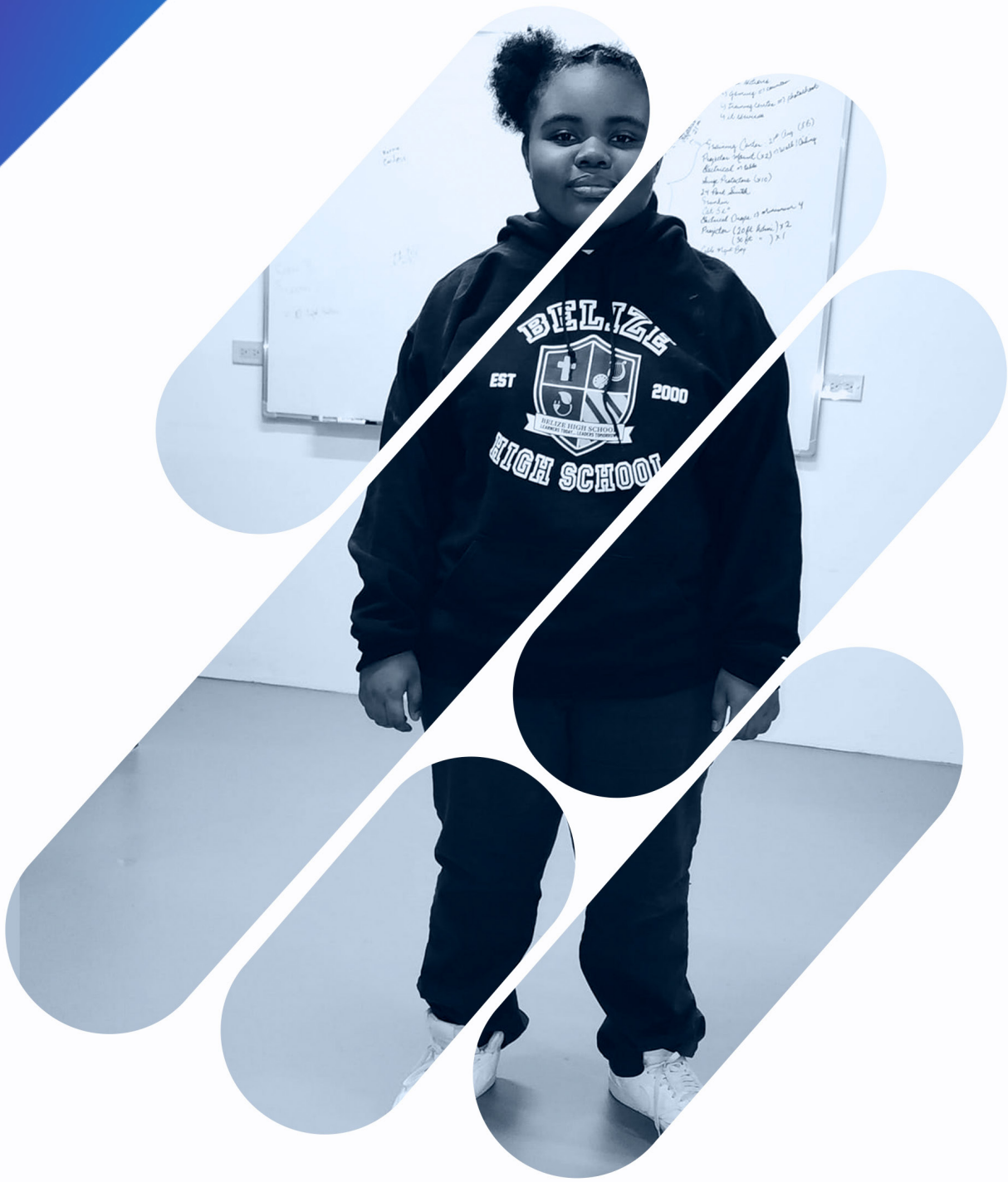
App Development
Game Development
Website Development

2025

NGO PROPOSAL
& RÉSUMÉ



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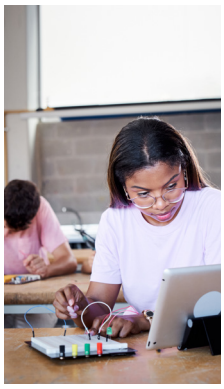


ABOUT ME

Unity
CERTIFIED
Associate
Programmer

Hello, I'm Maliyah Casey, a passionate game developer and technology enthusiast born in 2010. My journey in the digital world began early – at just two years old, I was already exploring computers, and by eight, I had written my first lines of code. This early start ignited a passion that has shaped my life and career aspirations.

My love for gaming, particularly titles like Persona, Genshin Impact, and Roblox, fuels my drive to create immersive digital experiences. When I'm not coding or gaming, you'll find me buried in books that challenge conventional thinking, such as "Plays Well with Others" and "Outliers". I'm also an avid manga reader and anime watcher, with "JoJo's Bizarre Adventure" and "Hunter x Hunter" among my favorites.

Despite my young age, I've already accumulated significant experience in game development, web applications, and mobile app creation.

I'm not just a coder; I'm a creator, a problem-solver, and an innovator. Whether it's designing intuitive user interfaces, optimizing game performance, or developing responsive websites, I approach each project with enthusiasm and a commitment to excellence. I'm excited about the opportunity to bring my unique blend of youth, high-level proficiency, and fresh perspectives to challenging projects in the tech industry.
In this portfolio, you'll find examples of my work, details of my technical expertise, and my vision for future projects, including an NGO proposal close to my heart. I'm eager to demonstrate my capabilities and contribute to pushing the boundaries of what's possible in game development and beyond.

Code is poetry, games are art, and I'm here to create masterpieces.

This powerful statement embodies my unwavering commitment to pushing the boundaries of digital creation, viewing each line of code as a brushstroke in a larger masterpiece. Just as great artists and poets persevere through countless drafts and revisions, I approach each challenge in game development and programming with relentless determination, knowing that every obstacle overcome is a step towards creating something truly extraordinary. My journey as a young developer has taught me that the path to innovation is paved with persistence, and I'm dedicated to turning my passion into groundbreaking digital experiences, no matter the hurdles along the way.

MALIYAH CASEY

About Me:

Driven and versatile young developer with extensive experience in game development, web applications, and mobile app creation. Seeking challenging opportunities to leverage my diverse skill set in programming, UI/UX design, and project management. Eager to contribute innovative solutions and continue growing in a dynamic tech environment.

Educational Background:

Belize High School
Current Grade: 12
Nationality: Belizean
DOB: Feb. 27th, 2010

Certifications:

Unity Android: Build 8 Mobile Games with Unity & C#

Game Development/Art - Create a 2d Action Game with Unity/C#

Learn to Create a Metroidvania Game using Unity & C#

Learn to Code by Making a 2D Platformer in Unity & C#

Complete C# Unity Game Developer 2D

Unity Multiplayer- Create Battle Royale with Photon Quantum

Unity Certified Associate: Programmer

Skills:

UNITY
C#
JAVASCRIPT
HTML, CSS
PHOTOSHOP
ILLUSTRATOR
LARAVEL

Technical Proficiency

- Programming Languages: C#, JavaScript, PHP, C++,Python
- Development Platforms: Unity, PS4/PS5, Android, iOS, Windows, Mac, Web
- Frameworks: Laravel , Ionic
- Game Development: Profound knowledge of the entire game development lifecycle, from initial ideation to final deployment
- Multiplayer Networking: Photon Quantum 3
- UI/UX & Game Mechanics: UI Design, Character Animation, Level Design

Experience

Intern, Pixel Pro Media

- Immersed in a dynamic tech environment, acquiring industry-relevant skills
- Engaged in collaborative efforts with seasoned professionals on diverse IT initiatives
- Dedicated two years to working alongside accomplished Software Engineers, Graphic Designers, and Tech Experts, absorbing invaluable insights
- Assisted in creating websites for the company
- Developed web applications using Laravel
- Created mobile applications for various platforms

Instructor, Intro to Computer Programming for Kids

- Taught programming fundamentals to children and teenagers
- Developed curriculum and hands-on projects to engage young learners
- Fostered problem-solving skills and creativity through coding exercises

Game Development Expertise

Core Game Mechanics

- Developed player controls, enemy AI, and scoring systems
- Implemented physics-based interactions and character animations
- Designed levels with increasing difficulty and varied challenges
- Integrated power-ups, obstacles, and interactive game elements
- Worked on optimizing game performance for various platforms

Monetization and Analytics:

- Integrated in-app purchases and ads using Unity's monetization tools.
- Set up analytics to track user behavior and game performance.
- Analyzed data to make informed decisions on game updates.
- Implemented reward systems to encourage daily player engagement.
- Worked on strategies to increase player retention and in-game purchases.

Graphics and Visual Effects:

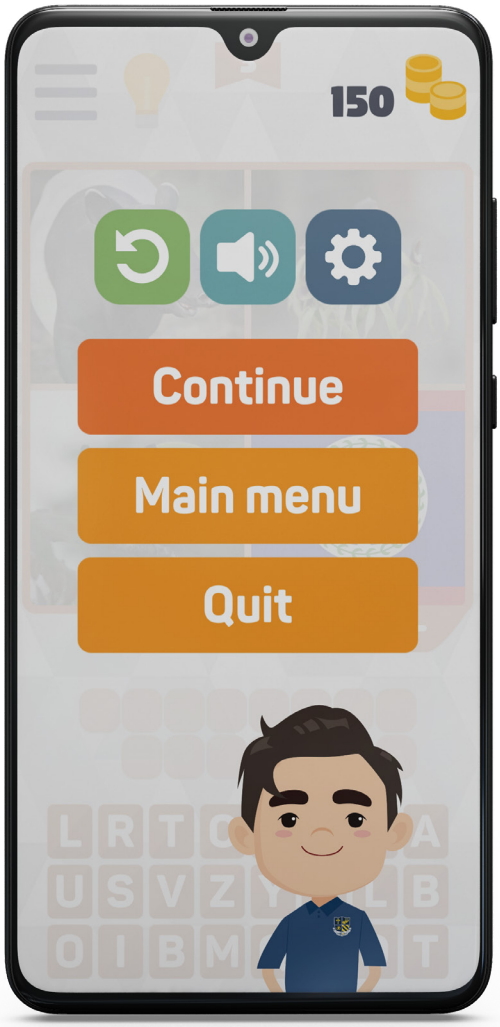
- Utilized Unity's Shader Graph to create custom shaders
- Implemented particle systems for effects like explosions, fire, and magic spells
- Worked with lighting and post-processing to achieve desired aesthetics
- Created dynamic weather systems and day-night cycles
- Optimized graphics for better performance on low-end devices

Sound Design:

- Integrated background music, sound effects, and voiceovers
- Implemented dynamic sound systems that react to game events
- Worked with 3D spatial audio for immersive experiences
- Optimized audio files for size and quality
- Ensured sound consistency across various game scenes

User Interface (UI) & User Experience (UX):

- Designed intuitive menus, HUDs, and game interfaces
- Implemented responsive UI elements that adapt to different screen sizes
- Conducted user testing to gather feedback and improve UX
  Integrated tutorials, tooltips, and guides for new players
- Worked on smooth scene transitions and UI animations



Advanced Scripting Techniques:

- Utilized C# to create custom scripts for complex game mechanics
- Integrated third-party APIs and SDKs to enhance game functionality
- Developed modular and reusable code for various game components
- Worked on optimizing scripts for performance and memory usage
- Implemented advanced algorithms for pathfinding, AI behavior, and procedural generation

Collaboration and Version Control:

- Used tools like Git and Unity Collaborate for team-based projects
- Managed merge conflicts and ensured code consistency across the team
- Collaborated with artists, designers, and sound engineers to integrate assets
- Participated in regular code reviews and feedback sessions
- Utilized agile methodologies for iterative game development and timely deliveries

Photon Quantum

Deterministic Networking & Quantum Simulation

- Implemented lockstep deterministic networking for seamless multiplayer synchronization.
- Utilized Quantum's rollback system to mitigate latency discrepancies and input delay.
- Optimized network state replication using Quantum's frame prediction and verification model.

Character & Input System Architecture

- Designed and implemented a Quantum ECS-based entity system for player movement and physics interactions.
- Developed low-latency, input-predictive movement systems, ensuring smooth client-side responsiveness.
- Engineered custom Quantum components, utilizing data-oriented programming (DOP) for modularity and performance.

Frame Management & Event-Driven Architecture

- Leveraged Quantum's fixed frame update system to maintain network determinism across clients.
- Architected predicted vs. verified frames logic to handle rollback corrections efficiently.
- Developed custom event-driven interactions, reducing computational overhead while improving sync stability.

Shooting Mechanics, Collision Detection & Hit Registration

- Implemented event-driven projectile systems, utilizing Quantum's deterministic physics engine for collision validation.
- Engineered client-authoritative prediction layers with server-side reconciliation for precise hit registration.
- Integrated custom bullet interpolation algorithms for seamless real-time shooting mechanics.

Multiplayer Game State & Network Scalability

- Designed a state-driven architecture for handling game mode transitions, player eliminations, and round resets.
- Optimized network bandwidth usage via data compression and differential state updates.
- Applied Quantum's data-driven polymorphism techniques, ensuring efficient object pooling and memory allocation.

Advanced Spawning & Object Management

- Developed procedural spawn logic using Quantum's entity instantiation pipeline.
- Implemented data-driven spawn point allocation with adaptive entity culling for performance optimization.
- Engineered server-side authoritative object persistence, enabling consistent player inventory and loot tracking.

Full-Scale Battle Royale Prototype Implementation

- Designed and developed a Photon Quantum-based Battle Royale with scalable deterministic gameplay mechanics.
- Integrated custom matchmaking, player stats tracking, and persistent session states.
- Implemented multi-threaded computation optimizations, reducing CPU overhead in high-entity environments.

- Refined game balancing mechanics through real-time analytics and iterative performance tuning.

Notable Portfolio:

- **BELIZE TRIVIA:** Dive into an immersive digital experience that celebrates Belize's rich cultural and histori-cal legacy. Engage in a series of trivia challenges that not only entertain but also enlighten, offering players a deeper understanding of Belize's vibrant heritage
- **MAGE MANIA:** Developed by me, this game allows players to confront enemies, restore health, advance through distinct levels, utilize power-ups, choose specific stages, save their progress, reach checkpoints, and alternate between characters. Compatible with both PC and Android platforms."
- **GAMIFICATION PROJECT SERVICES:** A collaborative endeavor with Pixel Pro Media. (For further details, please reach out directly to the company.)
- **WEB DEVELOPMENT PROJECTS:** Created responsive and user-friendly websites for various clients, including Pixel Pro Media
- **MOBILE APPLICATIONS:** Developed cross-platform mobile apps for Android and iOS, focusing on intuitive user interfaces and seamless functionality

Professional Challenge

I possess unwavering confidence in my capability to design and develop cutting-edge games, innovative apps, and responsive websites in real-time across diverse platforms. My expertise spans the entire development lifecycle, from conceptualization to deployment, ensuring robust and user-centric digital solutions. With a keen eye for detail and a passion for pushing technological boundaries, I consistently deliver high-quality products that exceed expectations. I am enthusiastic about the prospect of demonstrating my multifaceted skills in esteemed settings, be it in front of a distinguished audience or at renowned academic institutions.

My dedication to excellence and continuous learning has not gone unnoticed. I am eager to leverage this unique blend of youth and high-level proficiency to bring fresh perspectives and innovative solutions to challenging projects in the tech industry.

Certificates

“Udemy is an exceptional online learning platform that offers a vast array of courses across diverse fields, empowering individuals to acquire new skills and advance their careers.”

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udemy

Certificate no: UC-8472c7fa-3e43-4e75-97b2-3f5c2ad91932
Certificate url: ude.my/UC-8472c7fa-3e43-4e75-97b2-3f5c2ad91932
Reference Number: 0004

CERTIFICATE OF COMPLETION

Complete C# Unity Game Developer 2D

Instructors **GameDev.tv Team, Rick Davidson, Gary Pettie**

Maliyah Casey

Date **Aug. 21, 2022**
Length **18.5 total hours**

udemy

Certificate no: UC-db64f651-59f7-4636-bf22-948805cba778
Certificate url: ude.my/UC-db64f651-59f7-4636-bf22-948805cba778
Reference Number: 0004

CERTIFICATE OF COMPLETION

Learn To Code By Making a 2D Platformer in Unity & C#

Instructors **James Doyle**

Maliyah Casey

Date **Dec. 16, 2022**
Length **15 total hours**

udemy

Certificate no: UC-9afe90b5-fd14-4e30-8caf-ba86be7695aa
Certificate url: ude.my/UC-9afe90b5-fd14-4e30-8caf-ba86be7695aa
Reference Number: 0004

CERTIFICATE OF COMPLETION

Game Development/Art - Create a 2D Action Game with Unity/C#

Instructors **Noa Calice (aka Blackthornprod)**

Maliyah Casey

Date **Dec. 24, 2022**
Length **5 total hours**

udemy

Certificate no: UC-105cf6dc-393f-4005-9e8e-c06d94a3d86d
Certificate url: ude.my/UC-105cf6dc-393f-4005-9e8e-c06d94a3d86d
Reference Number: 0004

CERTIFICATE OF COMPLETION

Unity Android : Build 8 Mobile Games with Unity & C#

Instructors **Raja Biswas**

Maliyah Casey

Date **Sept. 11, 2023**
Length **21.5 total hours**

udemy

Certificate no: UC-079f0dd3-657e-4c71-8442-efb4f7ccbc8d
Certificate url: ude.my/UC-079f0dd3-657e-4c71-8442-efb4f7ccbc8d
Reference Number: 0004

CERTIFICATE OF COMPLETION

Learn to Create a Metroidvania Game using Unity & C#

Instructors **James Doyle**

Maliyah Casey

Date **Nov. 2, 2022**
Length **11.5 total hours**

udemy

Certificate no: UC-f3ee26cd-a106-4b42-9341-2d2ababec601
Certificate url: ude.my/UC-f3ee26cd-a106-4b42-9341-2d2ababec601
Reference Number: 0004

CERTIFICATE OF COMPLETION

Unity Multiplayer - Create Battle Royale with Photon Quantum

Instructors **Nikola Garabandić**

Maliyah Casey

Date **Feb. 15, 2025**
Length **5 total hours**

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NGO PROPOSAL

Mission Statement, Vision, Objectives

Throughout this proposal, 'we' and 'our' refer to the vision and goals of this initiative, even though I, Maliyah Casey, am currently the sole founder. These terms reflect the collaborative spirit of the project and its future growth.

MISSION STATEMENT

Our NGO is dedicated to transforming the educational landscape of Belize through innovative STEM programs. We recognize the critical need for diverse career opportunities in our nation and aim to address this challenge head-on. By equipping our youth with essential skills in science, technology, engineering, and mathematics, we seek to create a brighter, more prosperous future for Belize.

Our mission encompasses:

Combating the lack of diversity in career opportunities in Belize
Empowering students with essential STEM skills from an early age
Increasing computer literacy across the nation
Enhancing proficiency in programming, sciences, mathematics, and English
Broadening the spectrum of job prospects for Belizean youth

VISION

We see a future where Belizean youth are not just participants in the global digital economy, but leaders and innovators. This vision extends beyond individual success to encompass national progress, positioning Belize as a hub of innovation and technological advancement in the Caribbean region.

We envision:

Belizean students equipped with world-class STEM skills
Our youth positioned as competitive candidates in the global job market
Innovation driven within Belize, fostering economic growth and development

OBJECTIVES

Our objectives are designed to create measurable, impactful change in Belize's educational and economic landscape. We have set both short-term and long-term goals to ensure steady progress and sustainable impact. These objectives span from immediate educational improvements to long-term shifts in career trends and economic development.

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OBJECTIVES (CONTINUED)

Short-term Goals (1-2 years):

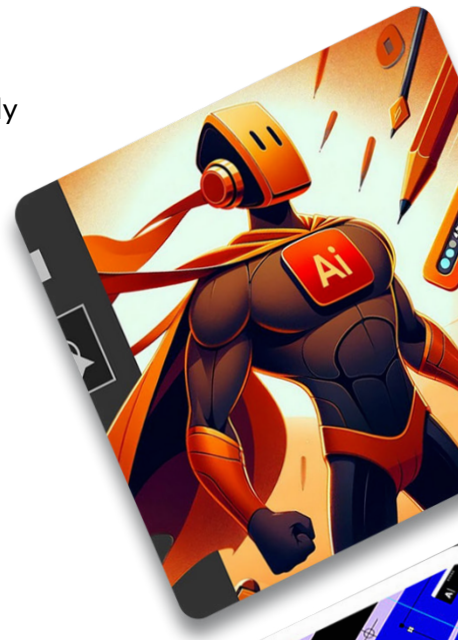
Increase basic programming proficiency by 20 -40% among participating students
Achieve a 70% improvement rate in math and English proficiency for program participants
Establish partnerships with at least 5 local schools to integrate STEM education into their curricula
Provide scholarships or resources to 50 high-performing students annually
Expand the program to all districts in Belize

Long-term Goals (3-5 years):

Achieve a 50% increase in STEM career pursuits among program graduates
Establish a mentorship network connecting students with STEM professionals globally
Develop a comprehensive online learning platform to reach remote areas

Target Audience:

Primary and secondary school students in Belize
Educators seeking professional development in STEM education
Underprivileged communities with limited access to advanced educational resources



STUDIES SHOW:

Early Coding Exposure: Kids who start coding early are 17% more likely to pursue computer science degrees and careers compared to those who start in high school or later.

Increased Problem-Solving Skills: Studies have shown that children who learn to code demonstrate up to 50% higher problem-solving abilities, critical thinking, and logic skills than their non-coding peers.

Rising Interest in Coding Among Teens: According to a recent survey, 45% of teens express a strong interest in coding and computer programming, a significant increase from 30% just five years ago.

Girls in Coding: The number of girls participating in coding clubs and programs has increased by over 50% in the last three years, showcasing a growing interest and involvement in STEM fields among young women.

Future Job Market Preparedness: Teens who learn to code are better prepared for future job markets, where 65% of today's students will work in jobs that currently do not exist, many of which will require coding skills.

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FOUNDER'S EXPERIENCE AND MOTIVATION

FOUNDER'S EXPERIENCE AND MOTIVATION

Maliyah Casey, the founder of this NGO, brings not only technical expertise but also hands-on teaching experience and a deep understanding of Belize's educational needs.

Successfully conducted "Intro to Computer And Programming for Kids and Teens" classes, reaching over 40 students
Driven by a personal mission to address low literacy and computer literacy rates among Belizean youth
Believes in technology's power to create opportunities and engage youth productively
Possesses skills in game development, web design, and graphic design, which will be leveraged in creating engaging educational content

ORGANIZATIONAL STRUCTURE

Our organizational structure is designed to be both effective and scalable. We start with a lean, focused team led by our founder, with plans to expand as our impact grows. This structure allows us to maintain agility in our early stages while providing a clear pathway for growth and specialization as we extend our reach across Belize.

Initial Structure:

Founder: Maliyah Casey
Board of Directors: To be established, including President, Vice President, Secretary, and Treasurer
Advisory Board: STEM professionals and education experts

Future Expansion

District Coordinators for each region in Belize
Program Directors for each STEM discipline
Volunteer Coordinator
Grant Writer and Fundraising Specialist

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PROGRAMS AND ACTIVITIES

PROGRAM AND ACTIVITIES

Our programs and activities form the core of our mission to enhance STEM education in Belize. We offer a diverse range of learning opportunities, from hands-on workshops to intensive summer camps. These programs are designed to not only teach STEM skills but also to inspire a love for learning and innovation among Belizean youth.

Math and English Enrichment Classes:

After-school programs focusing on core academic skills
Integration of STEM concepts into language arts and mathematics

Mentorship Program:

Connecting students with STEM professionals for guidance and inspiration
Virtual mentorship options to include international experts

Summer Camps:

Intensive, project-based learning experiences during school breaks
Culminating in a STEM fair to showcase student projects

Teacher Training Workshops:

Equipping local educators with skills to sustain STEM education
Focus on integrating technology into traditional classrooms

Online Learning Platform:

Developing courses accessible to students in remote areas
Interactive content leveraging Maliyah's game development skills

Culturally Relevant Technology Initiatives:

Develop language learning software for Garifuna and Maya to preserve local cultures and languages
Integrate local cultural elements into STEM curriculum to increase relevance and engagement

Comprehensive Skill Development:

Offer courses in graphic design (Photoshop, Illustrator, InDesign), web development (HTML, CSS, JavaScript, Python), and game development (C++, C#)
Create educational games, VR experiences, and augmented reality applications to enhance learning across subjects

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IMPLEMENTATION PLAN

IMPLEMENTATION PLAN

Our implementation plan is a carefully phased approach to ensure sustainable growth and impact. We begin with a focused pilot program and gradually expand our reach and offerings. This measured approach allows us to refine our methods, build strong foundations, and create a scalable model for nationwide implementation.

Phase 1 (Year 1):

Launch pilot program in one school in the Cayo district
Focus on coding and math enrichment
Establish baseline metrics for student performance
Create a connection with local Stake Holder (Pixel Pro Media already on board)

Phase 2 (Years 2-3):

Expand to additional schools within Cayo and Belize district
Introduce full range of STEM subjects and activities
Begin development of online learning platform

Phase 3 (Years 4-5):

Roll out programs to other districts in Belize
Launch fully operational online learning platform
Establish international partnerships for resource sharing and cultural exchange

Addressing Unique Challenges:

Develop strategies to overcome the shortage of qualified professionals, such as remote mentoring and train-the-trainer programs
Leverage partnerships to increase access to computer resources in underserved areas

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PARTNERSHIPS AND RESOURCES

FUNDING STRATEGY

PARTNERSHIPS AND RESOURCES

Our programs and activities form the core of our mission to enhance STEM education in Belize. We offer a diverse range of learning opportunities, from hands-on workshops to intensive summer camps. These programs are designed to not only teach STEM skills but also to inspire a love for learning and innovation among Belizean youth.

FUNDING STRATEGY

Our funding strategy is multi-faceted, designed to ensure sustainable operations and growth. We aim to diversify our funding sources to maintain stability and independence. Our approach combines traditional grant-seeking with innovative fundraising methods, leveraging both local and international support for our mission.

Grant Applications:

Target international NGOs focused on education and technology
Pursue government grants for educational initiatives

Corporate Partnerships:

Seek sponsorships from local and international tech companies
Develop a corporate volunteer program for skills-based volunteering

Fundraising Events:

Annual STEM-themed charity walk or run
Virtual hackathons with participation fees
Community tech fairs showcasing student projects

Online Donations:

Develop a user-friendly donation platform
Implement a "sponsor a student" program for recurring donations

In-kind Donations:

Seek hardware donations from tech companies
Partner with software companies for free or discounted licenses (We have access to over 30 computers, and a training center)

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COMMUNICATION AND OUTREACH

MEASURING SUCCESS

COMMUNICATION AND OUTREACH

Effective communication and outreach are crucial to the success of our NGO. We have developed a comprehensive strategy to engage with various stakeholders, from students and parents to educators and the wider community. Our approach leverages both traditional and digital media to ensure maximum visibility and engagement for our programs.

School Partnerships:

Direct outreach to school administrators and parent-teacher associations
Presentations at school assemblies and education conferences

Social Media Presence:

Engage students and parents through platforms like Instagram and TikTok
Share success stories and STEM content to inspire participation

Community Engagement:

Host public STEM demonstrations in community centers
- Participate in local events and fairs to showcase the program

Media Relations:

Develop relationships with local media for regular coverage
Create a monthly newsletter highlighting student achievements

Website and Blog:

Maintain an informative website with program details and application process

MEASURING SUCCESS

Measuring the success of our programs is essential for continuous improvement and demonstrating impact to stakeholders. We employ a combination of quantitative and qualitative metrics to gain a comprehensive understanding of our effectiveness. Our evaluation methods are designed to track both short-term progress and long-term impact on Belize's educational and economic landscape.

Quantitative Metrics:

Track improvements in standardized test scores for STEM subjects
Monitor enrollment and retention rates in programs
Measure the number of students pursuing STEM careers post-graduation

Qualitative Assessments:

Conduct regular surveys with students, parents, and teachers
Gather testimonials and case studies of student success stories

Program Evaluation:

Annual review of curriculum effectiveness
Tracking the number and quality of school partnerships

Long-term Impact Assessment:

Longitudinal studies on career outcomes of program participants
Evaluate the program's influence on Belize's tech industry growth

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UNIQUE VALUE PROPOSITION

UNIQUE VALUE PROPOSITION

Our NGO offers a unique approach to STEM education in Belize, leveraging cutting-edge technology and local expertise. We combine innovative teaching methods with a deep understanding of Belize's educational needs. Our founder's background in game development and web development allows us to create engaging, interactive learning experiences that resonate with today's youth.

Leveraging Maliyah Casey's expertise in game development and design, our NGO offers:

Gamified learning experiences to enhance engagement
Real-world application of STEM skills through game creation projects
A young, relatable founder who serves as a role model for Belizean youth
Integration of local language preservation into tech education, addressing both technological and cultural needs
Founder's personal experience as a young Belizean developer, providing relatable inspiration to local youth
Practical focus on marketable skills including graphic design, web development, and game creation

By combining cutting-edge technology with a deep understanding of local educational needs, we aim to create a transformative STEM education program that prepares Belizean students for the careers of the future.

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THANK YOU

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