

- **Startup/Person Name:** Graphyti
Primary Contact Name: Chan Hin Wai Howell
- **Primary Contact Email Address:** howellchan27@gmail.com
- **City:** Singapore
- **Country:** Singapore
- **Brief Description:**
- **Skills or Markets -** Programming, Game Engines, Generative AI, Business Models
- **Website -** Nil
- **Twitter -** @zyro42071618
- **Linkedin -** <https://www.linkedin.com/in/howell-chan-8b1806228/>
- **Github -** <https://github.com/howllian27>
- **When did you start this company?** Unofficially started on 1 Nov (company name is unregistered)
- **Question 1: How did you hear about the CV Labs Acceleration Program? -** Build-a-Bull Hackathon
- **Question 2: If you have been referred by one of the CV VC mentors/advisors/team, please fill in the name here.** Nil
- **Question 3: Do you have a female Co-founder?** Yes
- **Question 4: What is the blockchain/crypto component of your business?**

Physics NFTs

Physics parameters are serialized into a JSON string and recorded on the Algorand blockchain through a smart contract developed with PyTeal. This contract triggers the creation of a Non-Fungible Token (NFT) under the ASA specification, embedding the JSON string within the NFT's metadata. The NFT is minted using the Algorand SDK in Python, where a transaction carrying the NFT information is signed and sent to the blockchain network.

Smart Contracts

Algorand smart contracts are utilized for trading and rewarding user-customized physics settings. Users can trade their physics configurations via a contract that tracks ownership and user settings. Additionally, a rewards system, based on community voting and the complexity of physics settings, distributes AlgoToken rewards. This fosters user engagement and ensures fair and transparent trading and rewarding processes.

Digital Passport

A decentralized digital passport system on the Algorand blockchain is proposed to authenticate users in the game. User data, once created, is securely stored on the blockchain. This information can be retrieved to authenticate users, allowing them to seamlessly enter each other's virtual game worlds, enhancing security and user experience.

Verifiable Random Function (VRF)

The VRF is designed to generate unpredictable game outcomes influenced by customizable physics. It involves generating a seed, salt, and hash for uniqueness,

creating a game outcome based on game-specific parameters and physics settings, and generating a value and proof for this outcome. A verification function ensures the integrity and authenticity of the outcome, maintaining fairness and unpredictability in game results influenced by user-defined physics.

- **Question 5: In brief, what is your goal when applying to the CV VC Acceleration Program?**

Firstly, we hope to gain mentorship on how to streamline the goals of our product so that we can ensure that we are tackling market needs. We hope to gain technical advice on how to establish a highly refined product for our end users and gain knowledge on how to develop our business model further so as to appeal to the largest consumer base possible.

- **Question 6: Company name and website URL**

Graphyti

- **Question 7: Executive summary**

Introducing Graphyti, the first game in the world to allow the creation of personalised physics through generative AI and blockchain.

With generative AI currently focused on the rendering of visually striking images, our team proposes an idea that goes beyond the current concept of image generation to instead allow users to customise even the physics itself. In our product, we hope to allow users to personalise their own 3D world with its own unique physics from scratch, using a series of text and image prompts.

- **Question 8: Which category best applies to your company?**

Generative AI, blockchain

- **Question 9: What stage is your project at?**

Idea

Question 10: Are you incorporated already?

No

Question 11: How do you finance your project at the moment?

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Question 12: Have you received any funding yet?

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Question 13: Do you currently have any plans to conduct an ICO/IEO etc. in future?

Yes

Question 14: What is the problem you are solving?

Consumers and companies currently have many AI platforms to develop 3D images and scenes but there is not yet a platform that allows one to customise the physics of their 3D scenes.

Question 15: How are you solving this problem?

We hope to provide an AI engine that allows consumers to easily customise the physics of the assets in a scene easily using text prompts.

Question 16: Please provide a high-level roadmap/milestones of the project?

1. Prototype Development: Finalize MVP with basic physics customization and NFT integration (Q1 2024).
2. Blockchain Integration: Fully integrate with Algorand blockchain for C2E model and NFT transactions (Q4 2024).
3. Alpha Testing: Community testing and feedback loop for MVP (Q1 2025).
4. Beta Release: Launch a beta version with enhanced features based on alpha feedback (Q2 2025).
5. Full Launch: Official release with robust physics customization and stable blockchain integration (Q3 2025).
6. Expansion: Add new features, community events, and partnerships (Q3 2025 onwards).

Question 17: What are the products/services you plan to build & offer?

- Customizable Physics Engine: A tool to personalize physics in 3D worlds.
- Enterprise services: Provide our in-house engine as an on-premise solution so that enterprises can develop their own 3D worlds for their own brands
- NFT Marketplace: Platform for trading unique physics settings as NFTs.
- Community Voting System: For rewarding creative physics configurations.
- Educational Tutorials: For users to learn physics customization and NFT creation.

Question 18: List some business challenges you see when building out this product/service

- Technical Complexity: Balancing advanced features with user accessibility.
- Blockchain Integration: Ensuring secure and efficient transactions.
- Market Adoption: Gaining traction in a novel market segment.
- Scalability: Managing rapid growth and user-generated content.

Question 19: What is the current target group of users/customers (incl. B2B or B2C etc.)

B2C: Companies interested in unique marketing methods, Gamers, tech enthusiasts, and creators interested in personalized gaming experiences.

B2B: Game developers, educational institutions, and content creators seeking innovative tools and platforms.

Question 20: Describe your business model and relevant revenue streams

1. We have devised a create-to-earn model (C2E), the first of its kind and a twist on the P2E model. The C2E model proposes the creation of a physics ledger securely stored on Algorand's blockchain, where people's new physics ideas can be converted into NFTs. We hope to reward players Algo tokens through cohesive community votes on top physics NFTs that can be migrated to other players' games.

The combination of physics personalisation and our all-new C2E model promises to change the very definition of NFTs itself, which has traditionally in web3.0 been only limited to images.

2. We have planned a multi-tiered subscription business model, in which we plan to offer separate premium tiers for casual users, startups, SMEs and major brands separately.

For casual users, our premium tier would involve more high quality technical features, including allowing the user to create larger 3D worlds with more complex assets available

For company brands, we aim to create increasing tiers of complexity involved in large-scale metaverses for their brand marketing. This would involve AI-powered customer assistants, AI-powered shops and more enhanced graphics, all of which will come with more unique customised physics that represent the brand.

Question 21: Please indicate your revenue to date (if applicable)

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Question 22: Tell us more about your traction, e.g. initial users (if applicable)

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Question 23: What are current and adjacent competitors?

Text-to-image services - Dall-E, Stable Diffusion

Text-to-video services - Kaiber, Pika Labs

Game engines - Unity, Unreal

Question 24: How do you differentiate yourself from them? What is your competitive advantage?

- **Question 25: What are success factors of the project?**

User Adoption: Gaining a strong user base.

Innovative Features: Continuously evolving the platform.

Community Engagement: Building a loyal and active community especially in Web3.0 and frequent AI service consumers.

Strategic Partnerships: Collaborating with key industry players especially in Web3.0.

- **Question 26: Are there any regulatory restrictions on your product or service?elaborate further**

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- **Question 27: Please list the founders/core team**

CEO - Chan Hin Wai Howell

CTO - Lee Ern Qi Eunice

COO - Cheng Lin

CSO - Lim Jin Feng

Question 28: What is the background of the individual team members? Industry expertise?

We are currently in Nanyang Technological University's Premier Scholar Programmes. 3 of us are pursuing Computer Science while one is pursuing Material Science

- **Question 29: What is the team size overall? How many of your team members are full-time?**

4 members. All are currently part-time as we are students

- **Question 30: Where is the team currently based?**
- Students

Question 31: Team history

Set up as of Build-a-Bull hackathon in end Oct 2023

Question 32: What is current (or planned, after incorporation) ownership structure of your company? Please list people and their respective %-ownership

Company ownership is to be split between all members equally

Question 33: In detail, what is the blockchain/crypto component of your business?

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Question 34: What blockchain/protocol are you using? Please specify

Graphyti utilizes the Algorand blockchain protocol. Algorand is chosen for its speed, efficiency, VRF capabilities low transaction fees, and environmental sustainability. Its architecture supports the complexity of our NFT transactions and the integrity of our create-to-earn (C2E) model, providing a robust foundation for our physics ledger and community voting system.

Question 35: Do you plan to have an own token? What will its function be?

Currently, Graphyti does not plan to launch its own token. Instead, the project leverages Algorand's native currency, Algo, for transactions and rewards within the ecosystem. This decision aligns with our goal to streamline user experience and integration with existing blockchain infrastructure. However, we remain open to the future possibility of creating a Graphyti-specific token, should it align with our platform's evolution and community needs.

Question 36: Are you planning to build an own protocol?

Graphyti is not planning to build its own protocol at this stage. Our focus is on leveraging and integrating with the Algorand blockchain to harness its established capabilities. Building a new protocol would divert essential resources from our core development goals. We aim to create a seamless user experience and innovative product within a reliable and tested blockchain ecosystem.

Question 37: What other technologies are you implementing in your solution? (if applicable)

Our main technological offering besides blockchain will be Generative AI. As detailed in previous questions, Gen AI will be used to dynamically generate 3D scenes with physics that can be customised based on user text and image prompts.

- **Question 38: List some technology challenges you see when building out this product/service**

Integrating AI with Game Physics: Ensuring that AI-generated physics are realistic and seamlessly integrated into the gaming environment, while also ensuring physics and scenes generated match the user prompts.

Blockchain Scalability: Managing high volumes of transactions and NFT data on the blockchain without compromising speed or efficiency.

- **Question 39: I consent to my data being shared with CV Labs, CV VC, and other relevant third parties. Yes**

Question 40: Pitch deck

https://drive.google.com/file/d/14a-s2STcMnTw3KyGkAYgSfmdfLFoIL_b/view?usp=sharing

Question 41: Additional technical documentation

Question 42: Additional links (GitHub/Dropbox etc.)

<https://github.com/howllian27/Graphyti>

Question 43: Product/service demo (video)

https://youtu.be/QmGae7A_Sec

Question 44: Any Other documentation

Question 45: Additional link

Question 46: Additional link