Content and Graphics in the Virtual Atom Smasher game

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Outline

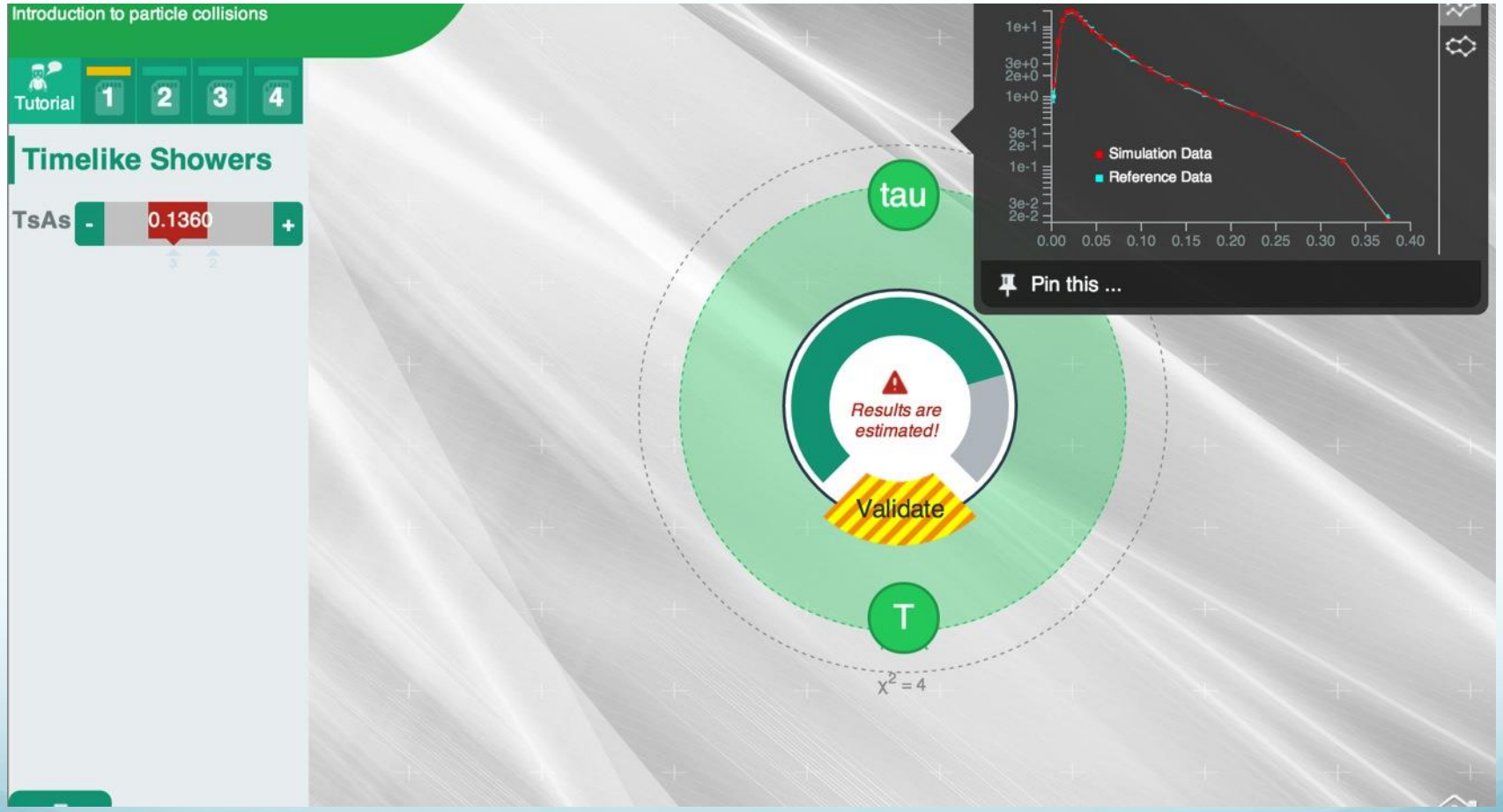
1. What is Virtual Atom Smasher
2. Collaboration with partners
3. Educational content
4. The new game graphics

1. What is Virtual Atom Smasher

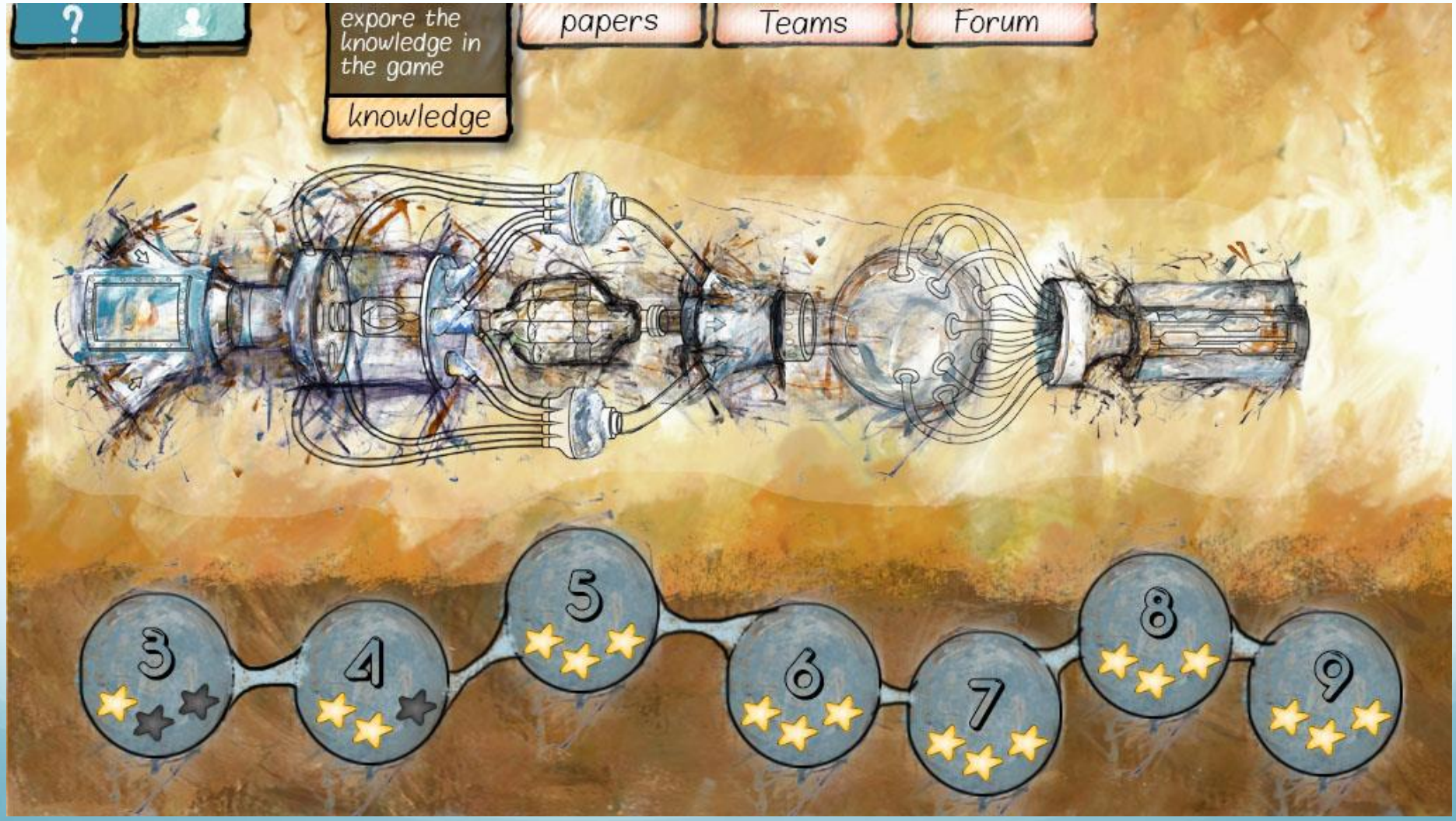
Virtual Atom Smasher

- Is a pilot project of the Citizen Cyberlab EU research project
- It is an educational platform, through which people can learn about High – Energy Particle Physics.
- It measures learning and creativity of the end-users.

V.A.S. before my collaboration



V.A.S. now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knowledge
papers
Teams
Forum
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Improvements

- Added educational content
  - Simpler to understand by everyone
  - Evaluation questions in every term
  - Overall organization of the in-game knowledge
- Assisted the development of mini games
- Graphics
  - Unique style to increase interest

2. Collaboration With Partners

Collaboration with Partners

1. Evaluation and Integration of the results from Work Package 2 (WP2) of the Citizen Cyberlab project.
2. Collaboration with the University of Paris Descartes (UPD) for the development of mini games (WP3).

Evaluation and Integration of WP2

- WP2 is a research material produced before the development of the pilots :
  - Creativity Requirement (UCL)
  - Learning Behaviors (UNIGE)
  - Community Engagement (TMC)

Evaluation and Integration of WP2

1. Gamification
   - A means of sustaining and motivating participation
2. Belonging in a group
   - Gamer's,
   - Scientific
3. Team spirit with a Common Goal
   - Bonds the players
   - Engages them in the game

Evaluation and Integration of WP2

4. Competition
5. Recognition of achievements
   - Strengthening the individual identity
6. Contribution
   - Gives the feeling that the players effort is useful
   - The player’s achievements are taken into consideration

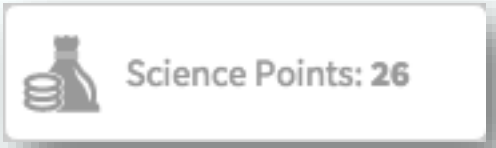
Evaluation and Integration of WP2

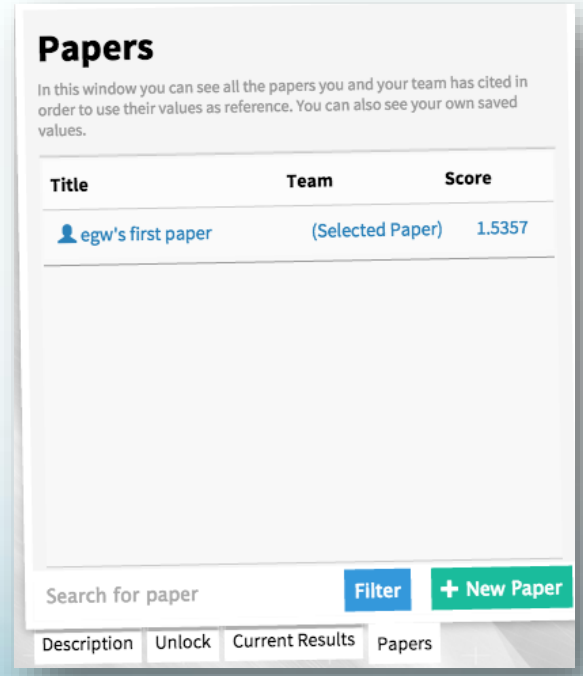
7. Record of Personal Progress
   - Discovering own capabilities
8. Communication and Socializing
   - Sustaining engagement by participating in social interactions
   - Forums
     - Contact with the scientists and with each other

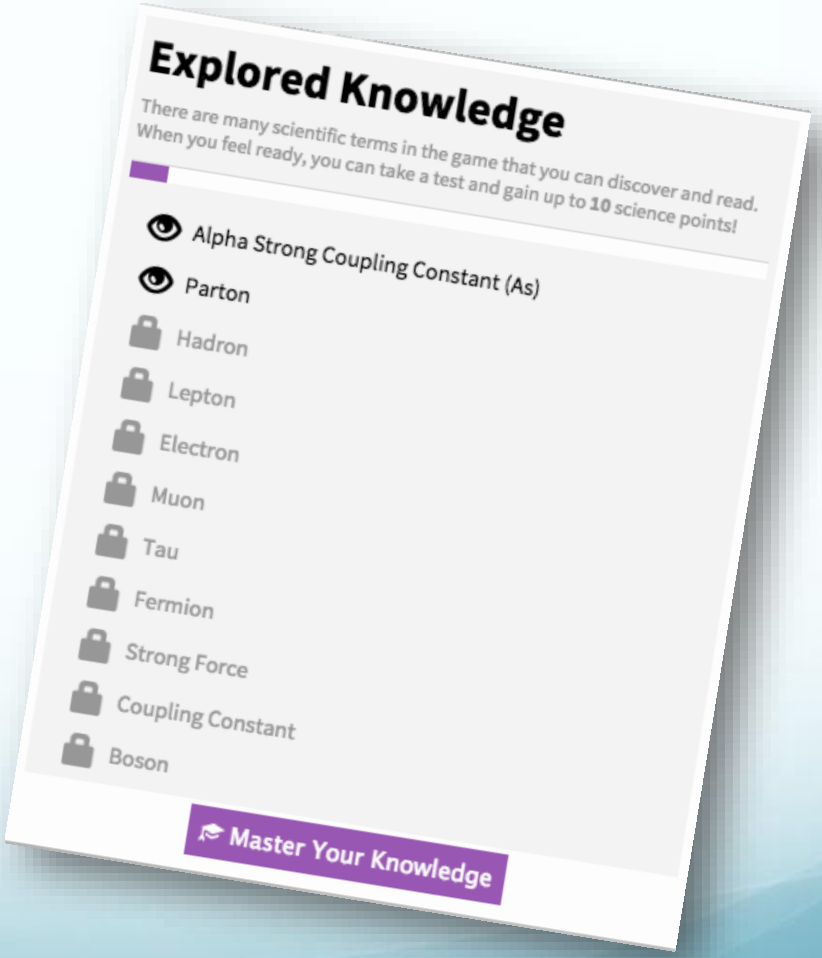
Evaluation and Integration of WP2

9. What is Behind the Scenes
   - What is the the theory and the scientific research behind the game
   - Who are the scientists behind the game
10. Progress of the project

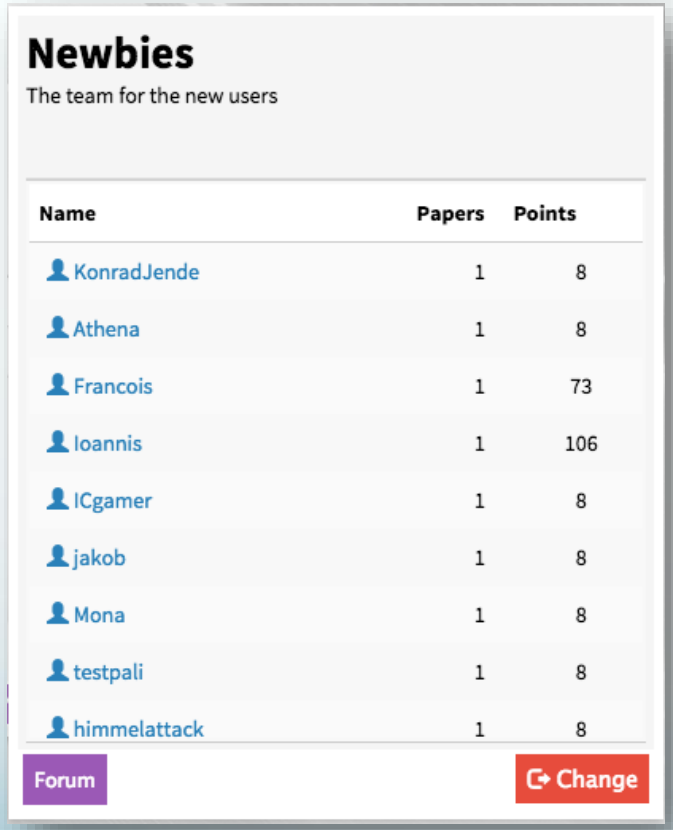
Integration of WP2 in V.A.S.

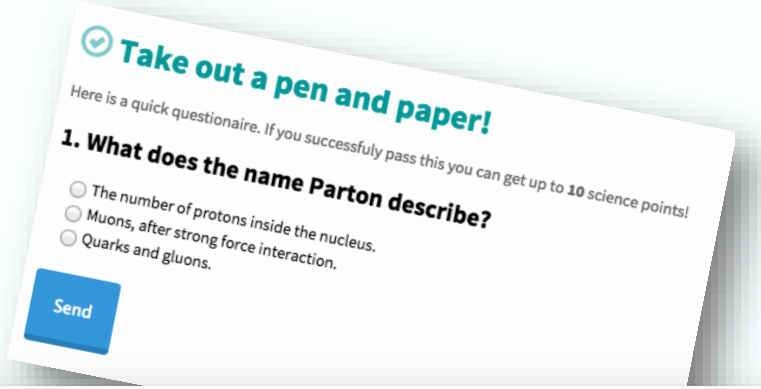


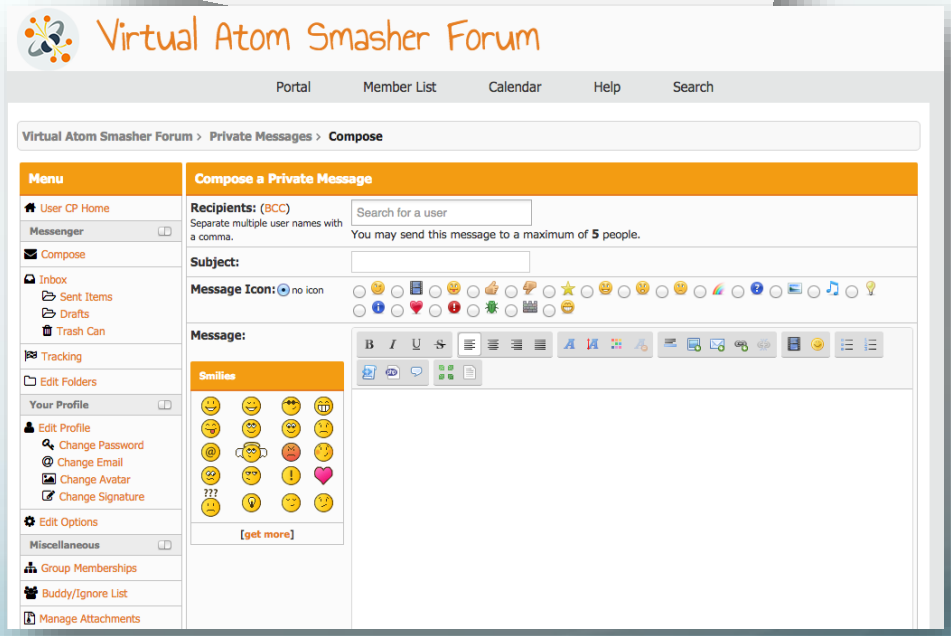




Integration of WP2 in V.A.S.



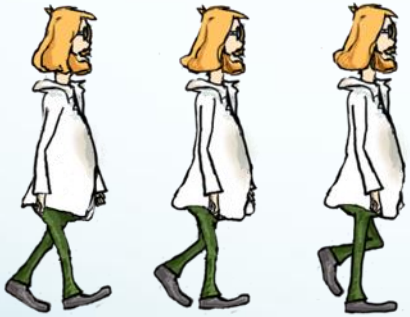


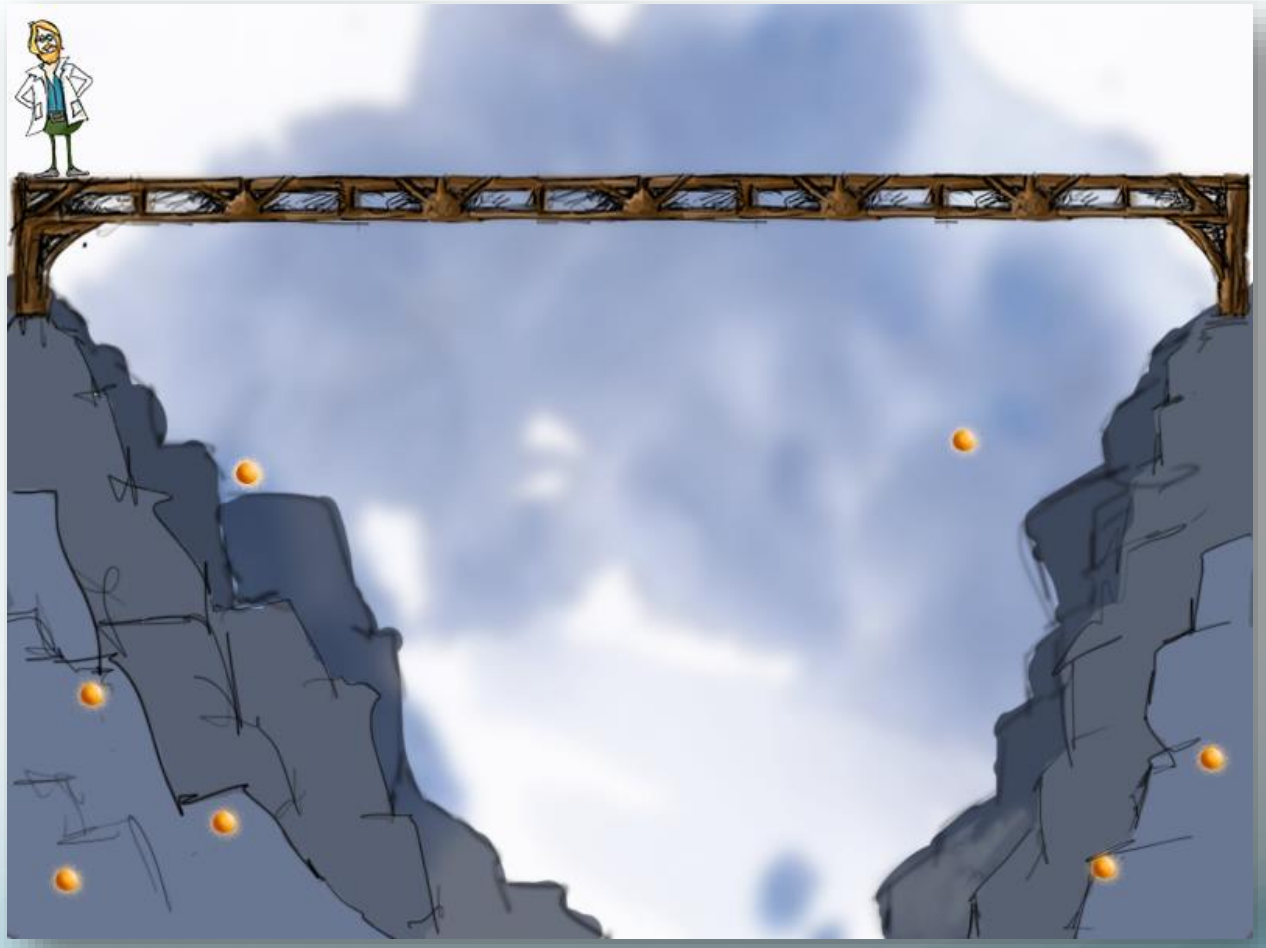


Collaboration with UPD

- Created the specifications of three educational mini games
  - Introduction to Hadronization
  - Introduction to Color Charge
  - Explanation of Final State Radiation
- Designed the graphics of each mini game
- Overseeing the development process

Collaboration with UPD





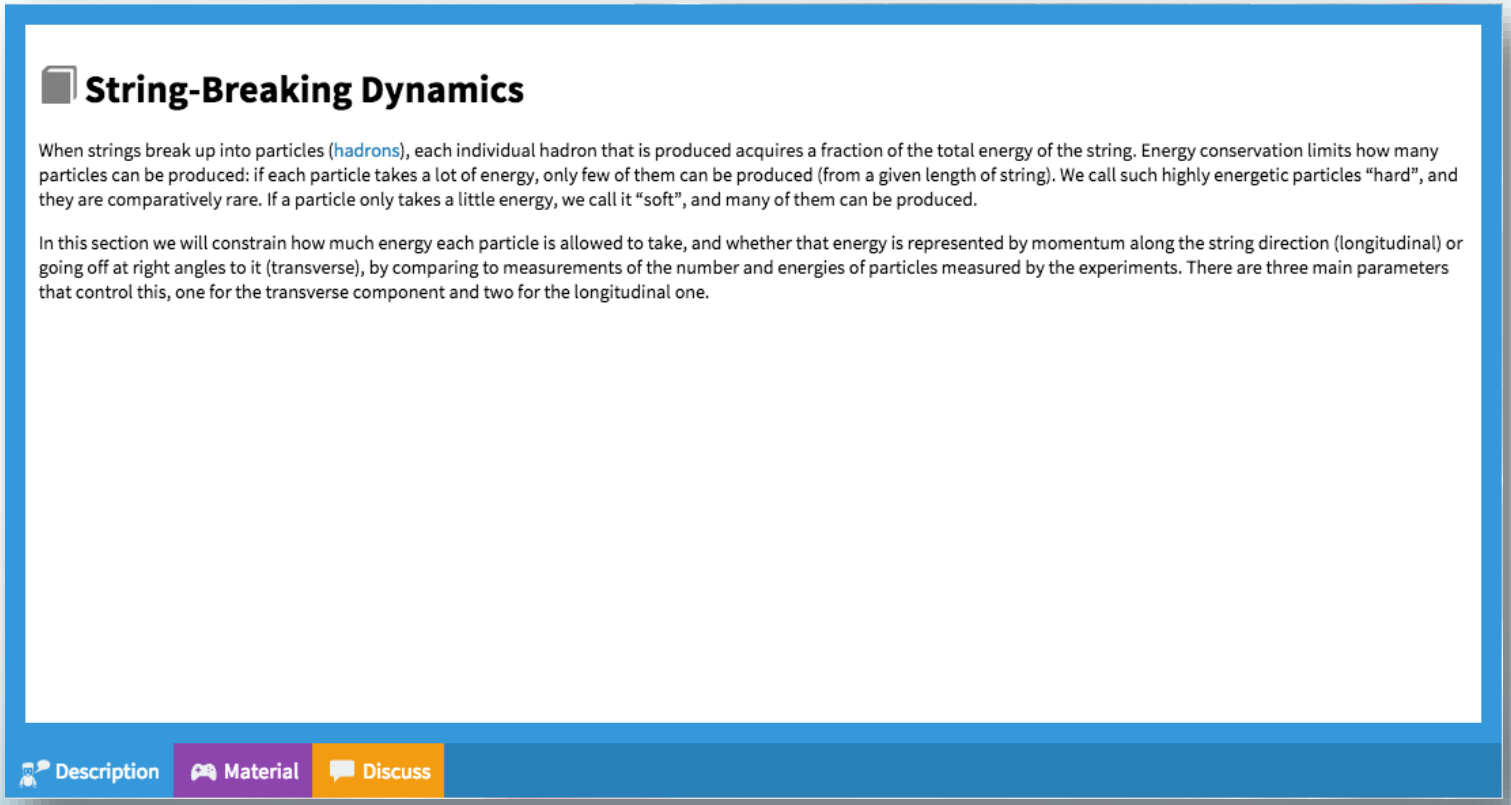
Collaboration with UPD

3. Educational Content

Content Development

- Physic’s terms
  - Simplified explanations
  - Link to external material
  - Red Wire Mini games

Simplified Explanations

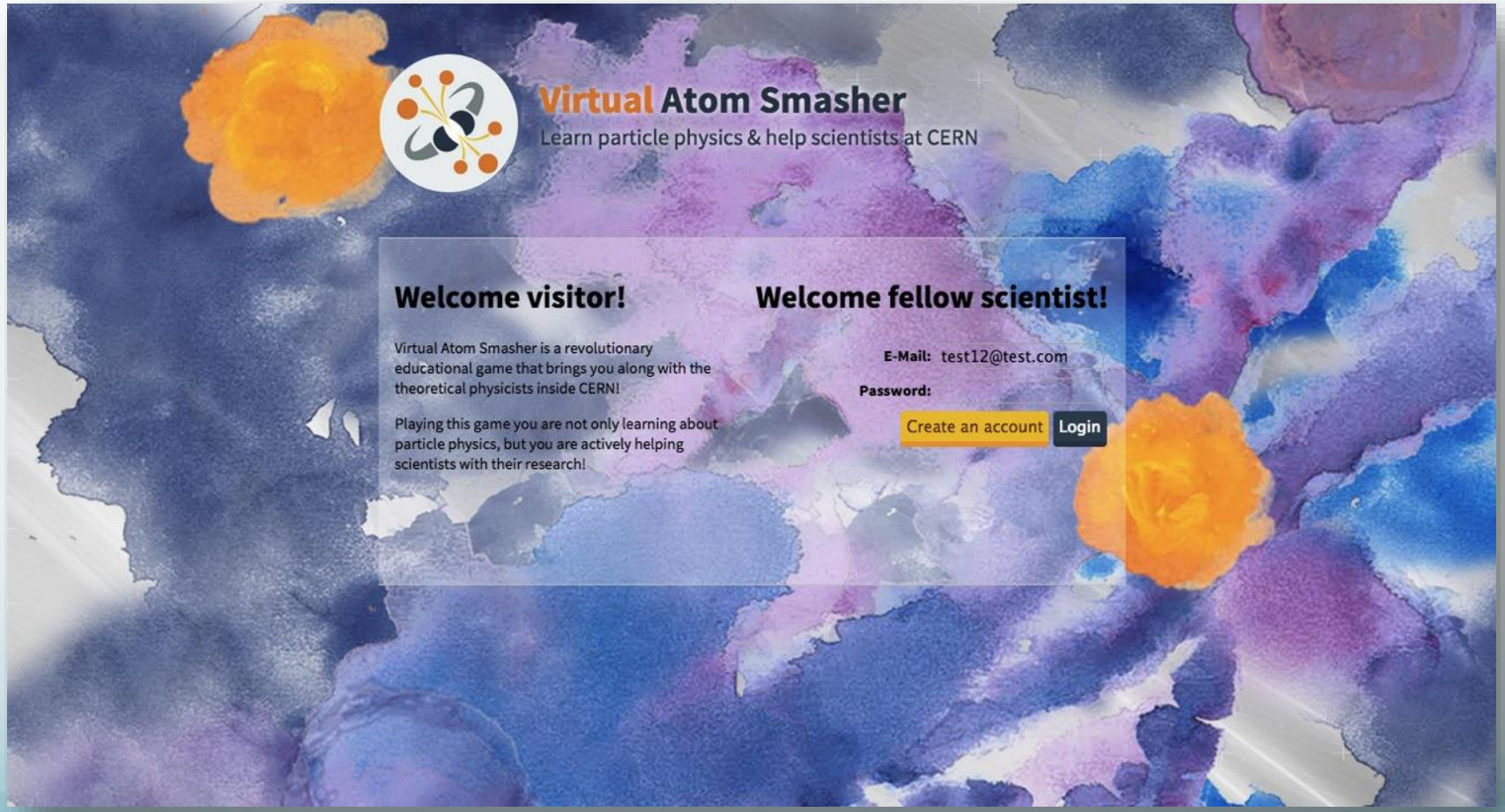


4. The New Game Graphics

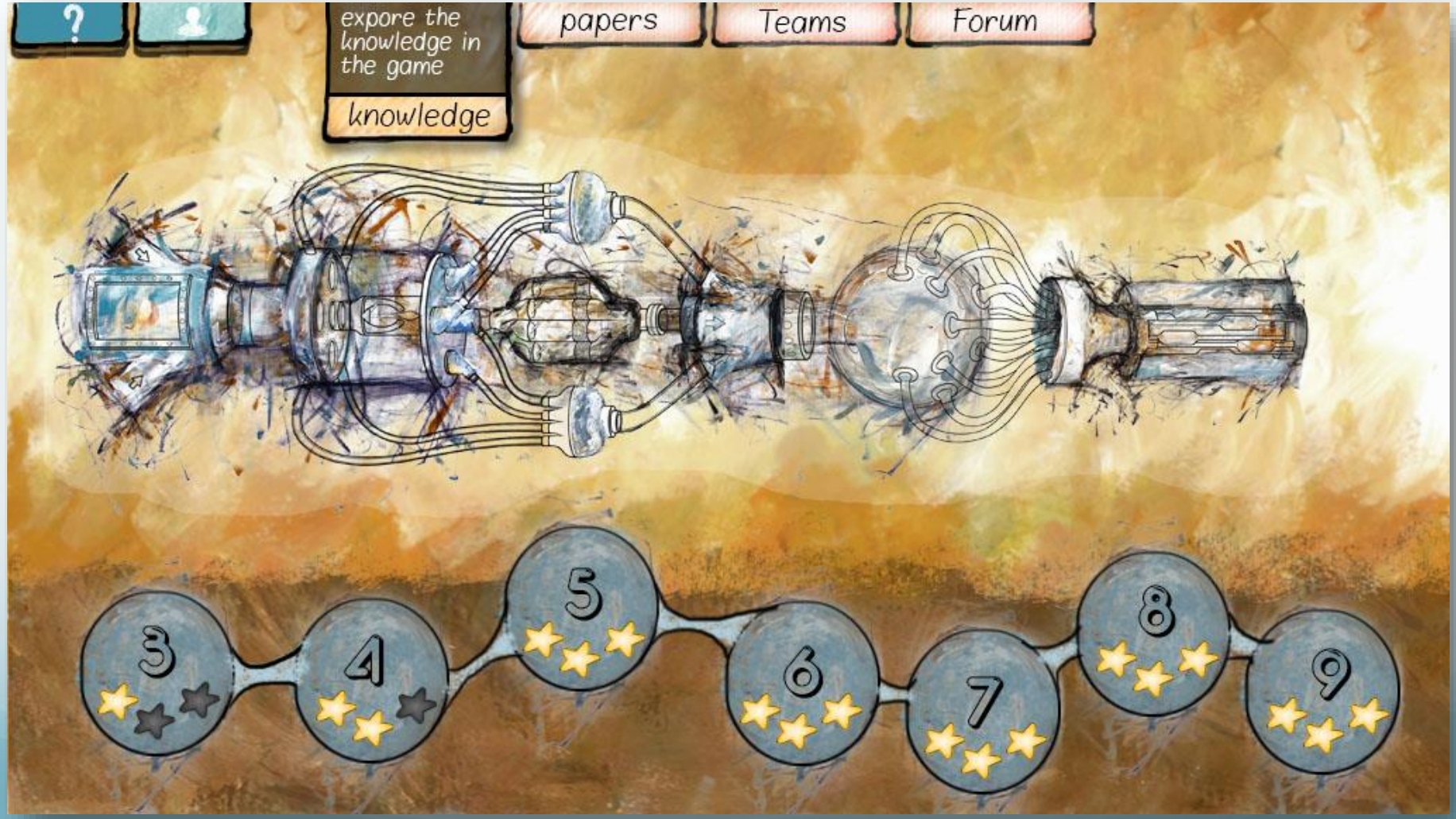
The New Game Graphics

- Hand Drawn Post Processed Graphics
  - Series of paintings
  - Hand drawn details
  - Visually appealing design system
  - Improved aesthetics

Login Screen



Home Screen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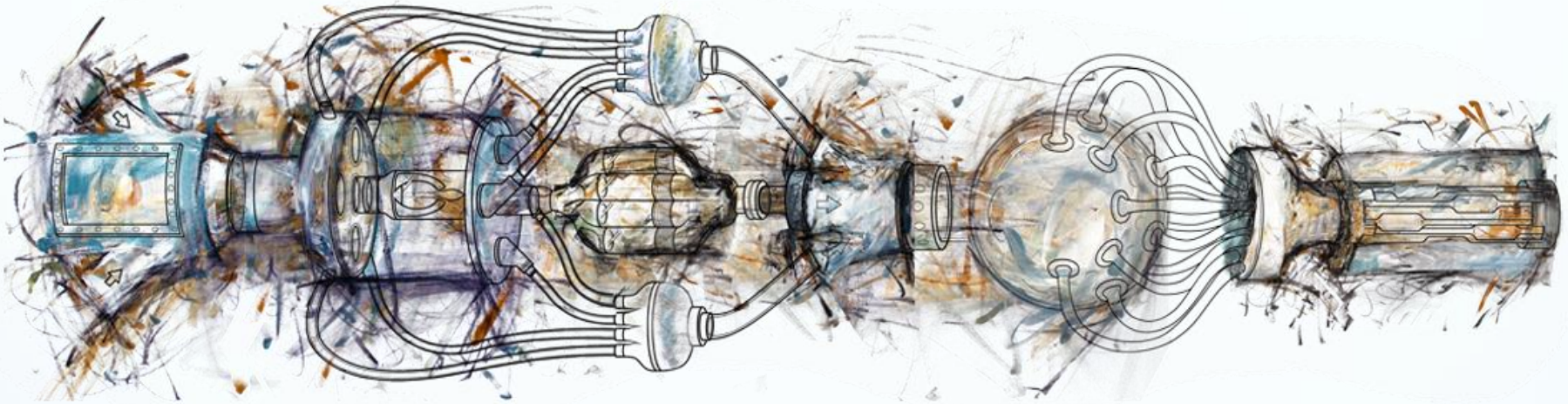
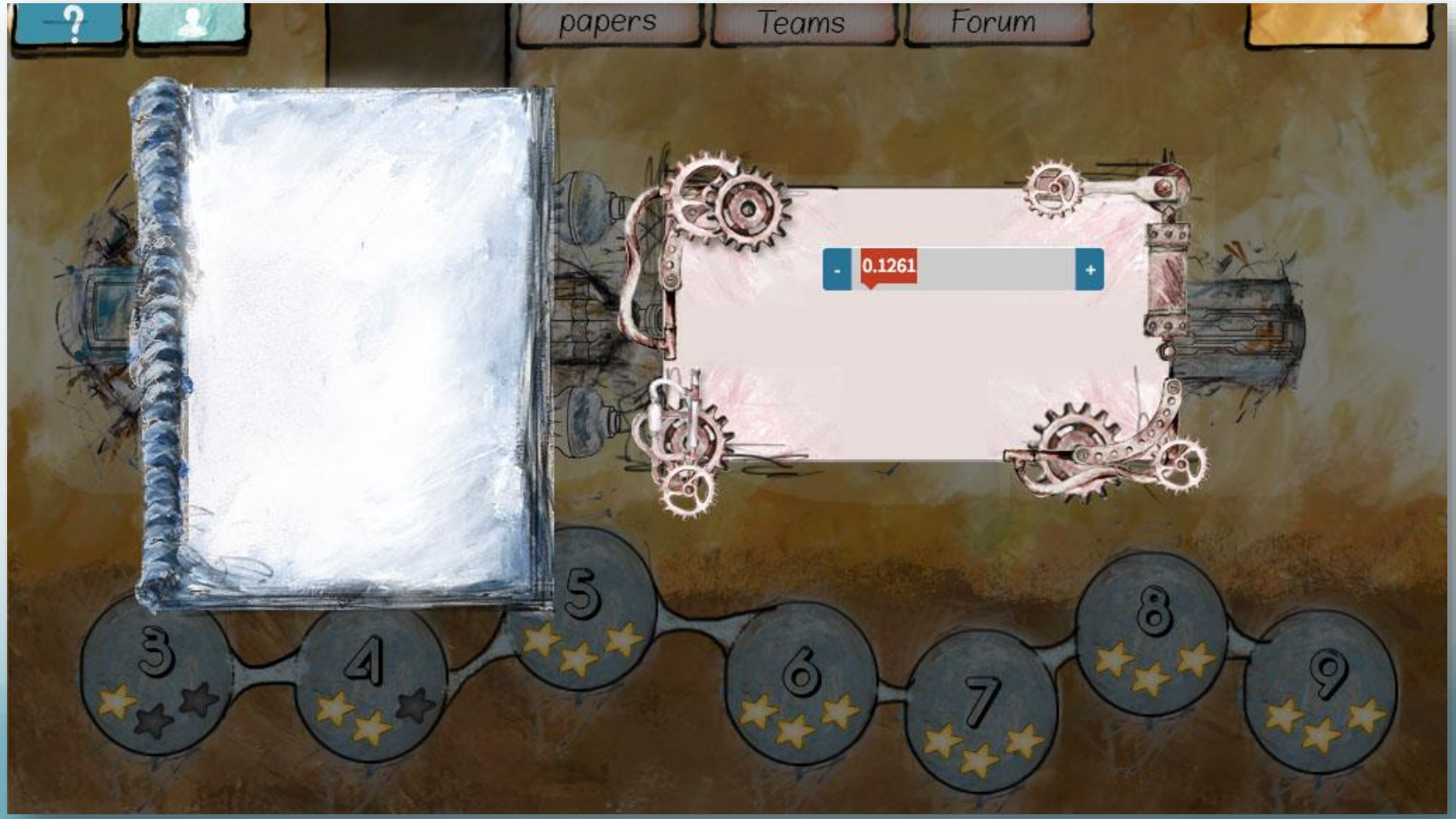
The Quantum Machine

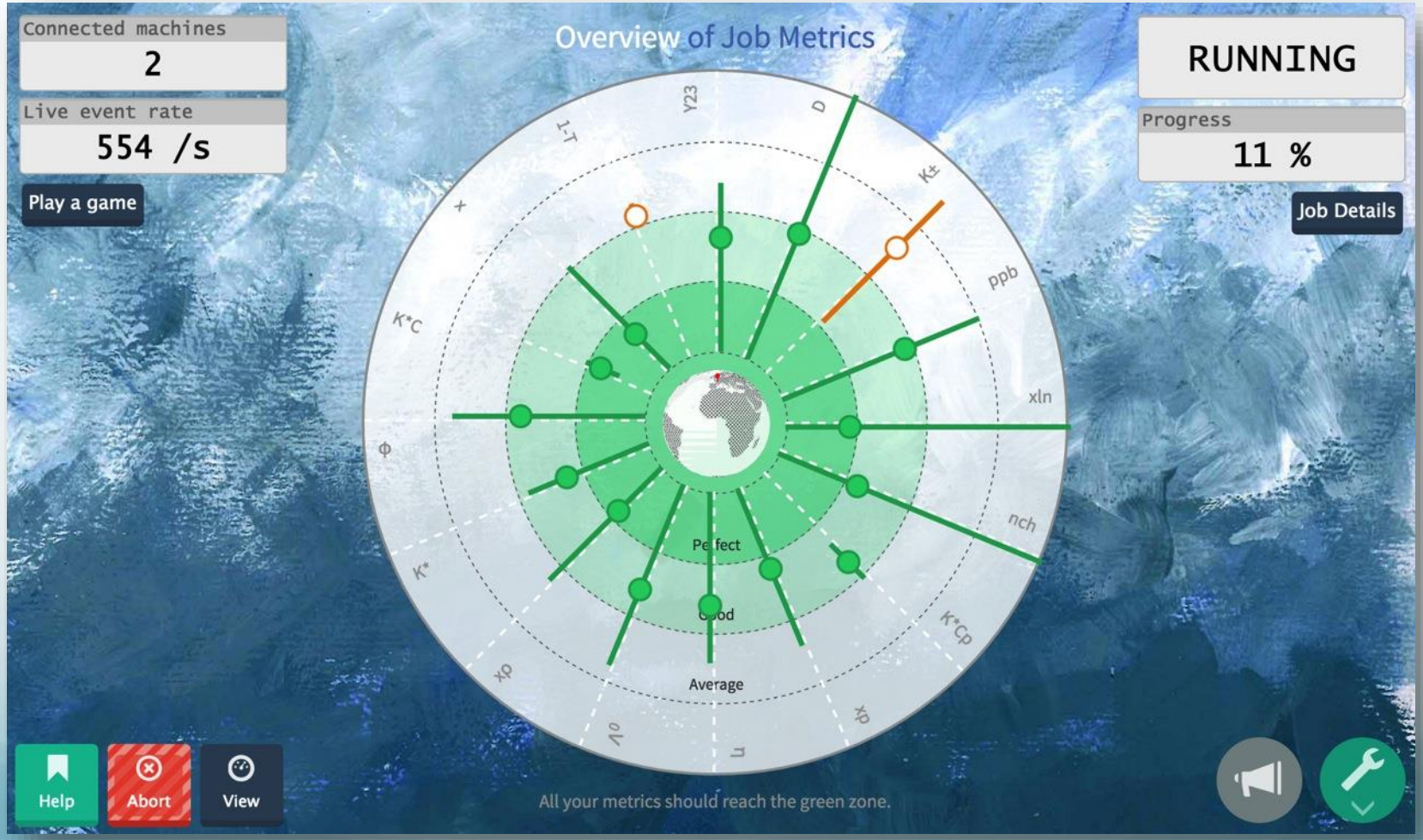


Abstract mechanical equivalent of Pythia’s event generator

Tuning Screen



Simulation Screen



Help Screens

We are waiting for your feedback !

http://test4theory.cern.ch/vas