

“Proof of Concept” of a flexible simulation sandbox where users can input high-level goals and witness emergent behavior. Ideal for testing AI training, robotics, or complex systems modeling.

Games – Gemini Ultra Simulator

Michael Lively Team Lead





Gemini Created Project

Gemini Prompt: I am running a hackathon where I am solving the following problems:

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1. Create "on the fly" synthetic data
 2. Create "on the fly " behavior tree
 3. Use MathPlotLib animation of Synthetic Data
 4. Create an animation "frame" driven environment
-

Can you suggest what project I might best use you (ultra) for in this hackathon

Gemini Ultra

I am running a hackathon in this hackathon
I am solving the following problems:

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3. Mathplotlib animation of Synthetic Data
4. Creating an animation "frame" driven environment

Can you suggest what projects I might best use you (ultra) for this hackathon

Project 1: The Adaptive Simulation Sandbox

Problem: Building realistic simulations often requires hand-crafted data and meticulously designed behavioral models. This is time-consuming and can limit adaptability.

Solution: Create a system where LLMs:

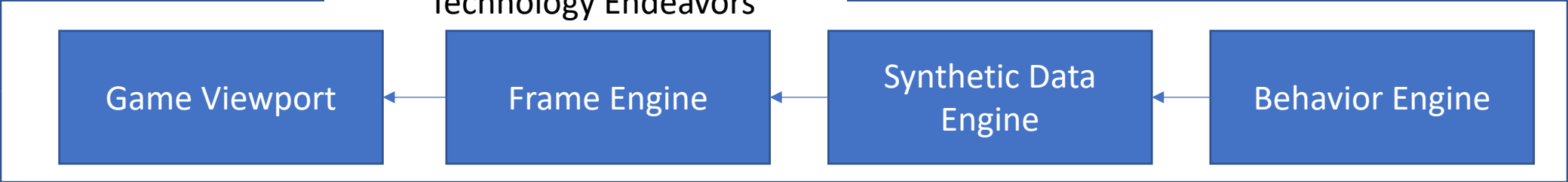
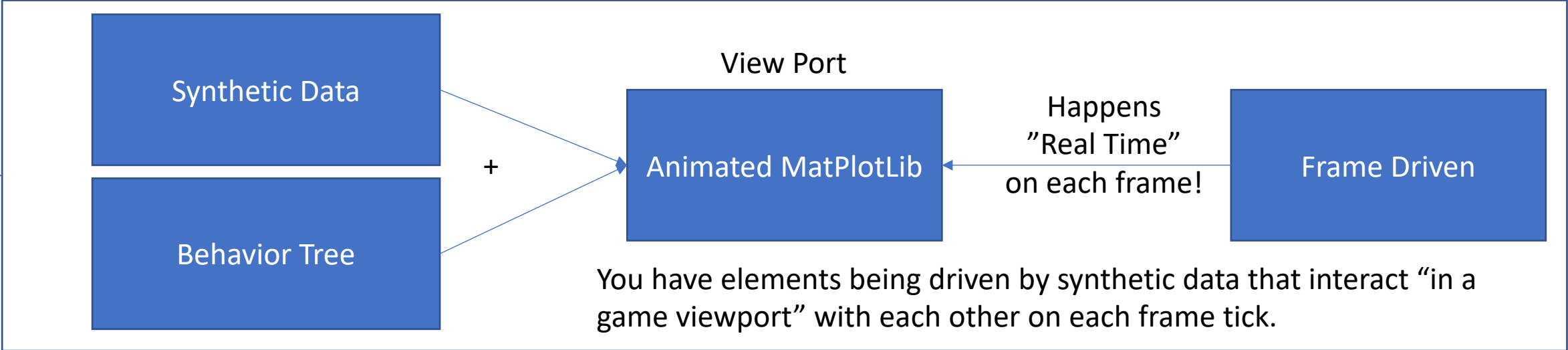


1. Generate synthetic data tailored to a specific simulation scenario.
2. Design dynamic behavior trees that evolve in response to changing simulation conditions.
3. Animate simulation output with Matplotlib, providing real-time feedback.
4. Use a frame-driven environment to control the simulation's execution and visualization.

Outcome: A flexible simulation sandbox where users can input high-level goals and witness emergent behavior. Ideal for testing AI training, robotics, or complex systems modeling.

Games Concept Flow - Gemini Ultra

POC Gemini Ultra Proposal



Game Engine

Do they need backstories, tasks & goals?
Think about Generative AI Agent Interaction.

Gemini Ultra

Gemini **Advanced** ▾

🔗 See the latest updates to the [Gemini Apps Privacy Hub](#)

Hello, Michael

How can I help you today?

Generate a futuristic image



Help me write HTML, CSS, and JS

```
<!DOCTYPE html>
<html>
<head>
<title>Image Slider</title>
<link rel="stylesheet"
href="style.css">
```

Role-play as a character from a novel

Goodness, what a delightful day! The sun fairly beams upon us - I should say it's an exceptional day for a walk in the countryside, wouldn't you agree? Though I'm not certain what sort of weather you are enjoying.

Generate an image



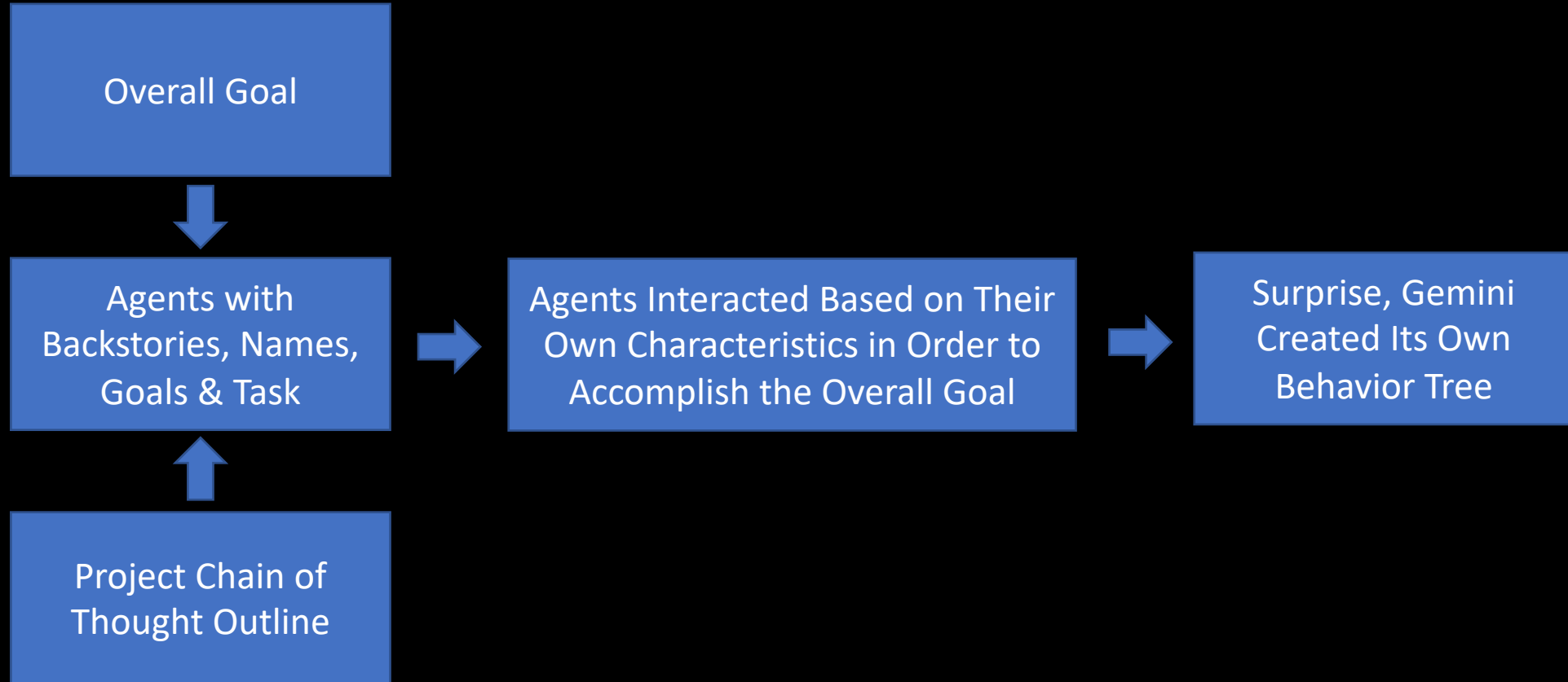
Your conversations are processed by human reviewers to improve the technologies powering Gemini Apps. Don't enter anything you wouldn't want reviewed or used.

[How it works](#) [Dismiss](#)

Enter a prompt here



Synthetic Data Algorithm



Synthetic Data

Timestamp	Agent	Dialog	Sentiment	Interaction Pairing	Need	Backstory	Task	Goal	Written Lesson
9:10:00	Sofia	"Let's list the top 5 meeting complaints	Probing	Sofia -> All	Understand learner pain	Ex-HR professional	Identify relatable content	Create an en	"We all know
9:12:00	Clara	"Absolutely! How about we categorize c	Collaborative	Clara -> Sofia	Refine focus for impact	Ex-consultant	Organize content	Motivate cha	"...Wasted h
9:14:00	Eddie	"Let's get those complaints backed up w	Analytical	Eddie -> All	Ensure accuracy	Ex-journalist	Edit & fact-check	Ensure reliab	"According to
9:18:00	Alex	"Numbers are good, but let's visualize t	Creative	Alex -> All	Translate data visually	Graphic design back	Use visuals for impact	Make the co	Visual of a p
9:21:00	Sofia	"Love it, but remember ,Äi it's the cons	Insightful	Sofia -> Alex	Tie costs to outcomes	HR experience, seer	Connect with learner's work re	Inspire chang	"Missed dea
9:25:00	Clara	"This is perfect! Stats for the logical thi	Enthusiastic	Clara -> All	Shift to potential	Focused on problem	Set the stage for solutions	Motivate lea	"Imagine me
9:14:00	Eddie	"Let's get those complaints backed up w	Analytical	Eddie -> All	Ensure accuracy	Ex-journalist	Edit & fact-check	Ensure reliab	"According to
9:18:00	Alex	"Numbers are good, but let's visualize t	Creative	Alex -> All	Translate data visually	Graphic design back	Use visuals for impact	Make the co	Visual of a p
9:21:00	Sofia	"Love it, but remember ,Äi it's the cons	Insightful	Sofia -> Alex	Tie costs to outcomes	HR experience, seer	Connect with learner's work re	Inspire chang	"Bad meetin
9:25:00	Clara	"This is powerful! We need to hit them	Enthusiastic	Clara -> All	Summarize key points	Results-oriented	Emphasize the urgency of cha	Motivate lea	"Understand
9:25:00	Clara	"Stats and visuals are great, but then th	Enthusiastic	Clara -> All	Shift to potential	Focused on problem	Set the stage for solutions	Motivate lea	"Imagine me
9:28:00	Sofia	"Absolutely! It's about more than saving	Empathetic	Sofia -> Clara	Connect to employee exp	HR background	Make the benefits tangible	Inspire a pos	"...This foste
9:32:00	Eddie	"Let's get specific. Case studies! A 'befc	Analytical	Eddie -> Sofia, Clara	Provide concrete example	Ex-journalist, focus	Make the benefits undeniable	"...Show how	Reflecting or
9:35:00	Alex	"Could I illustrate the 'before' and 'after	Creative	Alex -> Eddie	Add a visual element	Design background	Make the benefits easy to gra	"...Good mee	Reflecting or
9:40:00	Clara	"This is the hook! We started with the p	Strategic	Clara -> All	Summarize	Consultant focus	Drive behavior change	Leave learne	"The best m
9:45:00	Clara	"Time to tackle the 'meeting or memo'	Enthusiastic	Clara -> All	Guide decision-making	Ex-consultant	Create practical tool	Improve mee	"Too often, v
9:48:00	Alex	"I'm all about flowcharts! Can I sketch c	Proactive	Alex -> Clara	Turn concept into visual	Design background	Make info easy to digest	Improve lear	Alex actively
9:52:00	Eddie	"Hold on ,Äi define 'asynchronous'. Can'	Cautious	Eddie -> Alex, Clara	Ensure clarity	Ex-journalist	Define jargon for non-experts	Build inclusiv	"Let's add a
9:55:00	Sofia	"And don't just think email ,Äi what abc	Insightful	Sofia -> All	Broaden the options	Ex-HR, diverse work	Offer practical solutions	Make the co	"Sometimes
9:56:00	Clara	"This is getting complex! Let's add a bra	Problem-Sol	Clara -> All	Expand the tool's usefuln	Management focus	Make it applicable to complex	"The decisio	Reflecting or
9:57:00	Eddie	"Hold on ,Äi define 'asynchronous'... "	Cautious	Eddie -> Alex, Clara	Ensure clarity	Ex-journalist	Define jargon	Build inclusiv	"Let's start v
9:58:00	Sofia	"Let's make this practical! What are the	Insightful	Sofia -> All	Focus on benefits	Ex-HR	Offer practical solutions	Make the co	"Simple stat
10:00:00	Alex	"Could I illustrate those scenarios? Icons	Creative	Alex -> Sofia	Translate ideas into visua	Design background	Make the concept easy to gras	Improve lear	Icon of a me
10:05:00	Clara	"This ties back to our decision tree! Add	Strategic	Clara -> All	Integrate with previous le	Consultant focus	Create a cohesive learning exp	Reinforce ke	"We're build
10:10:00	Eddie	"Accessibility reminder! If we advocate	Principled	Eddie -> All	Ensure inclusive solutions	Ex-journalist, focus	Build an ethical course	"Asynchrono	Reflecting or
10:15:00	Sofia	"Let's not just bash meetings, let's offer	Proactive	Sofia -> All	Shift from problems to sc	Ex-HR, diverse team	Provide practical options	Drive behavi	"Sometimes,
10:20:00	Clara	"How do we help people decide which f	Analytical	Clara -> All	Provide decision-making t	Consultant focus	Make information actionable	Guide learne	"Let's give th
10:25:00	Eddie	"Let's define terms. Does everyone in ou	Cautious	Eddie -> Clara, Sofia	Ensure clarity	Ex-journalist	Edit for non-experts	Build inclusiv	"Quick defini
10:30:00	Alex	"I could illustrate the setup differences!	Visual	Alex -> All	Translate ideas visually	Design background	Make the concept memorable	Improve lear	Simple sketc
10:35:00	Clara	"This is when we drive home the point:	Enthusiastic	Clara -> All	Emphasize key concept	Results-oriented	Reinforce learning objectives	Motivate lea	"The right m
10:45:00	Clara	"Purpose is EVERYTHING! Let's start wif	Focused	Clara -> All	Categorize for clarity	Ex-consultant	Organize content	Improve mee	"Meetings w

DEMO

Games - Gemini Ultra Simulator

Goal

I am developing a course focused on conducting effective meetings. To achieve this, I require a team of specialists, each assigned roles that are instrumental in the course development process, such as author, editor, critic, and so forth. I need detailed profiles for these team members, including their names, assigned tasks, goals, and backstories.

Agents

1. Agent Name: Clara "The Conductor" Williams

Role: Lead Author

Tasks:

- Develop core course outline
- Create engaging lesson plans & activities
- Research and integrate best practices
- Write clear and concise scripts

Goals:

- Make meetings a source of productivity, not dread
- Transform meeting culture in workplaces

Backstory: Ex-management consultant frustrated with wasted hours in unproductive meetings. Passionate about efficiency and turning meetings into problem-solving powerhouses.

2. Agent Name: Eddie "Eagle Eye" Thompson

Role: Editor & Quality Control

Tasks:

Chain of Thought Outline

Module 1: The Meeting Mindset

Step 1: Why Meetings (Sometimes) Get a Bad Rap

Common meeting complaints and frustrations

The true costs of unproductive meetings

The potential benefits of well-run meetings

Step 2: Before You Hit "Schedule": Meeting or Memo?

Decision tree: Does this topic truly need a meeting?

When asynchronous communication is better

Alternatives to traditional meetings (standups, quick huddles, etc.)

Step 3: The Power of Purpose

Defining clear meeting goals (decision-making, information sharing, brainstorming, etc.)

SMART objectives for meetings

Module 2: Preparation is Everything

Agent Positions



Agents: Clara (-3,3), Eddie (3,3), Sofia (-3,-3), Alex (3,-3)

Animation Speed (Seconds per Frame)



Topic: M2-S3-2-2

Timestamp: 15:25:00

Agent: Alex

Dialog: "Before-and-after photos? Show how a cluttered conference room turns into a focused, collaborative space."

Sentiment: Visual

Interaction Pairing: Alex -> Clara

Need: Illustrate the problem

Backstory: Design background

Task: Make the abstract tangible

Goal: "Simple tweaks like table shape, removing distractions – the visuals will tell the story."

Written Lesson (Final Snippet): Reflecting on "Before-and-after photos? Show how a cluttered conference room turns into a focused, collaborative space.", it's clear that Visual sentiments can lead us to "Simple tweaks like table shape, removing distractions – the visuals will tell the story". This encapsulates the essence of our discussion and the path

Marketing Analysis

Target specific industries: The text mentions that the software can be used for AI training, robotics simulation, and complex systems modeling. The company could target its marketing to these specific industries, highlighting the benefits of the software for each application. For example, the company could market the software to AI developers as a tool for training AI models in a safe and controlled environment.

Offer different pricing tiers: The company could offer different pricing tiers for its software, depending on the features and functionality that are needed. This would make the software more accessible to a wider range of businesses.

Freemium model: The company could offer a freemium model for its software, with a basic version that is available for free and a paid version that offers more features. This would allow businesses to try out the software before they commit to buying it.

Develop a strong marketing strategy: The company would need to develop a strong marketing strategy to reach its target audience. This could include online marketing, such as search engine optimization (SEO) and pay-per-click (PPC) advertising, as well as offline marketing, such as trade shows and industry events.

Thanks to the Team



I learned that behavior trees are essential for agents ...

Nujaim Azeem



I learned about different ways to represent the synthetic data visually based on its nature, such as using scatter plots for multiple data points or line plots for trends.

**Muhammad Asad
Ishfaq**



Synthetic data generated by GEMINI offers potential applications in various fields, addressing data privacy concerns and enabling robust machine learning model training.

Jaweria Batool



Behavior trees. I didn't know about them till yesterday.

**Ahmad Talha
Ansari**



I've learned about synthetic data, behavior trees, and animation in Matplotlib, even though I've never used Streamlit before.

Reema Memon

Conclusion

Agent-Driven Success


Our hackathon triumph was achieved through the development of "The Adaptive Simulation Sandbox," powered by Gemini's cognitive abilities. This system featured four distinct agents:

- Clara "The Conductor" Williams, the Lead Author, aimed to improve meeting efficiency.
- Eddie "Eagle Eye" Thompson, the Editor and Quality Controller, ensured the accuracy and clarity of our content.
- Sofia "The Skeptic" Ramirez, the Critic and User Advocate, evaluated our content for learner inclusivity.
- Alex "The Innovator" Kim, the Multimedia Specialist, added visual engagement to the course.

Together, they produced an effective meeting management course, demonstrating teamwork and problem-solving powered by synthetic data.

Key Insights

The hackathon revealed four key achievements with the Gemini system:

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- **Conceptualization:** Gemini showcased its ability to ideate complex projects, conceiving "The Adaptive Simulation Sandbox."
 - **Agent Personification:** Assigning agents with unique identities and roles, Gemini created a narrative-rich simulation environment.
 - **Interaction Dynamics:** Gemini enabled realistic agent interactions, facilitating collaborative course creation on effective meetings.
 - **Synthetic Data Utilization:** Gemini's generation of realistic synthetic data supported the project's success, highlighting its applications in AI training and beyond.

These achievements highlight Gemini's versatility in synthetic data generation and complex problem-solving



Project Links

- *Application*
<https://huggingface.co/spaces/eaglelandsonce/Games>
- *GitHub*
<https://github.com/qailc/GamesHackathon>
- *Videos:*

Initial Concept
<https://www.youtube.com/watch?v=IsejdgKOCCE>

Submission Video
See project submission page!