

Conceptualization of a CyberSecurity Awareness Quiz

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Cyber
Security
for Europe
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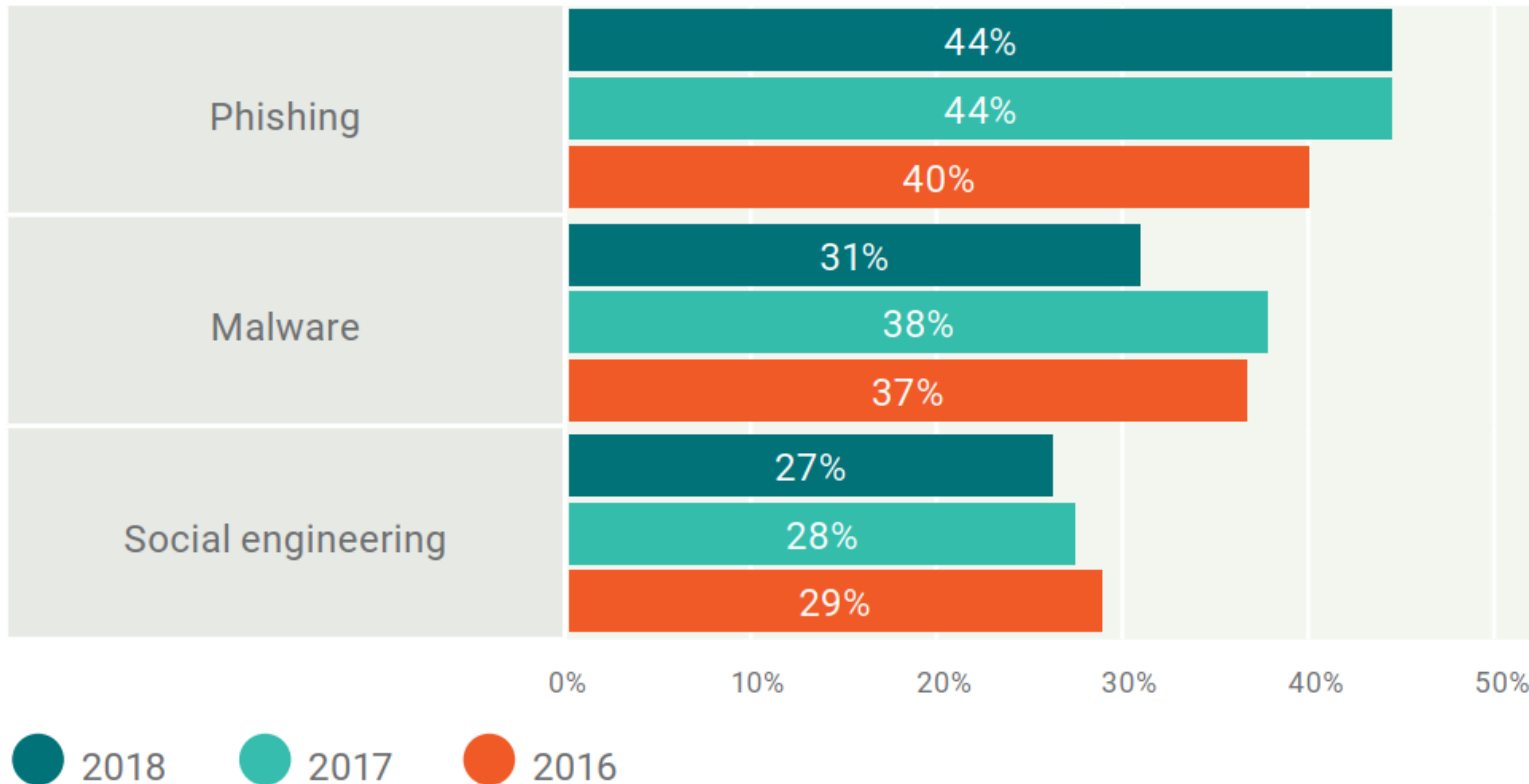
Outline

- Motivation
- Game design
- Creation of quiz content
 - Information procurement
 - Categorization by metadata
- Architecture
- Conclusion



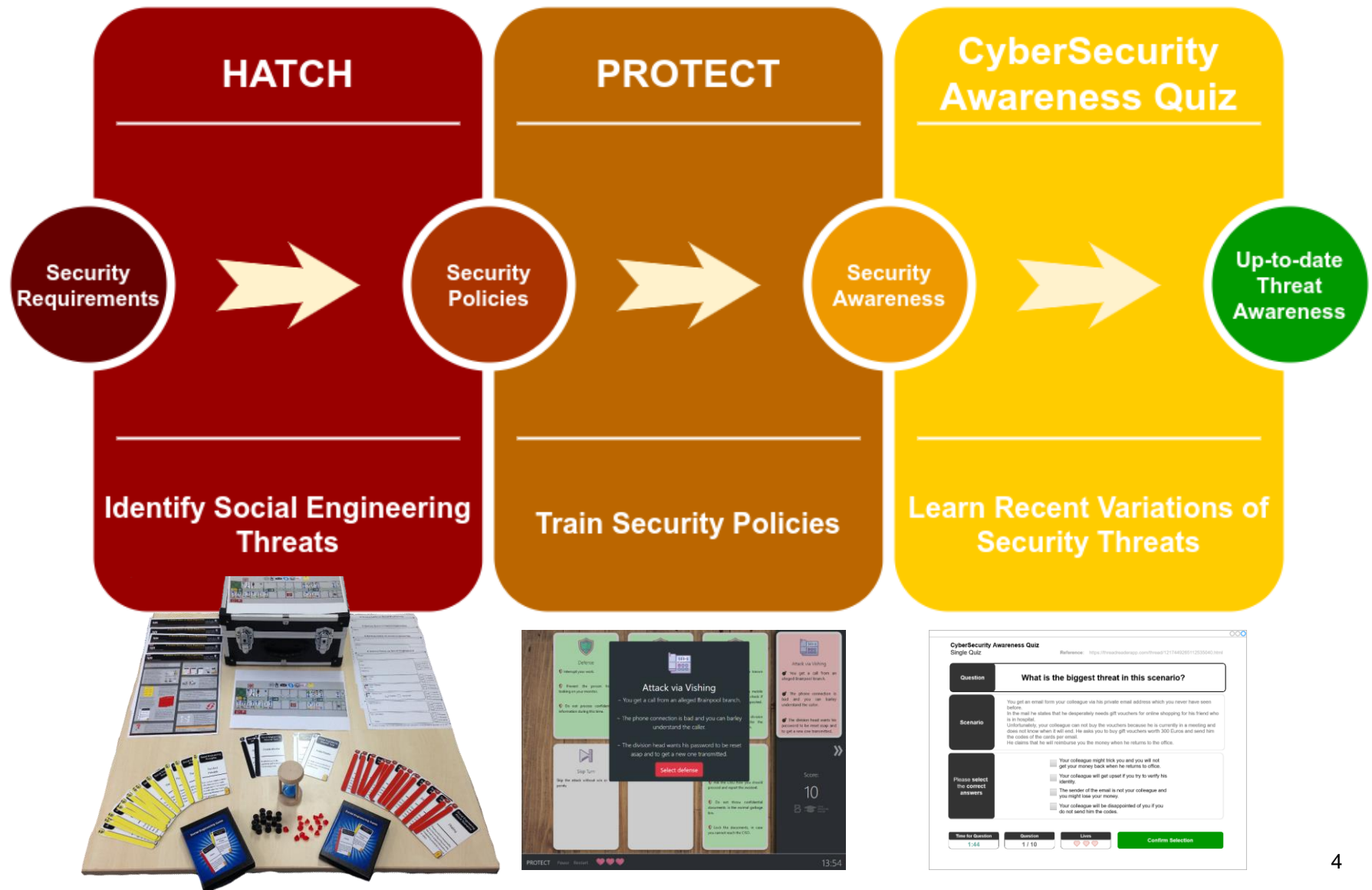
Motivation

Current attack types



Source: State of Cybersecurity 2019 – Part 2 Current Trends in Attacks, Awareness and Governance, 2019, ISACA

Motivation (cont'd)



Game design: Requirements

- Lightweight quiz game
- Playable on mobile devices
- Single and multi-player modes
- Questions are based on
real-world social engineering attacks



Game design: GUI

CyberSecurity Awareness Quiz
Single Quiz

Reference: <https://threadreaderapp.com/thread/1217449265112535040.html>

Question	What is the biggest threat in this scenario?
Scenario	<p>You get an email from your colleague via his private email address which you never have seen before.</p> <p>In the mail he states that he desperately needs gift vouchers for online shopping for his friend who is in hospital.</p> <p>Unfortunately, your colleague can not buy the vouchers because he is currently in a meeting and does not know when it will end. He asks you to buy gift vouchers worth 300 Euros and send him the codes of the cards per email.</p> <p>He claims that he will reimburse you the money when he returns to the office.</p>
Please select the correct answers	<div><input type="checkbox"/> Your colleague might trick you and you will not get your money back when he returns to office.</div> <div><input type="checkbox"/> Your colleague will get upset if you try to verify his identity.</div> <div><input type="checkbox"/> The sender of the email is not your colleague and you might lose your money.</div> <div><input type="checkbox"/> Your colleague will be disappointed of you if you do not send him the codes.</div>


Time for Question

1:44

Question

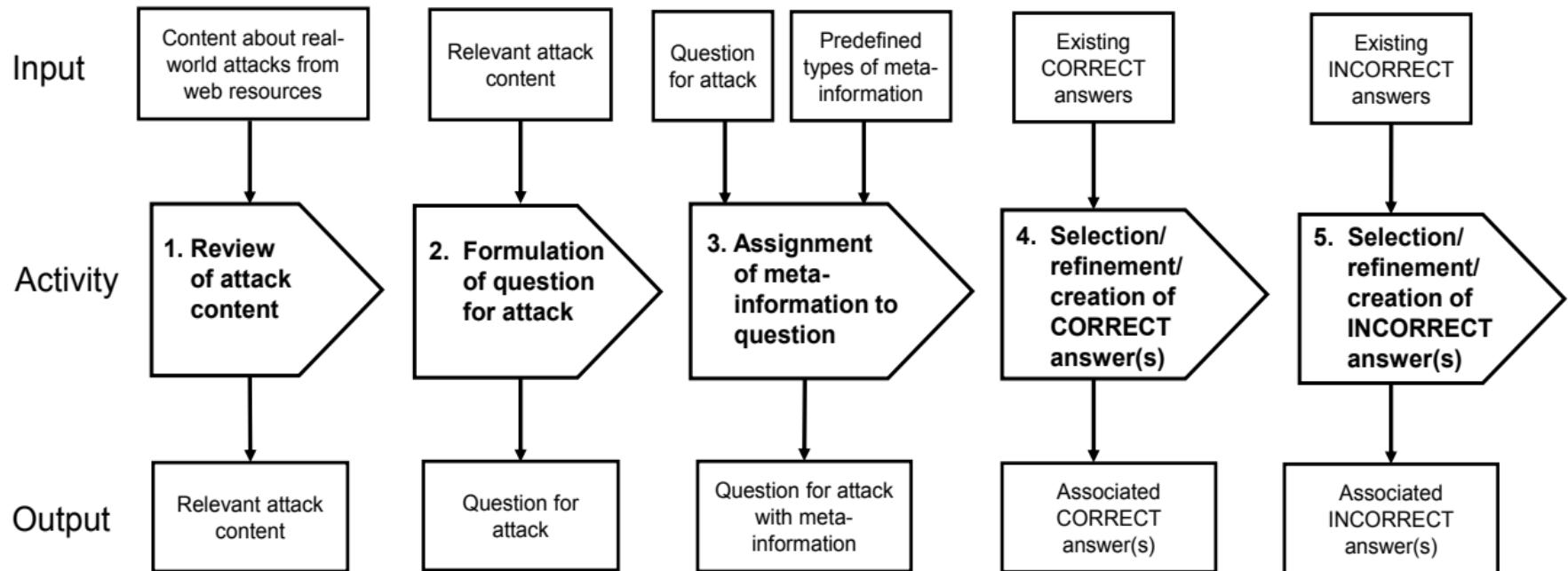
1 / 10

Lives

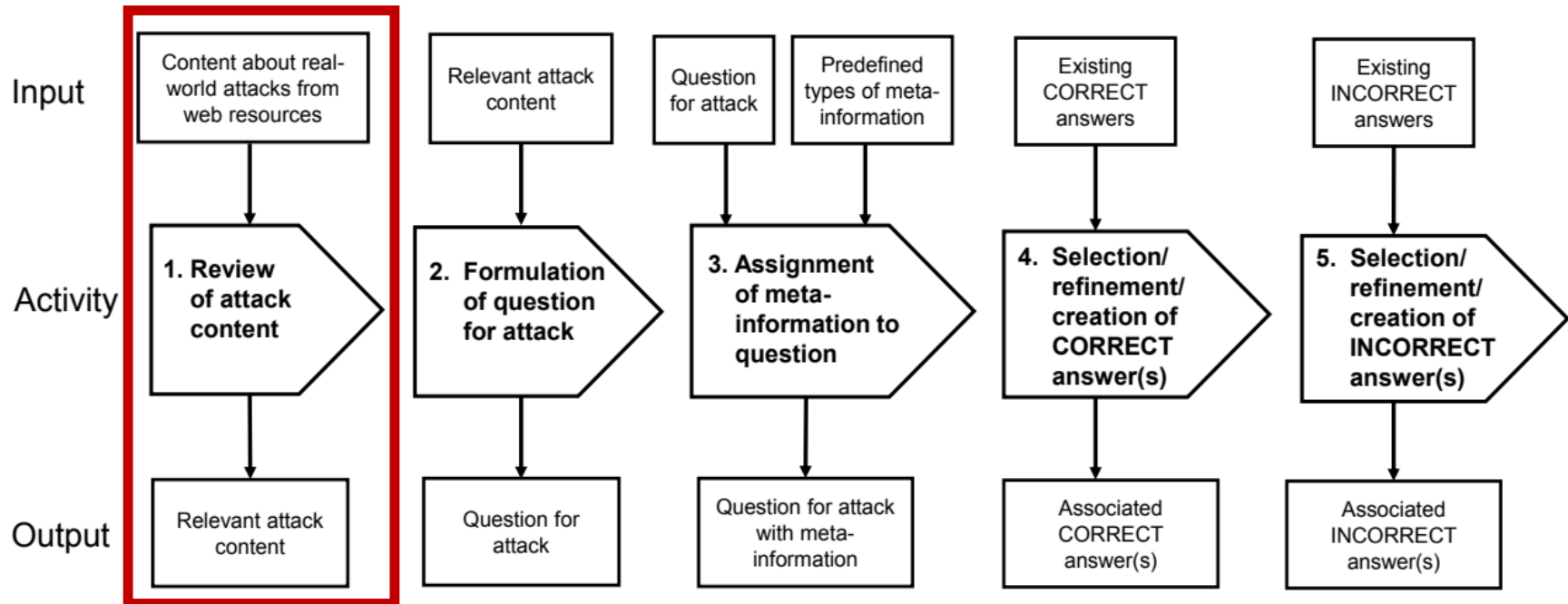


Confirm Selection

Creation of quiz content

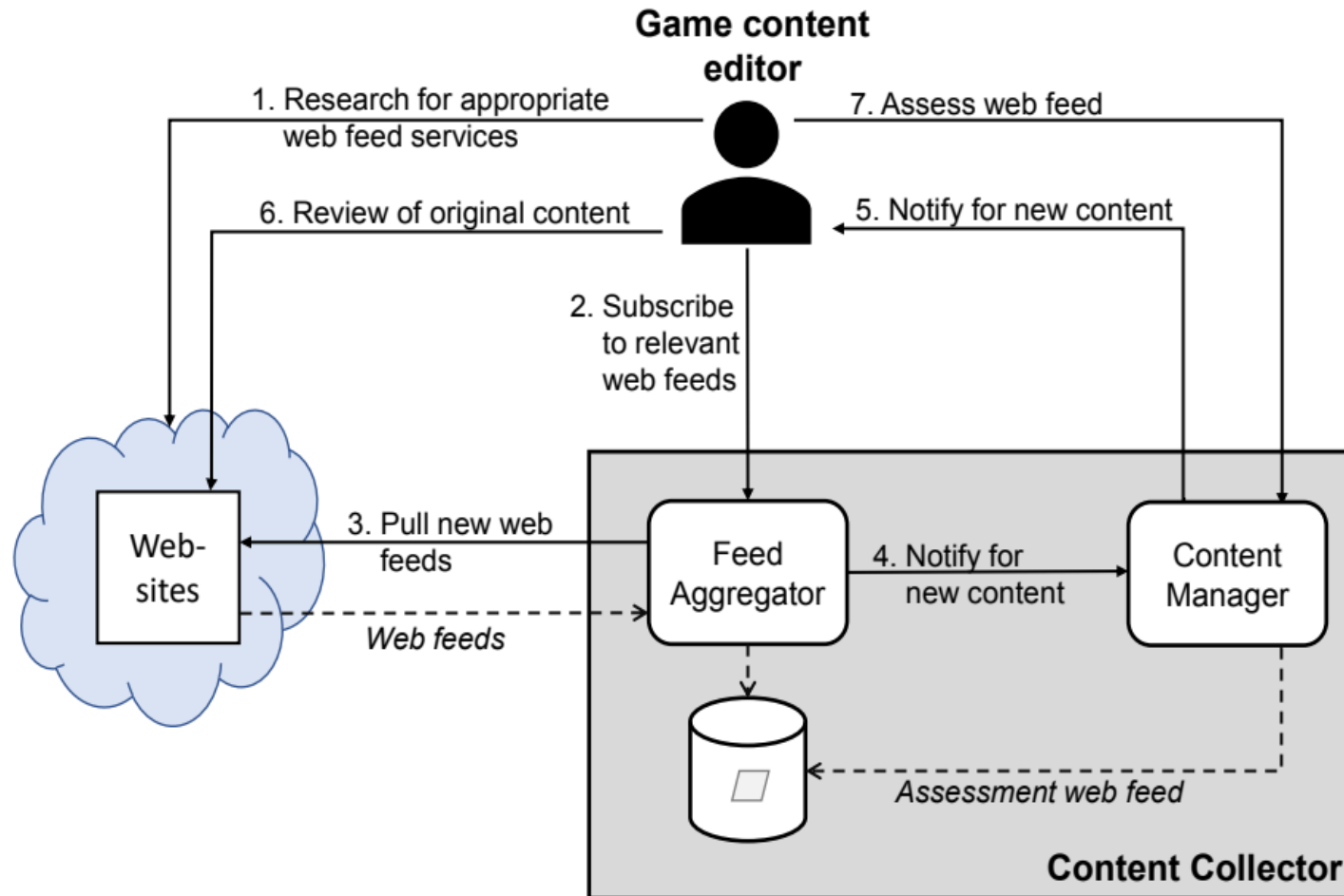


Information procurement

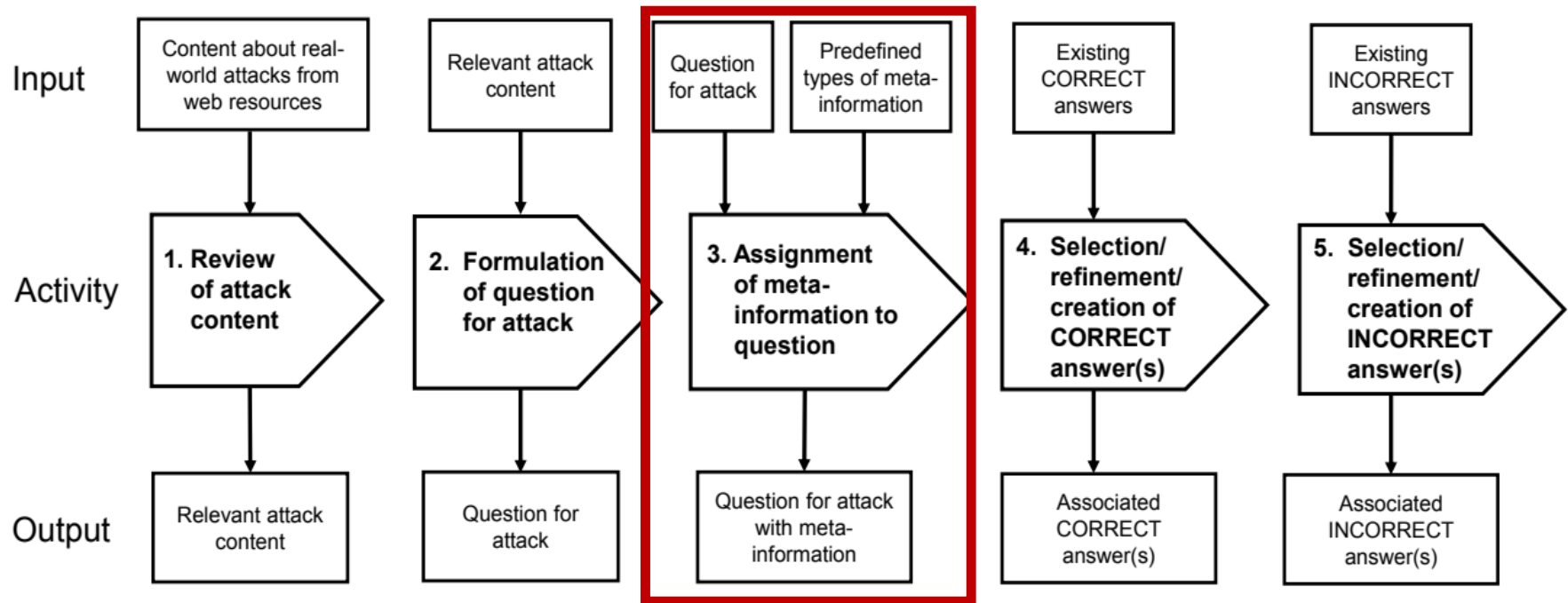


Information procurement (cont'd)

Information collection



Categorization by metadata



Categorization by metadata (cont'd)



**SOCIAL
ENGINEERING
ACADEMY**

- Tagging of questions with metadata, e.g.
 - Attack categories
 - Context of victims
 - Used technology
 - Time of attack
 - Geographical spreading



Categorization by metadata (cont'd)



- Supports the creation of quizzes for certain topics
 - Identification of predefined
 - questions for new quizzes
 - answers for new questions



- Possible compilation of quizzes on the fly on the basis of indicated information

Categorization by metadata (cont'd)



Example: Adding of predefined questions to quiz

Add Question

Filter parameter 1

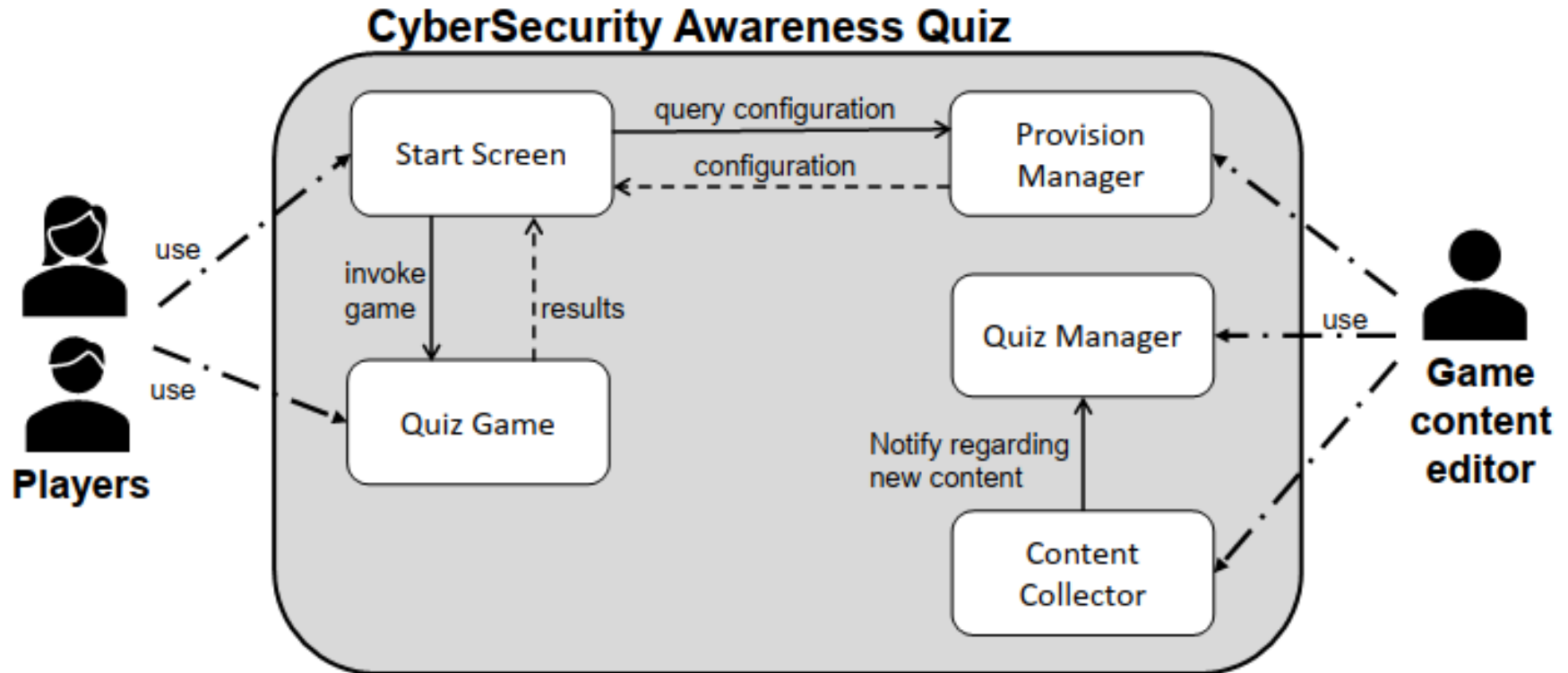
Filter parameter 2

Filter parameter 3

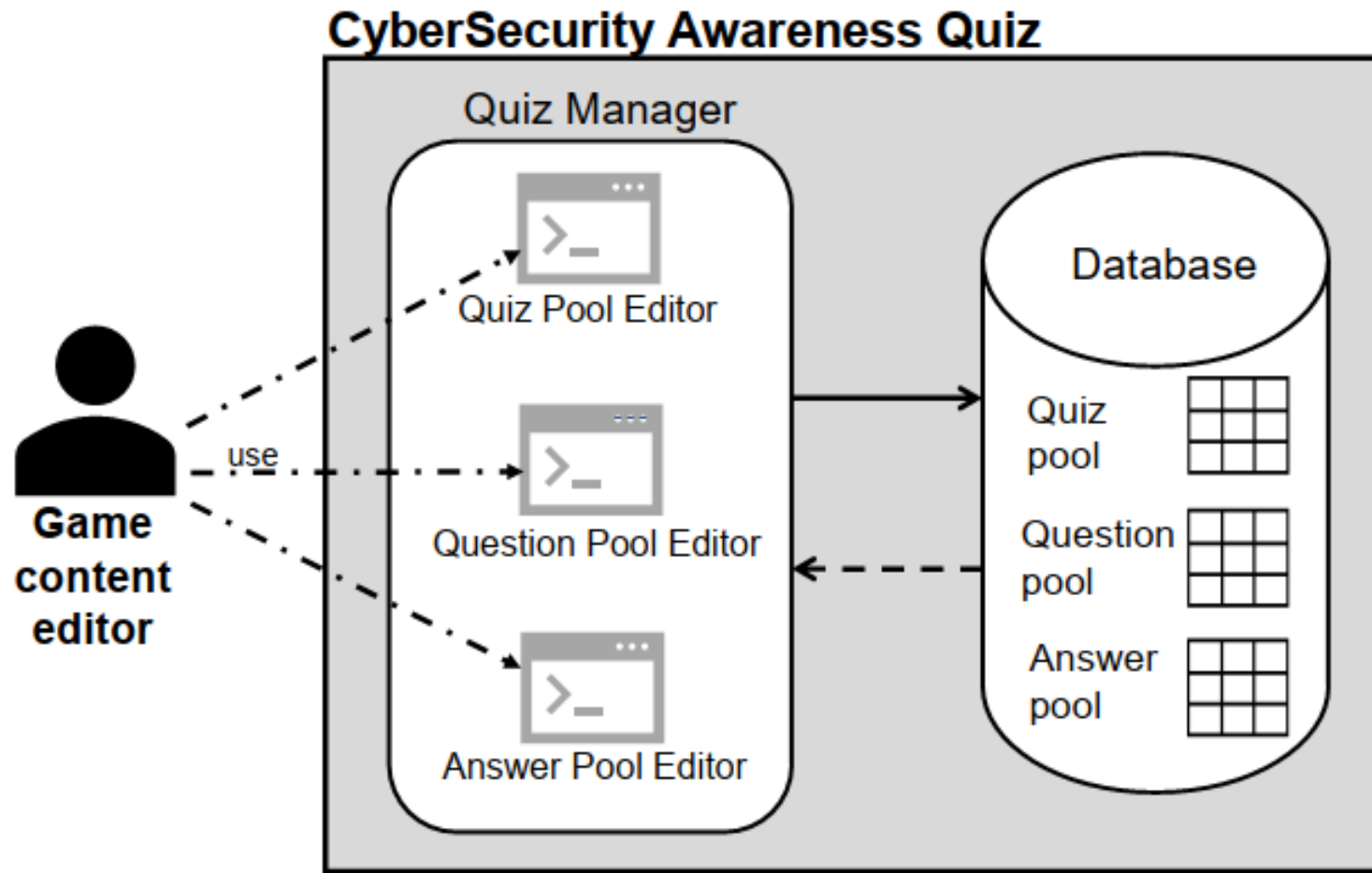
Filter parameter 4

ID	Scenario	Question	References
Q_008	You get an email with an invoice from a supplier of your company. The email is sent by an new employee of the supplier. He states that the format of invoices has been changed.	What is the biggest threat in this scenario?	https://...
...

Architecture: Overview



Architecture: Quiz Manager



Architecture: Quiz Pool Editor

Quiz Pool Editor

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Create Quiz

Quiz ID

Quiz_004

Quiz title

Email fraud

Questions

ID	Scenario	Question	References
Q_012	You get an email from your colleague via his private email address which you never have seen before. In the mail he states ...	What is the biggest threat in this scenario?	https://threadreaderapp.com/thread/1217449265112535040.html

New

Edit

Delete

Add existing question

Conclusion

- Fullfilment of all requirements in conceptualization
- Process for information procurement
- Players motivation through different quiz modes
- Future work
 - Implementation
 - Evaluation



Thank you



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