PROJECT G

Educational Game for Learning Genetic Algorithm

GROUP 19

What is Project G?

PROJECT G is an educational game created for people who are interested in the Genetic Algorithm. The player will role play as a company owner who has to create a powerful battle force for protecting the Earth from aliens in the future. To create such force, the player has to learn and validate their skills through several puzzles designed using Outcome-based Education (OBE), to ensure that the player has fulfilled learning outcomes.

After playing the game, we wish the player to achieve the outcome: The player can model the algorithm for solving the **knapsack problem** using the proper problem formulation, **parent selection** method, **crossover** method, and **improvement techniques**, including elitism and mutation.

Why do we create Project G?

Organizers

Research Unity, C#, and Genetic Algorithm.
Apply Genetic Algorithm in game-making.

Players

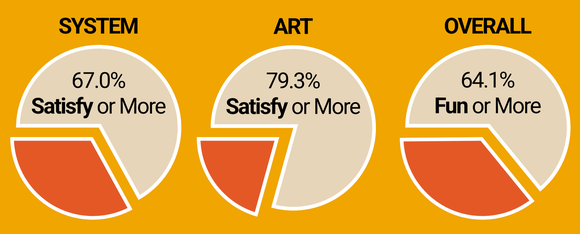
Learn Genetic Algorithm with fun.
Practice decision and management.

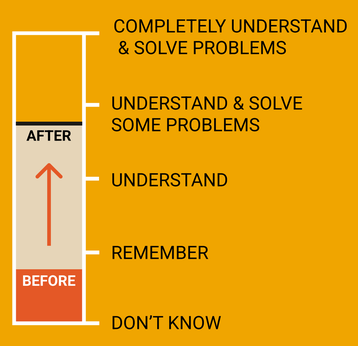
Technologies & Tools

Unity, C#, Visual Studio, Figma, aseprite

How is the players' satisfaction?

92 play-testers

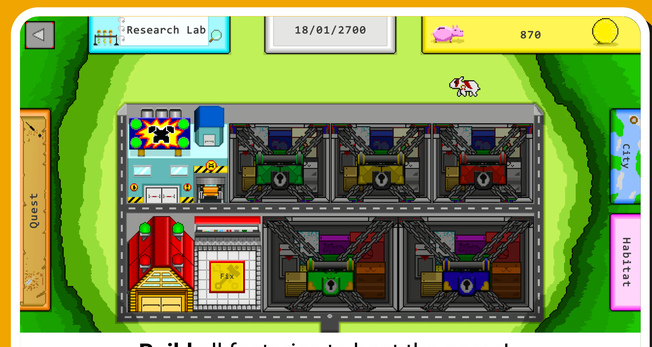




After playing the game, the knowledge level of **50%*** of the testers **increases by 2 levels.**

*The others already understand the Genetic Algorithm before, so no lucid improvement is shown.

Result - The Game!

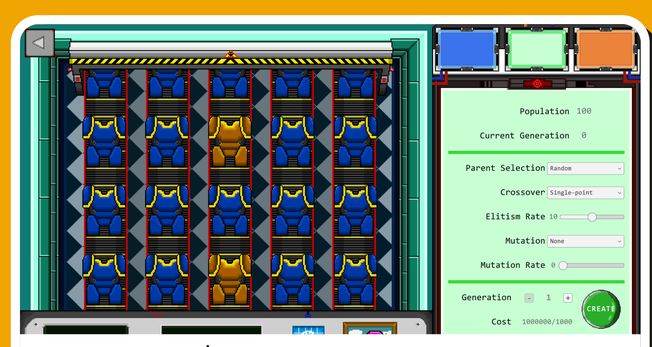


Build all factories to beat the game!

The Hub

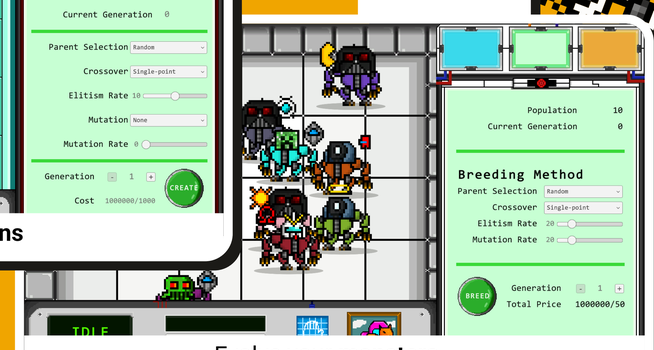
Patting capybaras

The Capybara



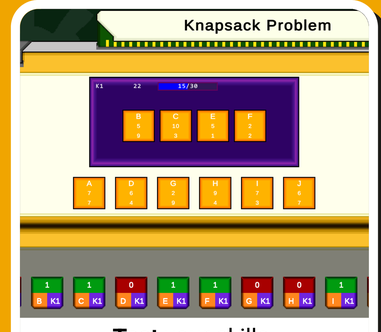
Improve your **weapons**

The Factory



Evolve your **monsters**

The Farm

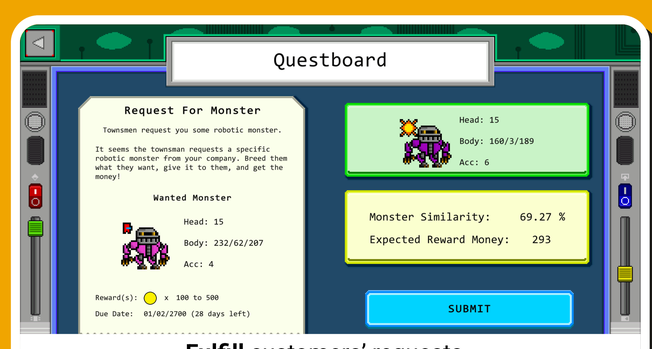


Test your skills

The Puzzle

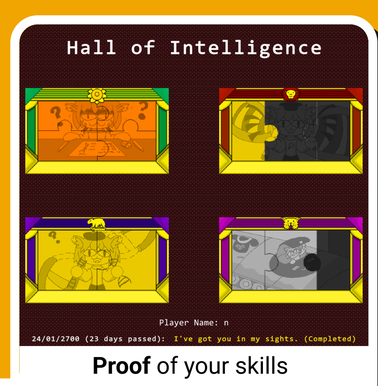
Explore the story & **Expand** your knowledge

The Cutscene



Fulfill customers' requests

The Quest Board



Proof of your skills

The Hall of Intelligence

Populate your farm

The Shop

Compete with enemies

The Arena

Members

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