

Protective Detective: Gamifying Cyber Safety Education

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Grand Challenge

Our Grand Challenge seeks to counter the **lack of knowledge surrounding cybersecurity and online safety** practices in **children**. This project will:

- **Educate** middle school-aged children how to keep themselves safe and protect their private information while on the internet
- **Provide** an interactive and fun game experience in order to maintain engagement and create a positive atmosphere for kids to learn about important concepts
- **Create** a space for conversations about data privacy in order to create knowledgeable adults in the future

Our Solution

The solution we created is an **interactive educational game** called Protective Detective. The user will play as a digital detective whose job is to find clues to uncover who is behind the anonymous cyber threats that are putting viruses in everyone's computers. The detective is accompanied by another character Spyder who, during the game, will drop down on their web, giving the detective hints through assisting them along the way. When they complete the module, they will unlock a "clue," which brings them closer to solving the mystery and lets them access the next module.

- The **password security module** teaches players to incorporate password standards recommended by the Center for Internet Security
- The **phishing module** introduces the dangers of phishing
 - Emphasizes the fact that "Cybersecurity is not just for the large firms anymore; an attack can happen to anyone at any time" (Ackerman et al. 2019).



- Users will learn what elements make up a strong password through an email login activity with Spyder along side



- Users must complete Boss Battle where they have to answer 8 questions testing their knowledge on what they just learned in order to complete the game.

Why We Chose an Online Game

By using an interactive game and targeting it towards a middle school audience we are delving into topics children need to be made more aware of before entering the digital world at such a young age; from phishing to password security, these are now just basic skills that children need to be able to navigate through. The research on interactive games demonstrates that children are able to **retain information** just as well as in person teaching, but in a much more **kid-friendly manner** (Lazonder, 2019). It has been shown that **interactive** games for children help **challenge them** and get them to **actively think** on how to approach different situations thrown at them.

References

Ackerman JL. Cybersecurity and Data Breaches. CPA Journal. 2019;89(6):74–74. ISSN: 07328435

Lazonder, Ard W., et al. "Longitudinal Assessment of Digital Literacy in Children: Findings from a Large Dutch Single-School Study." *Computers & Education*, Pergamon, 5 Sept. 2019, www.sciencedirect.com/science/article/pii/S0360131519302349.