

# **Post-quantum trails: an educational board game about migration to post-quantum cryptography**

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# Motivation

- Migration to post-quantum cryptography is important topic
- Many developers, IT teams, and decision-makers do not (fully) understand what PQC is or why it matters
- Raising awareness is one of important steps of successful migration process

# Board game

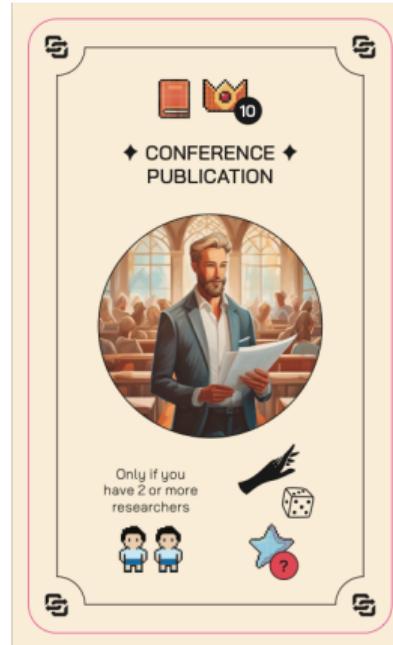
- Gamification is a powerful tool for training and knowledge transfer, making complex topics more accessible and memorable
- Models the real-life struggles of transitioning to PQC
- The game shows the cost of delay or missing some important steps
- Adoption of new technology is not just about maths – it is about people, processes, and culture

# What is the game about?

- Each of the players represents lead of research group that develops cryptographic algorithm and helps with migration process
- *Goal:* make sure your algorithm is widely adopted
- *Challenges:* bad events happen each turn and distract from the smooth workflow

# Player's turn

- Resolve event
- Play cards
- Collect resources (science, money, influence)
- Publish papers or hire new team members
- Move on the migration track



# Sharing the game with the world

- Developer conference (students and professionals), HistoCrypt, Student fairs
- Many players have not heard about cryptography and the need in PQC before
- Sessions with game master are more engaging and educational



# Thank you!

- Shall we play?

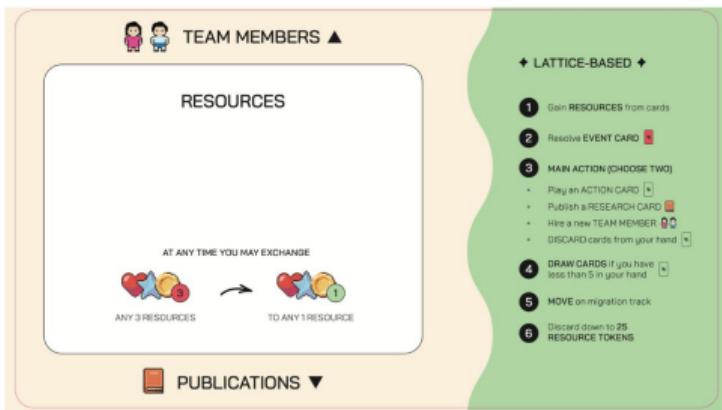


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# Rules

Each player selects a player board and places it in front of them, takes a meeple of the corresponding colour and places it near the migration board

PLAYER BOARD



MEEPLE



# Rules

Each player draws five action cards

ACTION CARDS



# Rules

Each player gets five coins and a junior researcher card and places them next to their player board

JUNIOR RESEARCHER

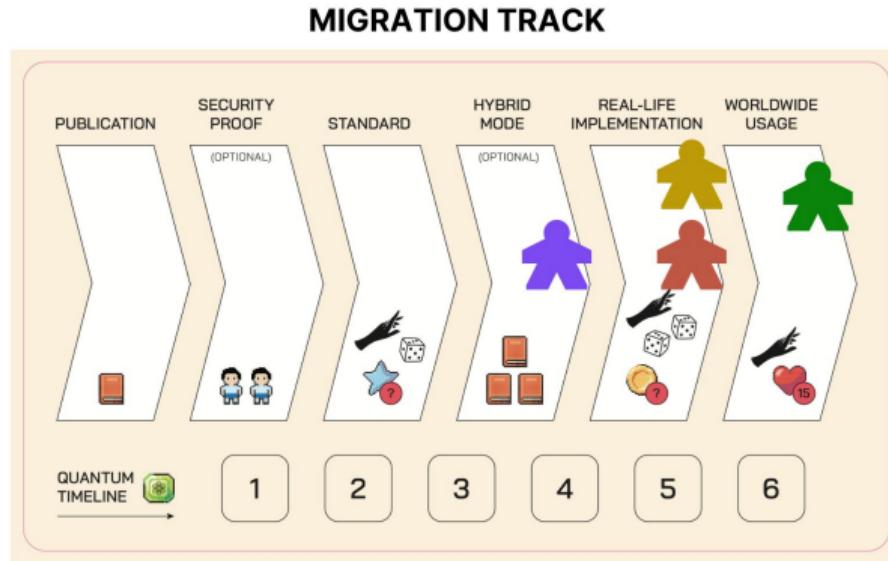


STARTING COINS



# Goal of the game

Be first to move on the last step of migration track



# Turn order (1)

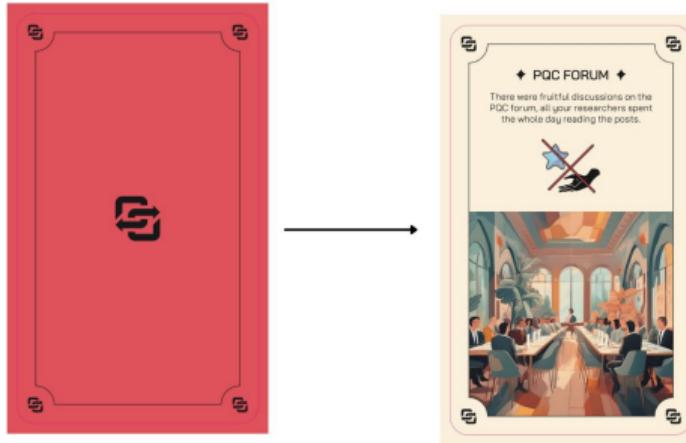
Gain resources from team members/publications



# Turn order (2)

Draw and resolve event card

YOU CANNOT GAIN SCIENCE  
TOKENS THIS TURN

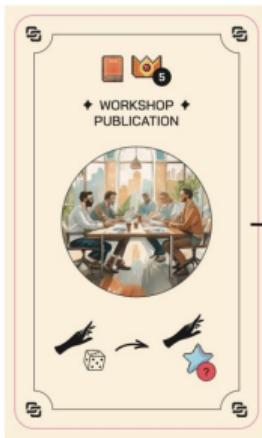


## Turn order (3)

Perform two main actions from the list:

- Play an action card
- Hire new team member
- Publish paper
- Discard any of the cards on hand

# Main action



PAY 5  
SCIENCE TOKENS



GAIN 4 SCIENCE  
TOKENS

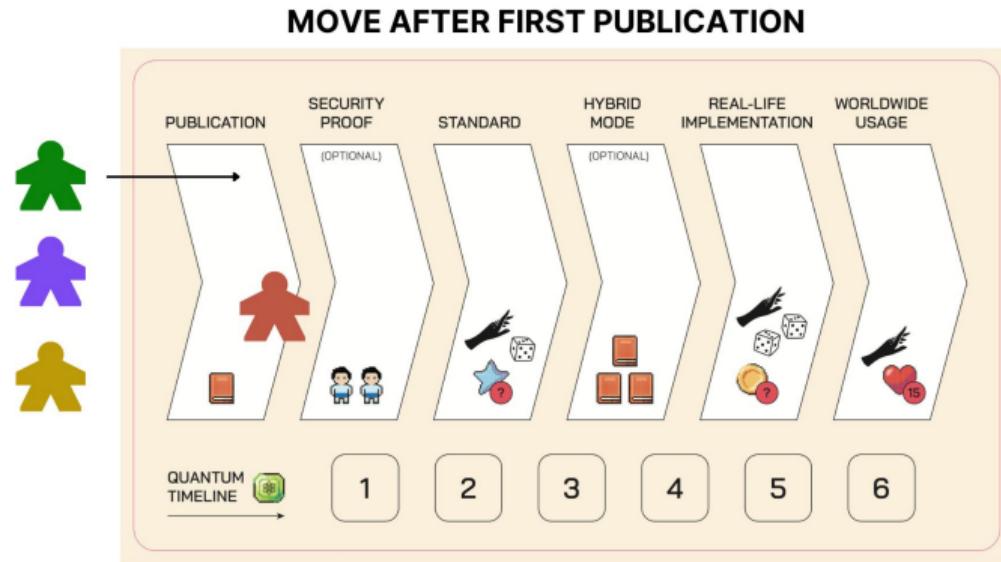


## Turn order (4)

Draw cards if you have less than five cards in your hand

# Turn order (5)

Move one step on migration track (if possible)



## Turn order (5)

- Some of the steps on migration track are optional
- If you do not skip it – take corresponding token
- If you skip – there may be consequences
- It is possible to gain token afterwards, by spending main action on it

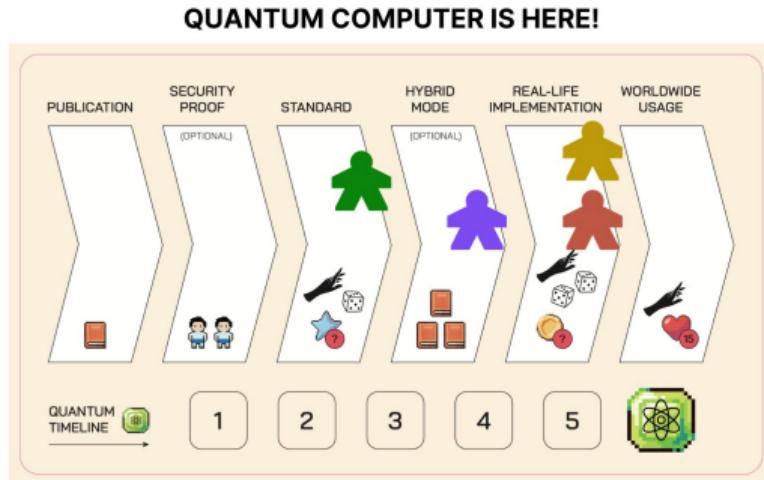
## Turn order (6)

Discard down to 25 resource tokens (total)

# Game end

The game ends if one of the following events is triggered:

- Quantum track reaches the final space
- One of the players reached worldwide usage stage in the migration path



# Count points!

