The Phishing Master Anti-Phishing Game

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Motivation

- A large number of anti-phishing awareness measures exist: flyers, posters, courses, videos, …
- This gives many options for mandatory security trainings in businesses, e.g. for compliance
- But what about private citizens who are not motivated to go and find materials on their own?
- One solution can be public events with eye-catching anti-phishing materials
- Our proposed game Phishing Master is designed to cater to exactly this need

Phishing Master

- First-person anti-phishing game
- Anti-phishing content based on evaluated materials
- Players are located in an office with emails flying towards them from a monitor
- They have to decide for each of email whether it is a phishing message or not
- In case of a phishing message: shoot it
- In case of a legit message: shoot the legit button
- Combo system, public high scores, visual effects, and multiplayer challenges to increase appeal

User Study

Method

- Game was made available at an public event in Germany for three hours a day
- COVID-19 safety measures were taken
- Station was constantly supervised by authors
- Convenience sampling of citizens at the event
- Survey to (a) rate the design, understandability, appeal, and (b) collect feedback

Results

- 49/52 (94.2%) gave a positive rating
- 11 “Very good” (9.6%)
- 33 “Good” (63.5%)
- 5 “Partially good” (9.6%)
- 50/52 (96.2%) felt it was understandable
- 36/52 (69.2%) said high score incentivizes play
- 45/52 (86.5%) said they would recommend Phishing Master to others
- Improvements derived from feedback
  - More context needed regarding senders of the messages to make decisions easier
  - Improve overview page by (a) highlighting falsely rated phishes, (b) more general hints
  - For legit messages: shooting anywhere outside the message should be counted

Future Work

- Integrate feedback
- Evaluate in a controlled setting with a larger and more balanced sample

User study setup at the public event