

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



User study setup at the public event

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