content and rehearsing for a presentation to about 40 employees. After the presentation, the employees go through a supervised quiz. Robins typically hold multiple presentations for each training course every year.

This process can be slow and inconvenient for the employees who are being trained. To tackle this issues, we were tasked with converting the training power points into interactive training sessions hosted on a website that test the user's knowledge. By doing so, we reduce the inconvenience to users who can now learn and take the quiz in their own time at their own computer.

## Research Question(s)

What are the most effective game mechanics and interactive elements for facilitating learning in web-based training games for military subjects like STINFO, No Fears Act, and Records Management?

What are the technical challenges and considerations involved in converting PowerPoint presentations to interactive web-based games using UnityGL and React/Firebase?

What are the potential cost and time savings associated with transitioning from traditional classroom training methods to web-based games for Air Force training on STINFO, No Fears Act, and Records Management?

## Project Objectives

**Streamline Training Processes:** Reduce time and costs associated with traditional classroom-based training methods by providing self-paced, online training modules accessible from any location with internet access.

**Enhance Engagement:** Design interactive and engaging training games that capture the attention of users, promoting active participation and knowledge retention.

**Improve Accessibility:** Develop web-based training games to enable Air Force personnel to complete STINFO, No Fears Act, and Records Management trainings conveniently from their desks, reducing the need for physical movement across the campus.

## Results

### Robins Air Force Base

Robins Air Force Base is a major United States Air Force installation located in Warner Robins, Georgia. It is the largest industrial complex in Georgia and the largest single-site employer in the state, providing significant economic impact to the local community.

Robins Air Force Base serves as a logistics center, maintenance, and sustainment hub for a wide range of aircraft, including strategic bombers, fighter jets, and cargo planes. It is home to the Warner Robins Air Logistics Complex, which performs depot-level maintenance, repair, and overhaul on aircraft and related systems. Additionally, the base houses various other units and organizations, including the Air Force Reserve Command, Air Force Materiel Command, and the Georgia Air National Guard.

### Highlights

- Converted power point trainings into interactive trainings
- Integrated training into our website
- Learned how to connect Unity build with React applications.
- Learned the connection between the front-end and back-end with React and Firebase.
- Gained real-world work experience with planning and working together with a client.

## Conclusions

Our project demonstrates the significant benefits of gamifying traditional PowerPoint training presentations for Robins Air Force Base. By transforming these presentations into interactive web-based games, we have shown that Robins can achieve substantial savings in time, energy, and costs associated with physically relocating employees for in-person training sessions. Furthermore, the gamified approach enhances information retention through engaging, interactive experiences that provide real-time feedback to users. This innovative approach not only modernizes training methods but also ensures a more efficient and effective learning process for Air Force personnel.

## Acknowledgments

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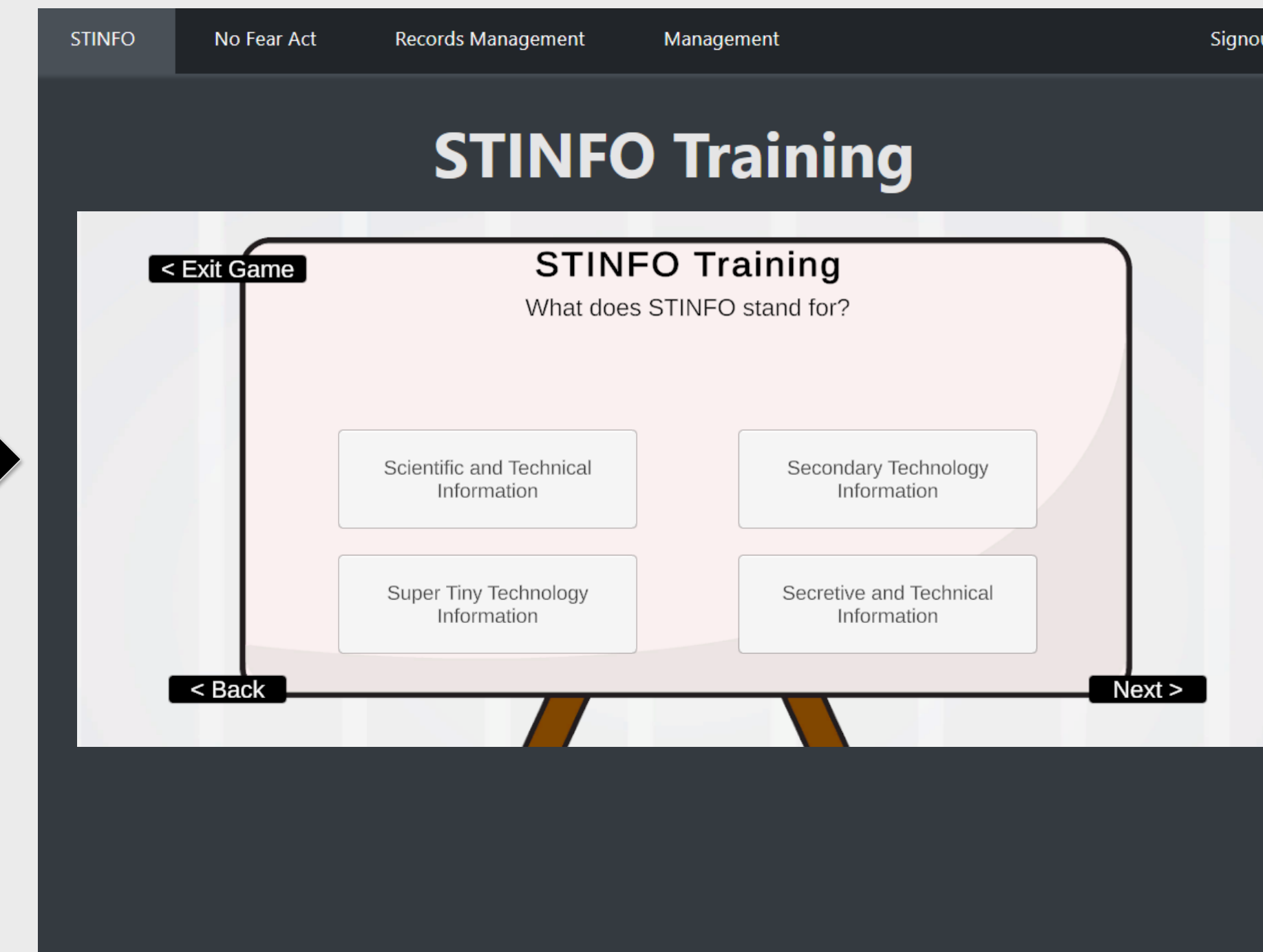
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### Power Point



### Interactive Game



## Training Conversions

