SkidTok: A Privacy-Centric Social Media App for Children

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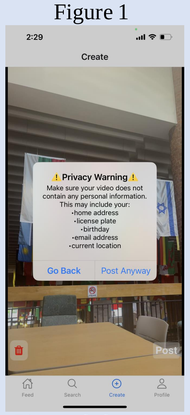
Motivation

- Children have been using digital devices and social media at continuously earlier ages[1]. With the rise of children's use of social media, concern about their online safety and privacy is important to consider.
- Although there are laws put in place to protect kids online, such as Children's Online Privacy Protection Act (COPPA), its effectiveness is in question. Many social media apps can work around this with just the parent's consent. Recently, apps like TikTok it has been under scrutiny for questionable data privacy practices. [2]
- Many mobile apps designed for kids lack the design principle of including opinions from kids themselves. Our objective is to help inform children about privacy concerns online by creating a social media app designed for children aged 6-10, that will reinforce them to make safe and smart decisions online.

App Screenshots

Figure 1



Pictured above, a privacy warning pop-up that will help users rethink before they post videos. Eventually, we would like to add something more appealing to children, such as an animation

Pictured below, the user's profile. This contains their followers, following, and posted videos.

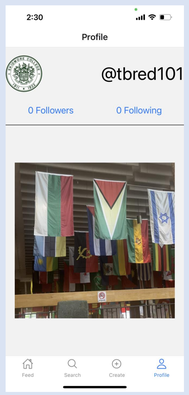
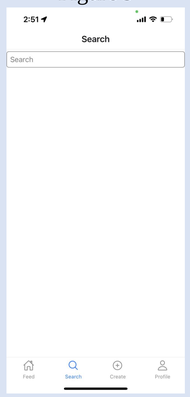


Figure 2

Figure 3



Pictured above, mock-up of our search screen. Will add suggested accounts to scroll through

Pictured below, a mock-up of the feed screen. Tapping or swiping left or right will scroll through the user's feed.

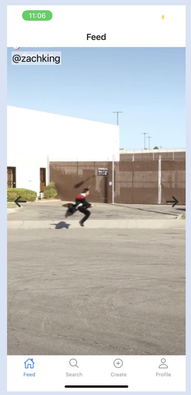


Figure 4

Technical Skills Developed

- Learned two web development languages, HTML and JavaScript
- Applied JavaScript knowledge and computer science concepts such as object-oriented programming to develop cross-platform mobile app using React Native framework
- Designed and developed a functioning iOS app. (pictured on the left).
- Maintained the code base collaboratively using a versioning system called Git
- Added local storage and retrieval of users' data with React Native's AsyncStorage
- Added cloud storage for user data by connecting our iOS app to an online database called Firebase

Future Work

- Successfully connect the app to the Firebase database so we can get the Feed and Search screens working
- Incorporate machine learning algorithms to look through a video for specific safety concerns before posting, rather than just a general pop-up
- Add verification algorithms, so only children and their parents can use the app
- Add parental control features, such as a parental account connected to each child's account
- Develop a participatory study to get feedback from children about safety design features

Research Question:
How do we build a system that helps kids learn about dangers of information sharing?

Related Work & Background

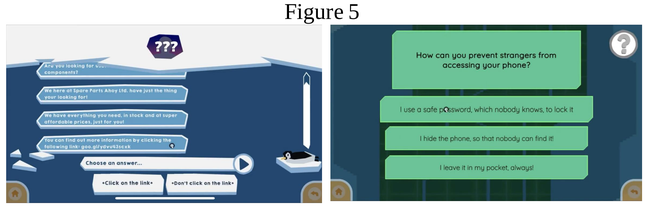
Teaching about privacy

- We discovered a game named *Finn Goes Online* (Figure 5) that teaches kids about privacy
  - This game quizzes users rather having them apply their knowledge
- *Zigazoo*, a social media platform for kids
  - While the app needs to confirm a parent's identity, the app itself lacks parental controls.

Studies on Children's privacy preferences

- Children involved in a participatory design session conducted by Badillo-Urqiola et al in 2019 produced designs for safety features [2]. These features included some parental assistance, asking for help, and automated intelligence assistance
- Another study conducted by Dempsy et al in 2022, investigates how children, aged 7-13, design warning messages related to the disclosure of private information online [1]
  - This paper provides guidelines to be used when designing warning messages aimed at children disclosing data within an online setting.
- Unlike other apps we found, SkidTok has a built-in system (Figure 1) to help warn users of safety risks and will eventually include more features from the study in [2]. SkidTok's privacy features actively engages kids in thinking about and taking action for their own privacy.

Figure 5



Pictured above, screenshots from *Finn Goes Online* [3]

Acknowledgements

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Sources

[1] John Dempsey, Gavin Sim, Brendan Cassidy, and Vinh-Thong Ta. 2022. Children designing privacy warnings: Informing a set of Design Guidelines. *International Journal of Child-Computer Interaction* 31 (2022), 100446. DOI:http://dx.doi.org/10.1016/j.ijcci.2021.100446
[2] Karla Badillo-Urquiola University of Central Florida et al. 2019. Stranger danger!: Proceedings of the 18th ACM International Conference on Interaction Design and Children. (June 2019). Retrieved July 31, 2023 from https://dl.acm.org/doi/10.1145/3311927.3323133
[3] *Foldio Adventures – Finn Goes Online – The Cyber Security Game for Children – Trailer*, Foldio Adventures. https://www.youtube.com/watch?v=yYm8_DExS1E.