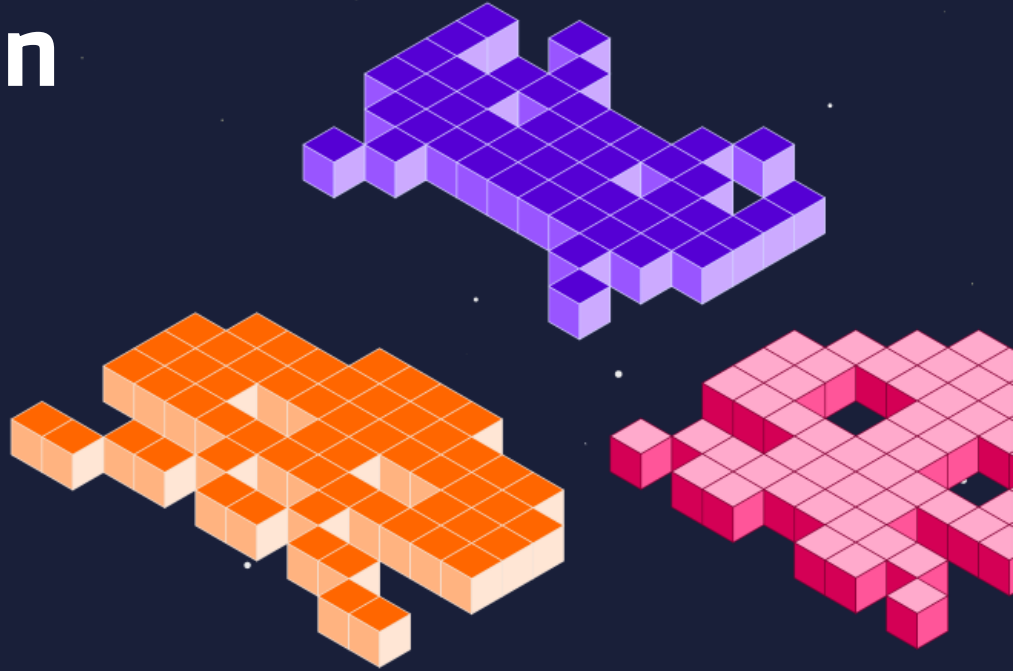


Final Presentation

Game of Ethics

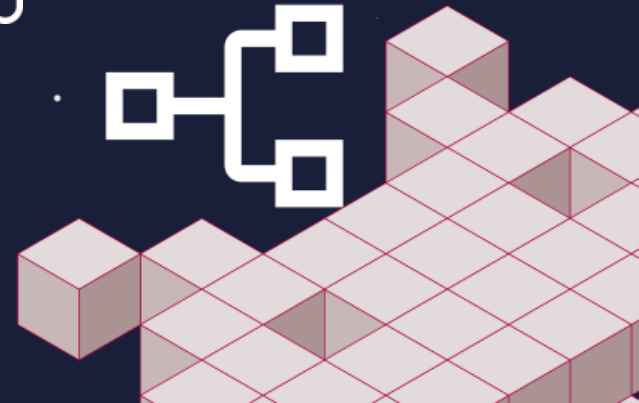
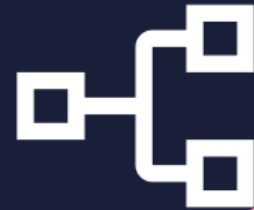


GE-Redback Team
24th May 2023



Contents

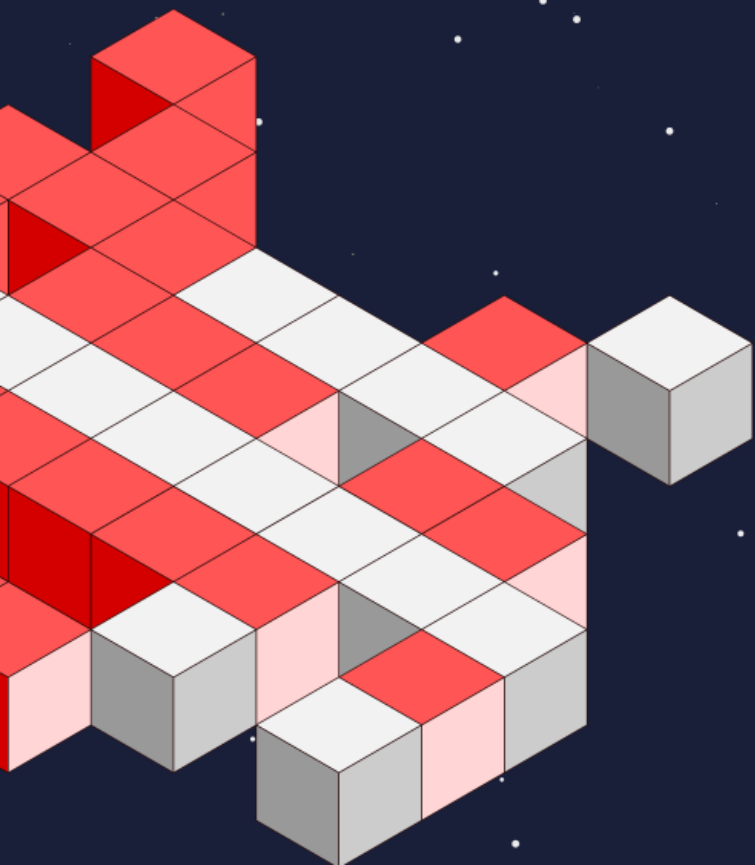
- **Team & Project**
- **Completed Works**
- **Game Live Demonstration**
- **Future Development Suggestions**
- **Conclusion**





01

The Team & The Project



The Team

The Team



Andy

Dev / Frontend

Dev / Backend

Scrum Master



Tiber

Dev / Frontend

Dev / Tester



Bo Han

Dev / Frontend

Dev / Tester



Zhuo Fu

Dev / Backend

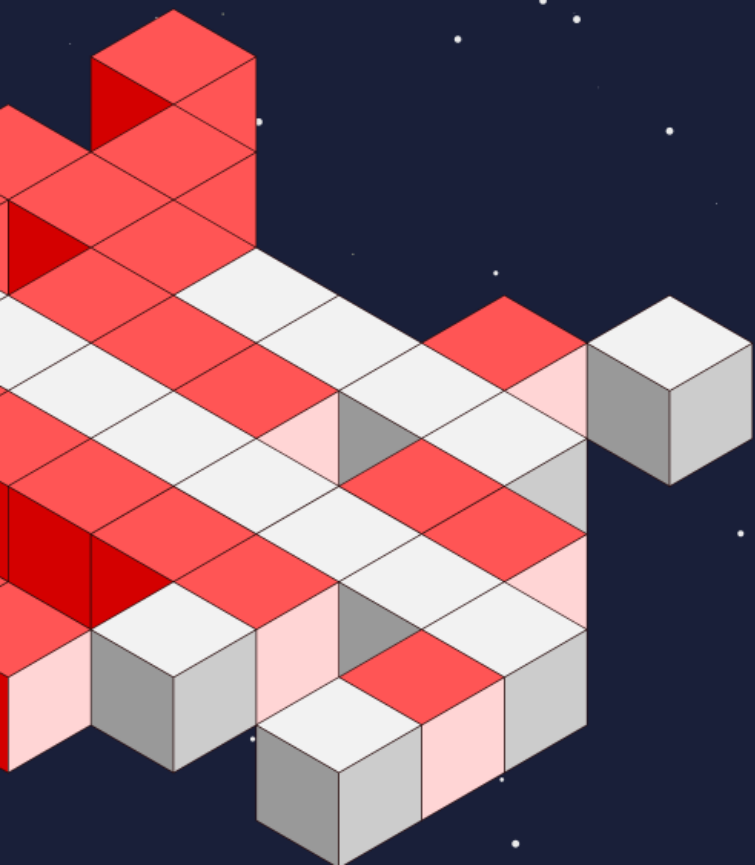
Dev / Database



Sam

Dev / Backend

Product Owner



The Project

About the Project

What is the **Game of Ethic** ?



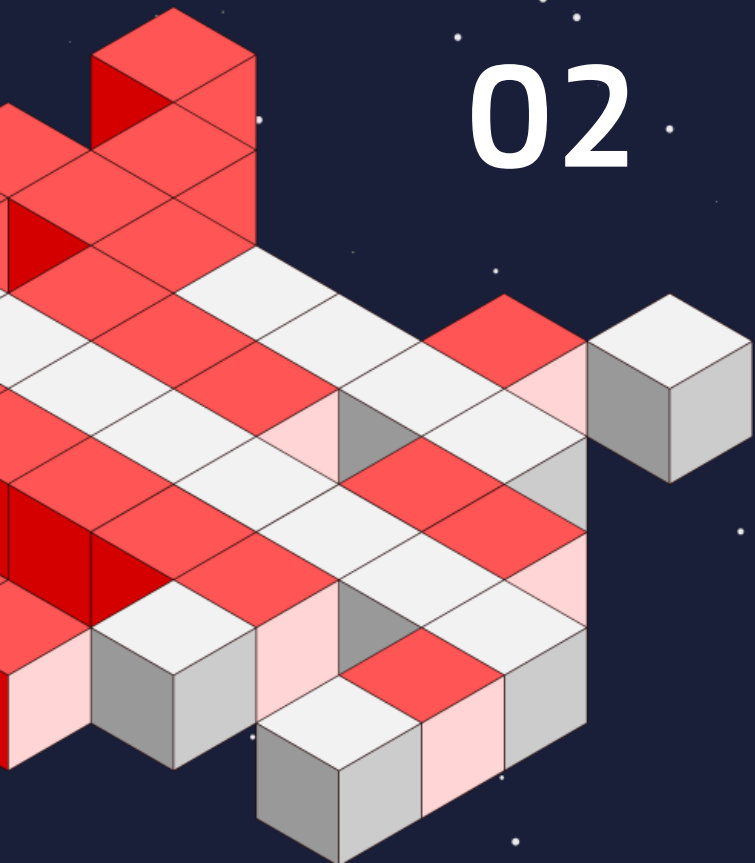
Main **Goals** of this Project

1. Fix issues in the game



2. Deploy on AWS

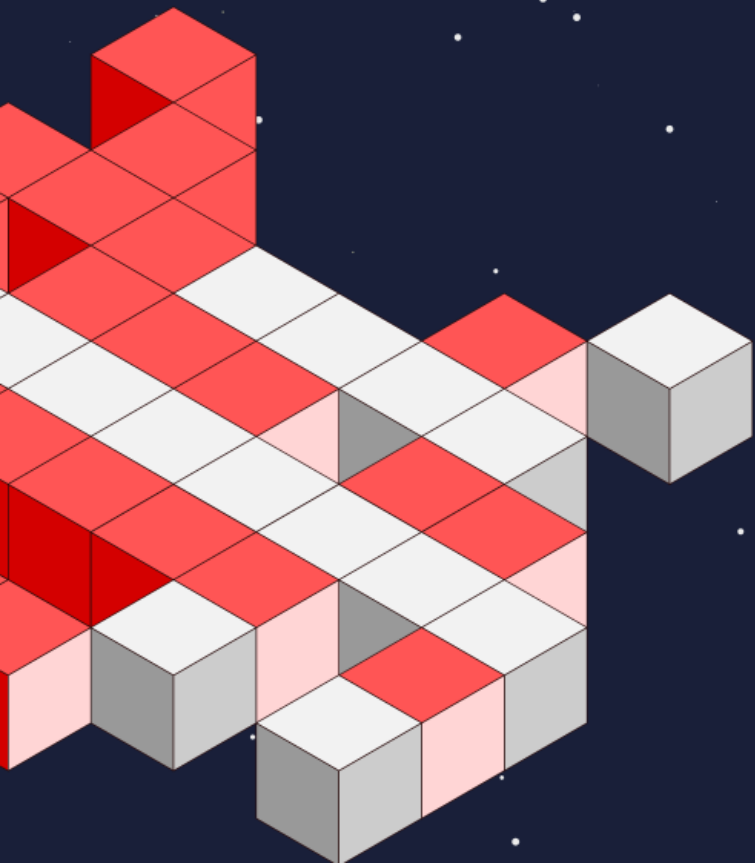




02

Completed Work

Deployment



Deployment

		AWS	Heroku	Netlify	Render
Pricing	<u>pro</u>	<ul style="list-style-type: none"> - Pay-as-you-go pricing - Cost optimization tools 	<ul style="list-style-type: none"> - Free tier availability - Reduced infrastructure and maintenance costs 	<ul style="list-style-type: none"> - Generous free tier - Pay-as-you-grow pricing 	<ul style="list-style-type: none"> - Free tier for small-scale projects - Transparent pricing with no hidden costs
	<u>con</u>	<ul style="list-style-type: none"> - Complex pricing structure 	<ul style="list-style-type: none"> - Limited free tier 	<ul style="list-style-type: none"> - Additional third-party services 	<ul style="list-style-type: none"> - No built-in MongoDB support
Performance	<u>pro</u>	<ul style="list-style-type: none"> - Global infrastructure - Auto-scaling 	<ul style="list-style-type: none"> - Automatic scaling and load balancing 	<ul style="list-style-type: none"> - Global CDN - Automatic HTTPS 	<ul style="list-style-type: none"> - Global CDN for optimal latency - Efficient resource allocation
	<u>con</u>	<ul style="list-style-type: none"> - Network latency 	<ul style="list-style-type: none"> - Limited control over infrastructure 	<ul style="list-style-type: none"> - No native support for WebSockets 	<ul style="list-style-type: none"> - Potential cold start issues
Flexibility	<u>pro</u>	<ul style="list-style-type: none"> - Integration options 	<ul style="list-style-type: none"> - Multi-language and framework support - Integration with popular development tools 	<ul style="list-style-type: none"> - Wide range of integrations - Serverless functions with AWS Lambda 	<ul style="list-style-type: none"> - Seamless integration with modern tech stacks - Streamlined collaboration and access control
	<u>con</u>	<ul style="list-style-type: none"> - Time-consuming learning curve 	<ul style="list-style-type: none"> - Vendor lock-in 	<ul style="list-style-type: none"> - Limited database support 	<ul style="list-style-type: none"> - Smaller ecosystem and community
Scalability	<u>pro</u>	<ul style="list-style-type: none"> - On-demand resource provisioning - Load balancing and distribution 	<ul style="list-style-type: none"> - Effortless scaling of dynos - Seamless database scaling 	<ul style="list-style-type: none"> - Serverless functions - Load balancing and redundancy 	<ul style="list-style-type: none"> - Automatic scaling for fluctuating workloads - Managed databases with scaling options
	<u>con</u>	<ul style="list-style-type: none"> - Overprovisioning 	<ul style="list-style-type: none"> - Pricing impact 	<ul style="list-style-type: none"> - Dependent on third-party services 	<ul style="list-style-type: none"> - No built-in MongoDB support
Security	<u>pro</u>	<ul style="list-style-type: none"> - Data protection - Compliance and security certifications 	<ul style="list-style-type: none"> - Platform-level security - Automatic security updates 	<ul style="list-style-type: none"> - Automatic HTTPS 	<ul style="list-style-type: none"> - Private networking and isolation - Regular updates and security patches
	<u>con</u>	<ul style="list-style-type: none"> - Shared responsibility model 	<ul style="list-style-type: none"> - Data compliance restrictions 	<ul style="list-style-type: none"> - Dependency on third-party services 	<ul style="list-style-type: none"> - Limited security features

Deployment

Performance

Pricing

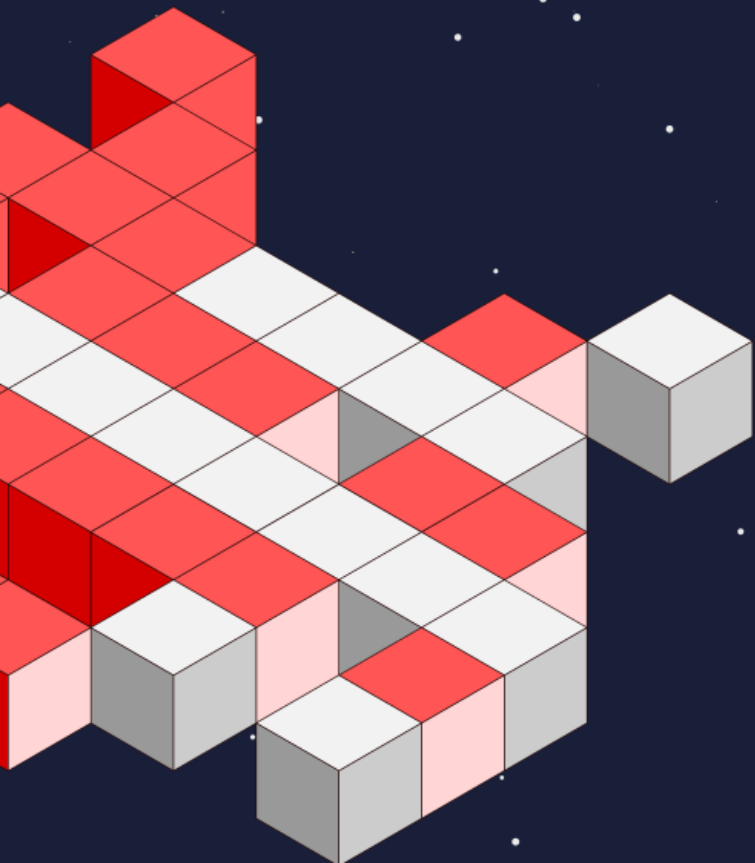
Flexibility

Scalability

Security



UI Improvement



UI Improvement

About You

As a Boeing Pilot, you have worked for Boeing for 12 years, immensely loyal to Boeing and what it stands for. You are somewhat disturbed by the news of a new Boeing Exectuvie being appointed, worried that the upheaval of the company might change it for the worse. Having retired from commercial flight in 2008, you have stepped into a testing role as it reduced the stress of travel and seemed a natural transition into retirement, which was expected to be in around 8 years from then. A relatively uninspiring job, you were delighted to hear that he/she would work on the 737 MAX project, where you would get the opportunity to test new and innovative plane designs; and leverage your commercial flying experience to comment on designs and software models from a practical perspective.



previous version

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current version

UI Improvement (Cont'd)

Background

Boeing, the biggest aircraft producer in the world, now faces the most serious challenge you have ever faced in the company's history. Your competitor, Airbus, had little market share back in 1990s, but it splits the market nearly evenly with you. Moreover, Airbus prepares to launch a new aircraft model, which they claim it can carry more payload but consume less fuel. It would cause that Boeing 737's demand decreases and more worst, lower stock price. To turn the situation around, you, a group of people from different areas, are gathered and assigned a task: develop a new aircraft model which can beat Airbus.



previous version

Background

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To turn the situation around, you, a group of people from different areas, are gathered and assigned a task: develop a new aircraft model which can beat Airbus



current version

UI Improvement (Cont'd)

Group Discussion

Below is a personal question, you have 60s to finish your choice.

As an FAA official, you are tasked with scheduling inspections to ensure the plane is developed up to a high quality standard. You have worked with the company for many years, and know that they have a history of reliability and high performance. You are to decide on a suitable number of inspections, each inspection incurs additional time and financial costs for the company, so choose wisely.

- ☒ 1: Make one inspection at the end of plane development, minimizes costs and shows trust
- ☐ 2: Make two inspections, one mid-way through development and one at the end of development, more balanced, and what has been done in the past
- ☐ 3: Make three inspections, one at the start, one mid-way through, and one at the end of development, more thorough but conveys less trust.

SUBMIT MY CHOICE

00 m 56 s

previous version

Group Discussion

Below is a personal question, you have 60s to finish your choice.

As an FAA official, you are tasked with scheduling inspections to ensure the plane is developed up to a high quality standard. (Click to see more...)

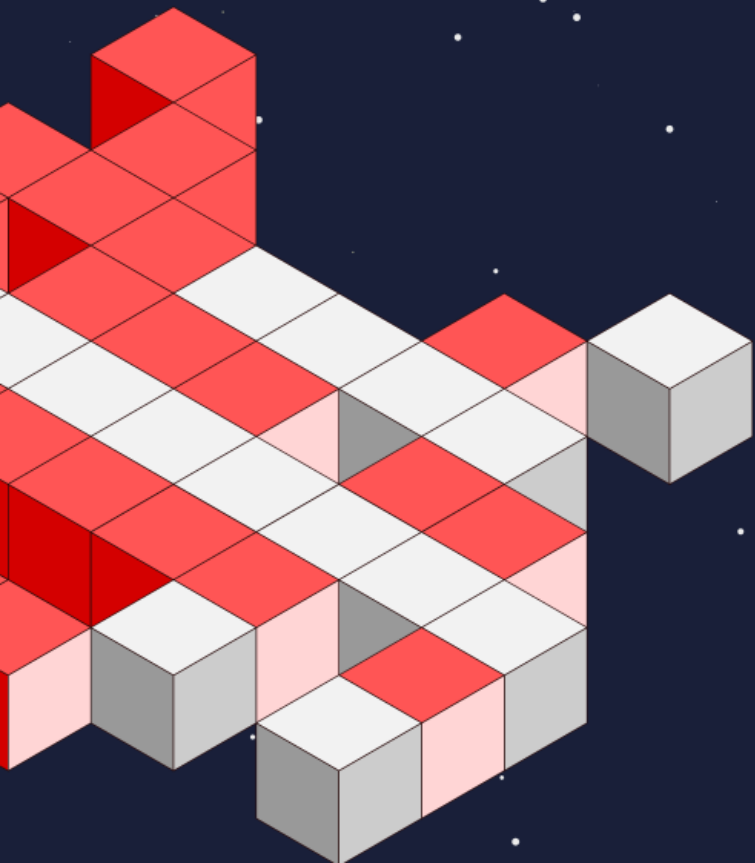
You have worked with the company for many years, and know that they have a history of reliability and high performance.

- ☒ **A** Make one inspection at the end of plane development, minimizes costs and shows trust.
- ☐ **B** Make two inspections, one mid-way through development and one at the end of development, more balanced, and what has been done in the past.
- ☐ **C** Make three inspections, one at the start, one mid-way through, and one at the end of development, more thorough but conveys less trust.

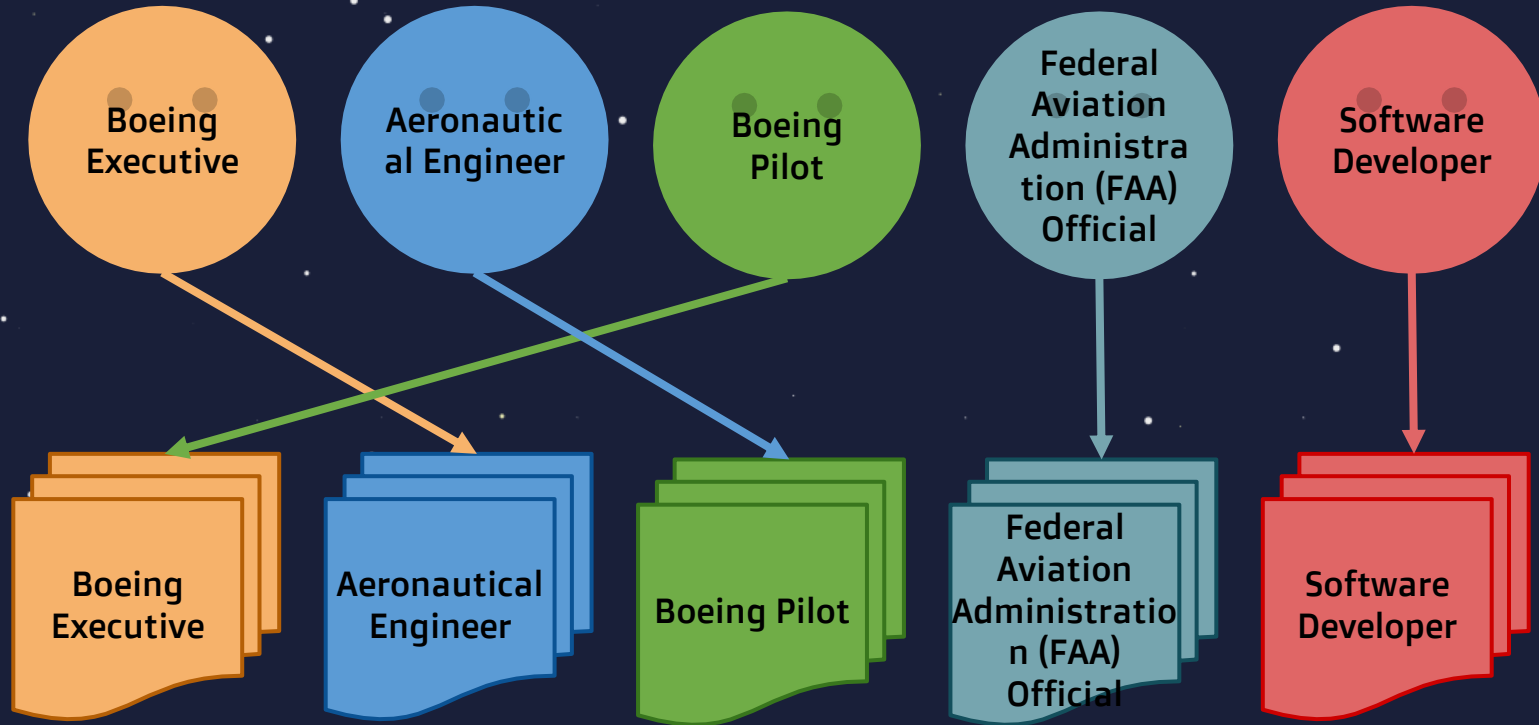
SUBMIT MY CHOICE

current version

Decision Tree

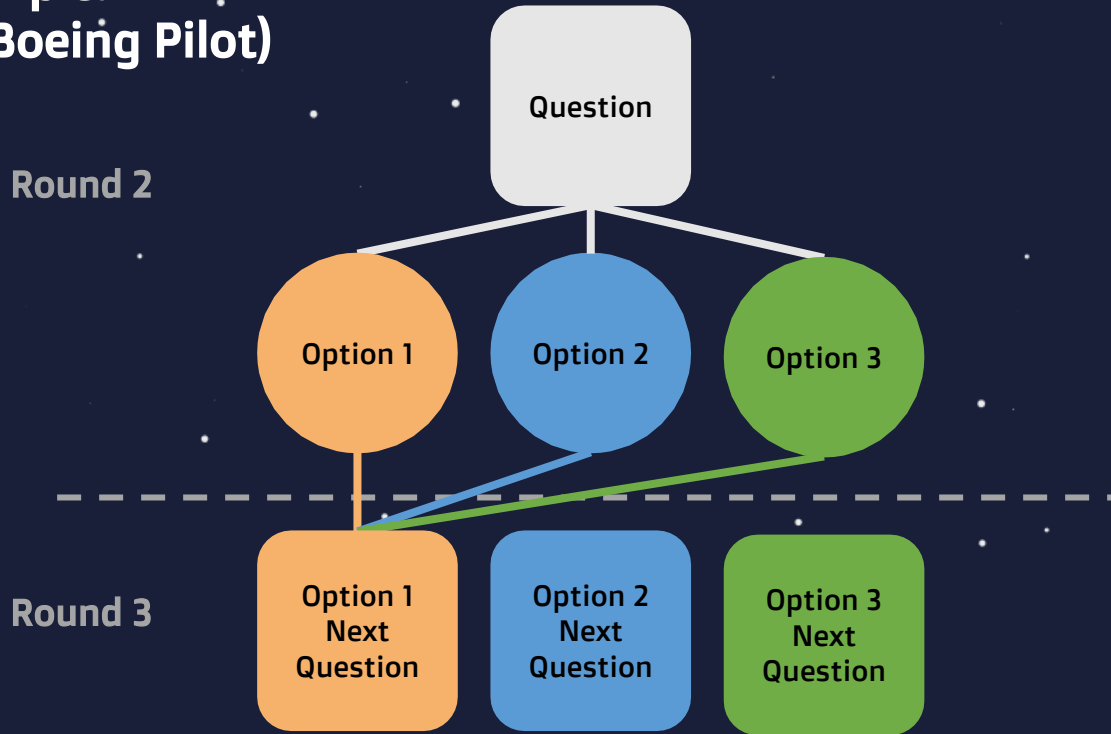


Old Decision Tree (Issue1)

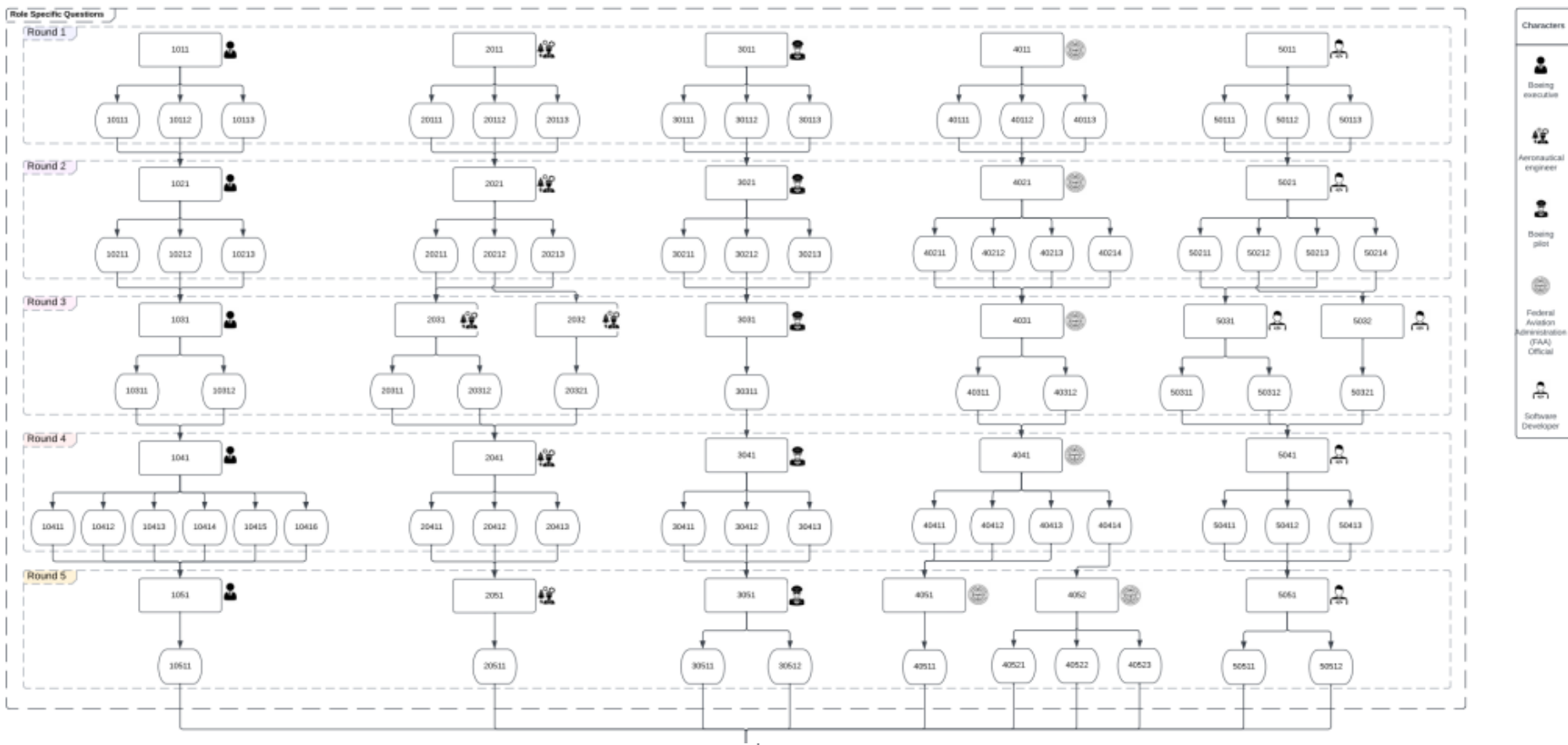


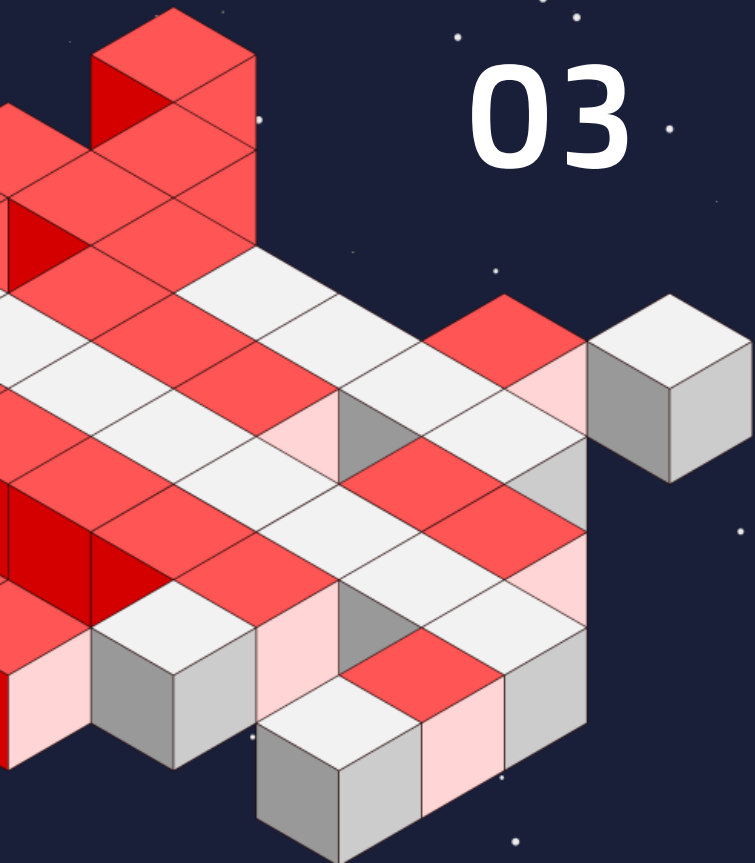
Old Decision Tree (Issue2)

For example:
Role 3 (Boeing Pilot)



New Decision Tree





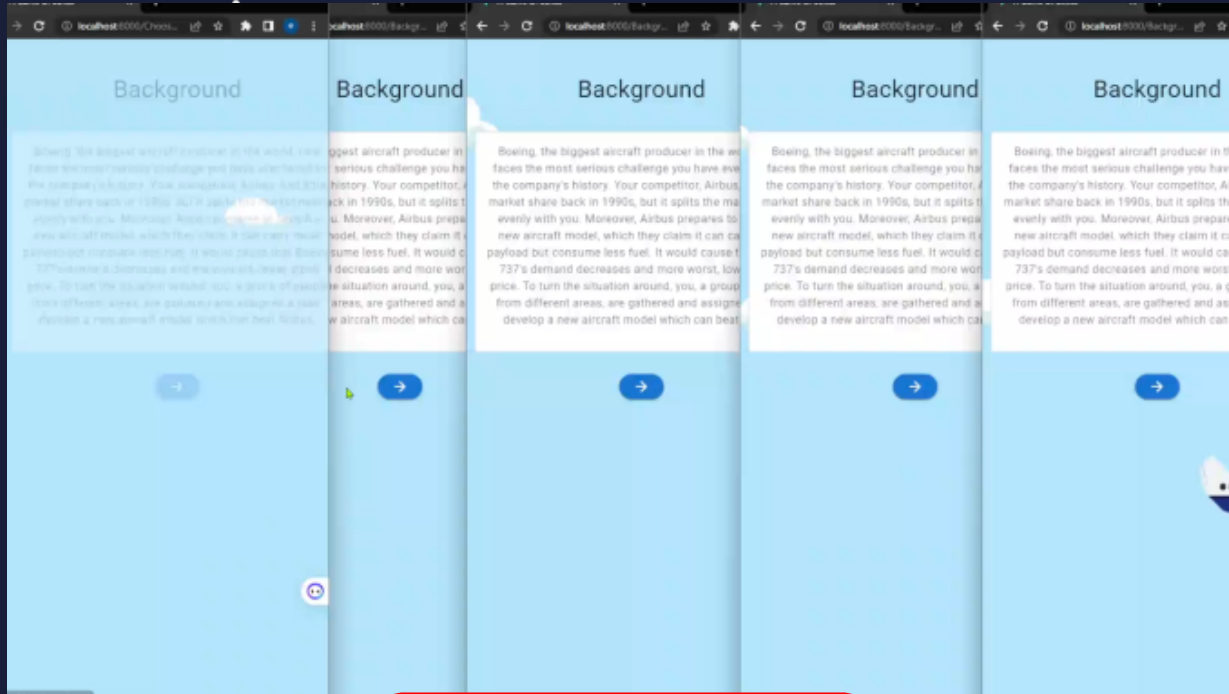
03

Game Live Demo

Game URL:

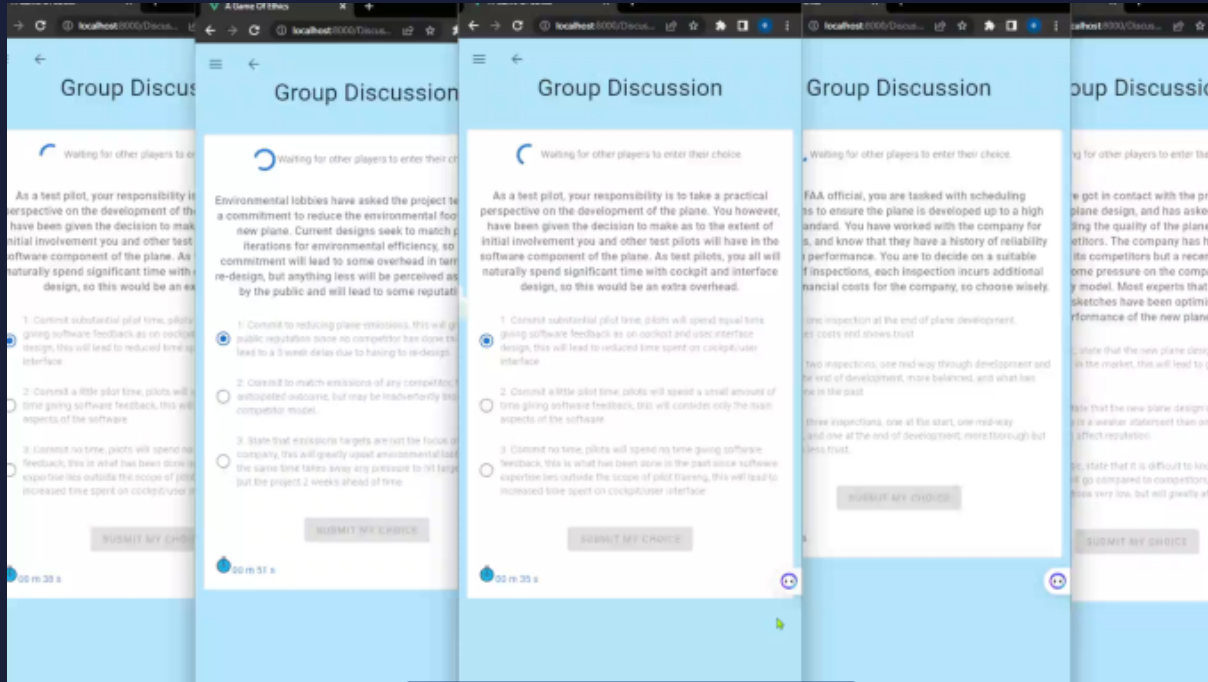
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Mechanism and Function (Issue1)



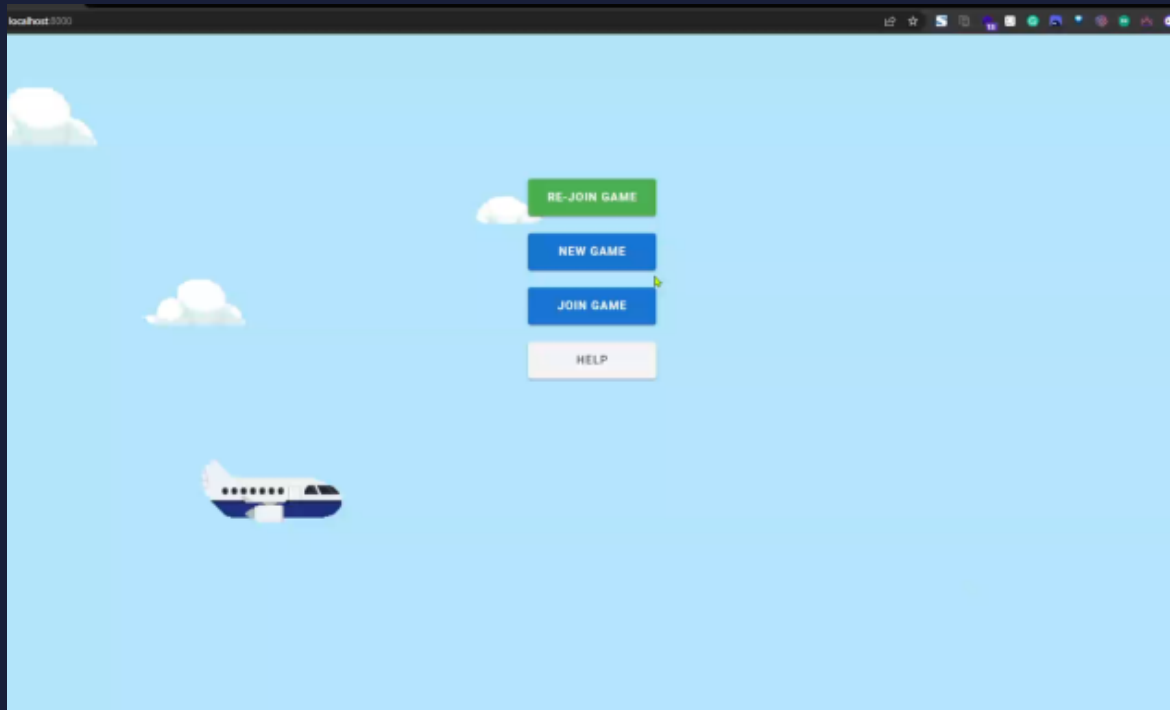
The “Love Triangle”

Mechanism and Function (Issue2)



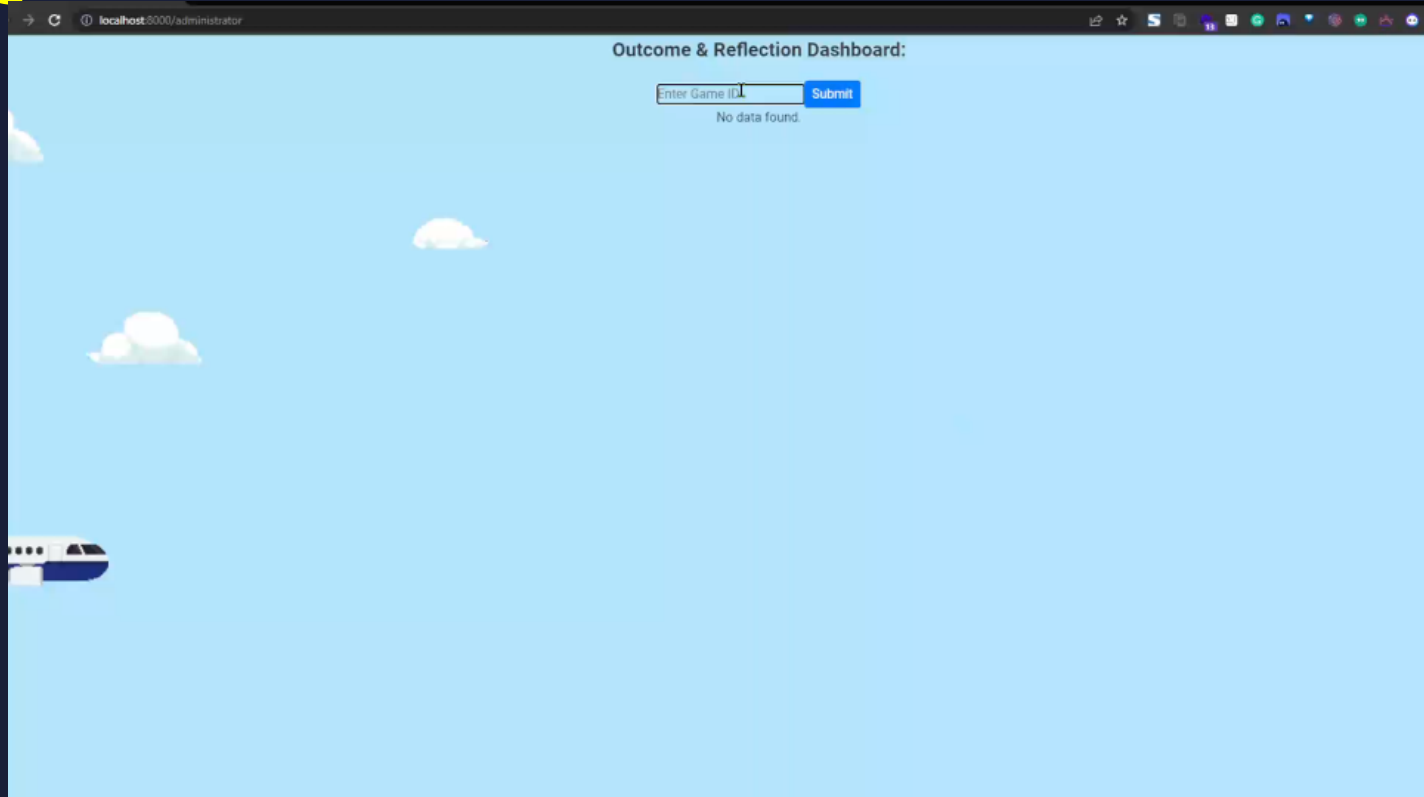
The “Hidden Man” Stuck

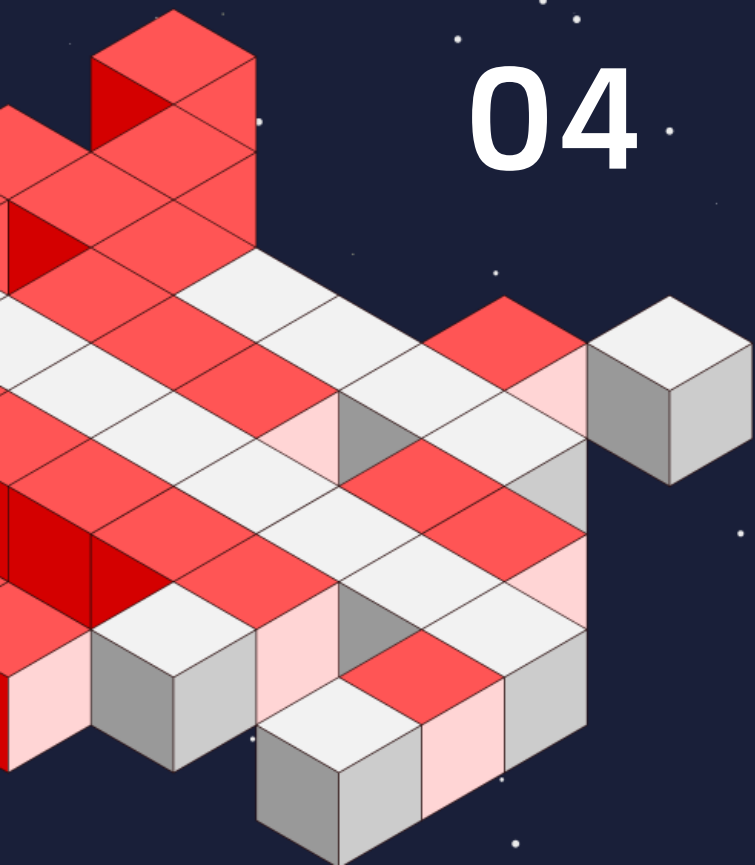
Mechanism and Function (Issue3)



The “Who Am I” Re-join

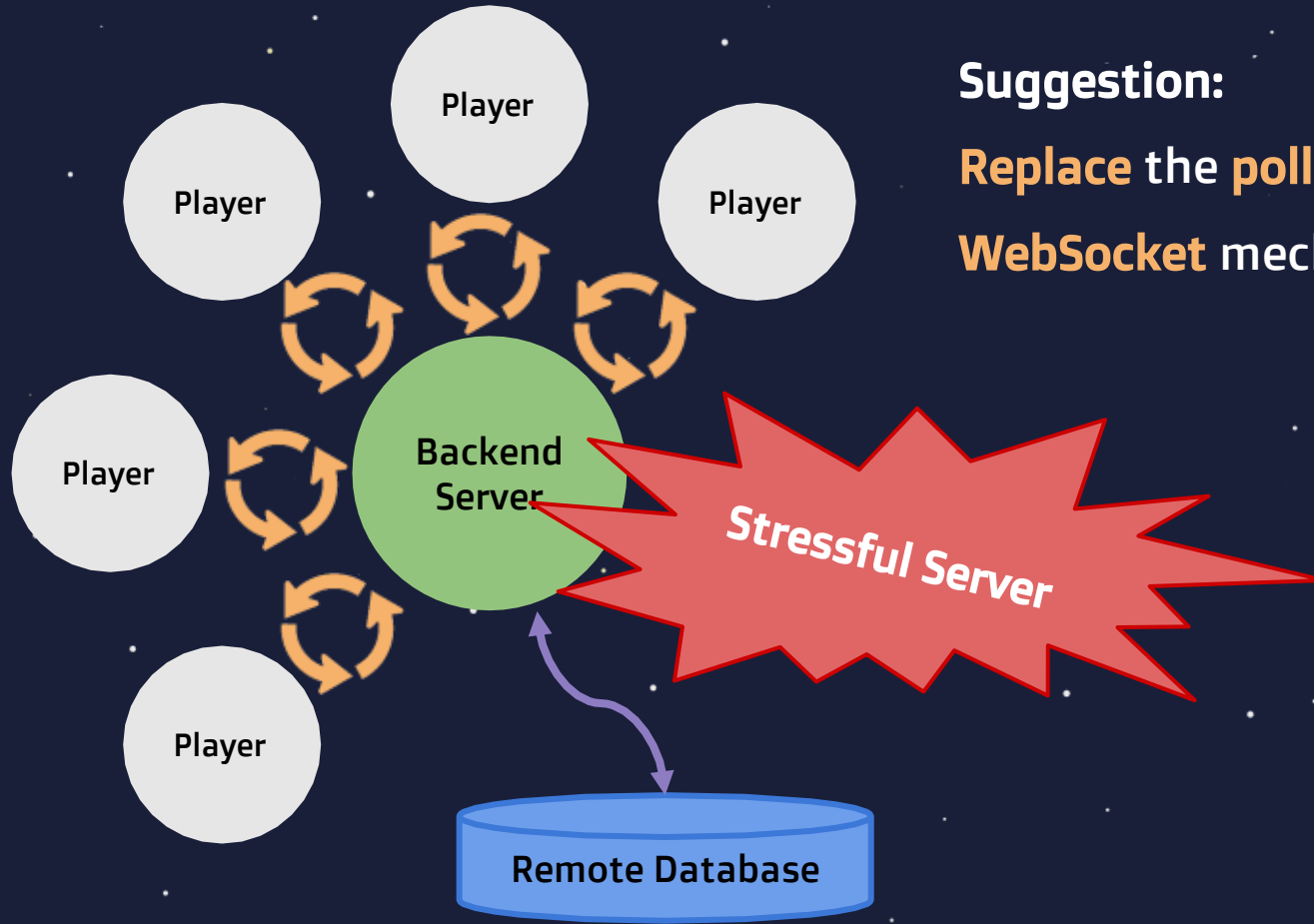
Mechanism and Function (New feature – Admin Page)





04

Future Development Suggestion



Suggestion:

Replace the **polling** mechanism with **WebSocket** mechanism or other

→ Suggestion 2

Add **Offline Indicators** in status menu



→ Suggestion 3

Defending **Script Attack**



05

Conclusion

What We Have Improved

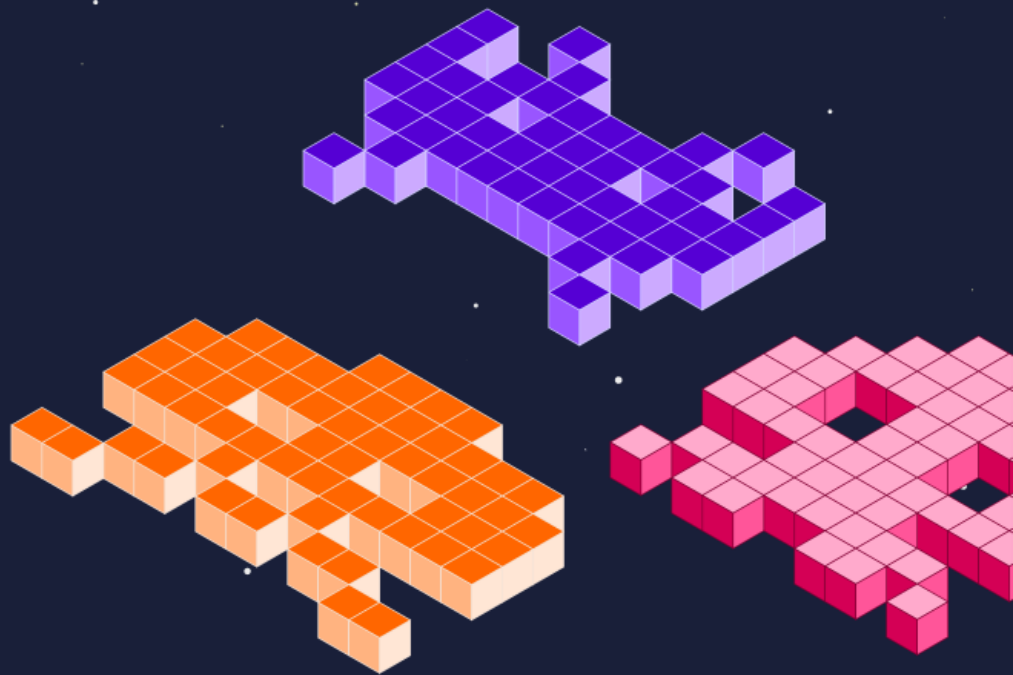
1. Deploy to **AWS**
2. Improve **UI**
3. Fix **Rejoin** Function
4. Add Game **Status Monitor**
5. Reform and Improve **Decision Tree**
6. Create **Admin Page**
7. Integrate **chatGPT**

What We Have Learned

1. **Frontend / Backend** Development
2. Code **Testing Workflow**
3. Familiarise **Agile** Development Process

Thank You !

Supervisor: Stephanie Brook
Client: Dr Mauro Mello Jr



Q&A

