# The Quantum Odyssey

Learn Quantum Computing, The way you play!

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**Quantum is here**

The time is now!

*Team Leader: Ashmit Gupta*

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# Introduction

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Quantum computers will exponentially increase the processing capabilities of a modern-day computer and address impediments linked to combinatorics. Near-term and long-term quantum applications will augment AI solutions, improve financial forecasting, drastically reduce failures in the manufacturing sector, accentuate drug development, and push for better cybersecurity paradigms.

Quantum technology can put the present-day encryption at risk, which can pose a threat to a country's critical cyber infrastructure, thereby, putting its national security at stake.

The quantum ecosystem in India is loosely built. While India has given a billion-dollar push to quantum computing, a comprehensive multi-stakeholder network is amiss. Metrics to assess the outcomes of India's quantum efforts are not clearly defined. Merely achieving quantum supremacy will not necessarily safeguard India's national interests. When it comes to capacity and skilled professionals, India has a small talent pool in the realm of quantum computing.

*Image Source:* Strange Works

# The problem we are trying to solve

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## Objectives

- India formally joined the race to quantum computing by establishing the National Mission for Quantum Technology and Applications (NM-QTA) in 2020.
- When it comes to capacity and skilled professionals, India has a small talent pool in the realm of quantum computing.
- One of the main reason for this is due to lack of awareness among our students. Most of the school don't know about this field.
- Online materials for learning quantum computing are too difficult for high school students to use as a starting point.

# Our Solution

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**The gaming industry is all set to surpass $182 billion in 2025**

- Around 433 million of the 846 million internet users play games in India.

**Our Idea is to build a game through which player can learn Quantum Computing.**

- A research has indicated that game based learning is more effective than regular classroom learning.

*Source: The Hindu Business Line*

# Who is our customer

## School students and college freshmen

- Our primary customers will be school students, college freshmen, or anyone who wishes to learn and explore quantum computing(QC) in a simple and engaging manner.

## Startups in the field of Quantum Computing

- Our secondary customers will be Quantum Software/Hardware Development Startups and ed-tech companies marketing courses on QC that wish to reach students in this discipline. We will offer them ad space within the game's storyline and game features based on their product.

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# Financials

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- Our game is based on free-to-start model. Player will be given x qubits/hr. to shoot which he can increase by add-ons.

***Cost per 100 extra qubit/hr. : $2-$4***

- We will Static and Dynamic In-Game Advertising Space inside the game-story to companies in the field of QC.

***Cost Per Thousand Impressions Dynamic Ads: $4-$12***
***Static In-Game Advertising Price:- $5k -$50k (Per Month)***

- Will give further study links of partner ed-tech platforms.

***Cost per reference : $100-$1000***

- We will use programming modules and environment of partner companies.

**Cost per 5 year:- $100k-$150k**

# Competitive Advantage

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## There are very less games based on QC

Existing games are puzzle-based and have only one or two levels. These games are not much engaging.

## Less no. of Quantum Educators

There are a few number of teaching platforms for quantum computing, the majority of which are expensive.

## Difficult-to-learn free learning resources

Due of limited and hard to learn resources, beginners will choose to learn by playing our game.

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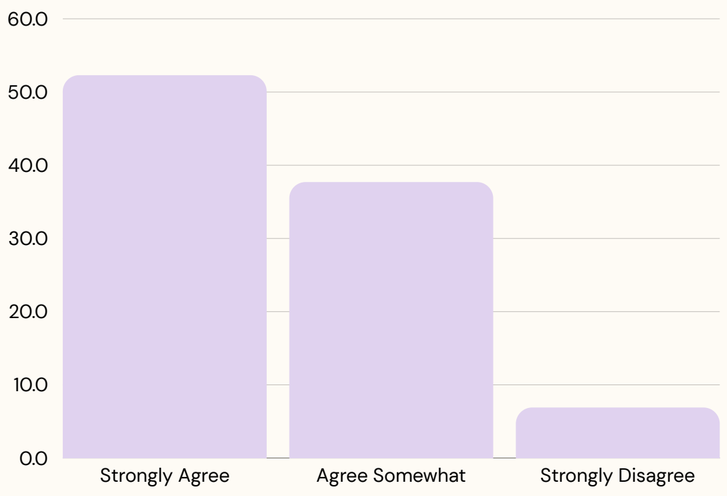
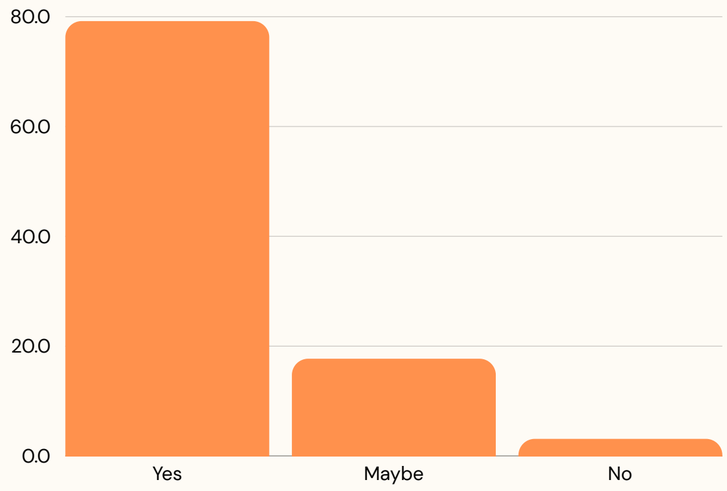



*How much do you agree with the point that games are good medium for making students learn Quantum Computing?*

Are you willing to play or recommend such games to learn Quantum Computing?




*Source:* A survey filled by 130 school and college students

# What our target audience say

- Try to make user interface of application easy so that students play game without hustle. Give points for different levels so that those interested already get a fair chance.

- bhai side shabdo me kahe to humne quantum computing ka naam hi phli baar suna.so tum jo bhi kroge acha hi karoge.best of luck.

- Games must be made in a manner that it may attract someone but khelte khelte samne wale ko practical knowledge bhi hojae samne wale ko. It's not upto ki ek game kheli and that's all :).

# Traction so far

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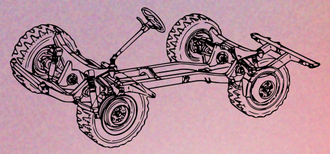
Ideated basic need and feature of the game and did idea validation survey



Built first prototype of the game and brainstormed on game features

Working on game features and storyline. Building prototypes of these features.

# Future Plans

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- Building the game will need highly skilled graphics designers and game developers.
- We will need to learn and buy game engines to build professional game.
- My objective for the near future is to build an effective storyline which incorporates the concepts of Quantum Computing and develop the game's prototype in PyGame before switching to the unity game engine to create a professional game.

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# Hope to learn from this Business Hackathon and create a brilliant game in future.

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Thank you for listening!

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# About Me

I am Ashmit JaiSarita Gupta, an Engineering Physics Sophomore at NIT Hamirpur. I have been studying quantum development and game development since past 11 months. I have been selected to participate in Womanium's Global Quantum Computing and Entrepreneurship Program, QCourse511-2, and QxQ's Introduction to Quantum Computing to study quantum computing.

I made first version of this game at Electrothon 4.0 where I won Best Beginners Hack Title.  Through this game I am attempting to present hard concepts of Quantum Computing(QC) through engaging story-mode game. Now I am working on advance version of that game which is more engaging and worth-playing than previous version.