Visualising the Invisible: Demystifying Quantum Computing Hardware

Bridging the Gap Between QC Theory and Physical Implementation

Agenda

01 Problem Statement

02 Overview

03 Value

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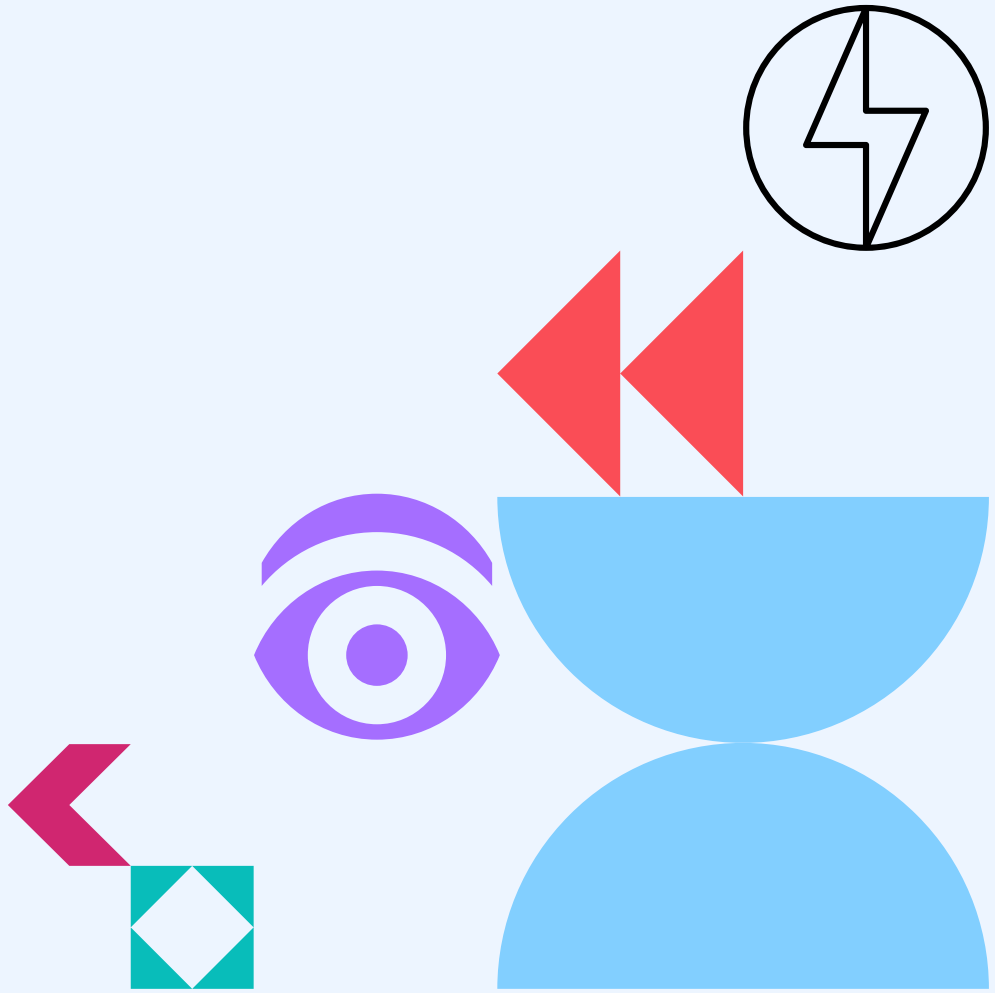
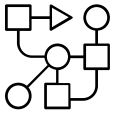


The Problem: Understanding QC in practice

Quantum computing is rapidly advancing and gaining mainstream attention.



Existing educational resources perform well but focus heavily on theoretical concepts.

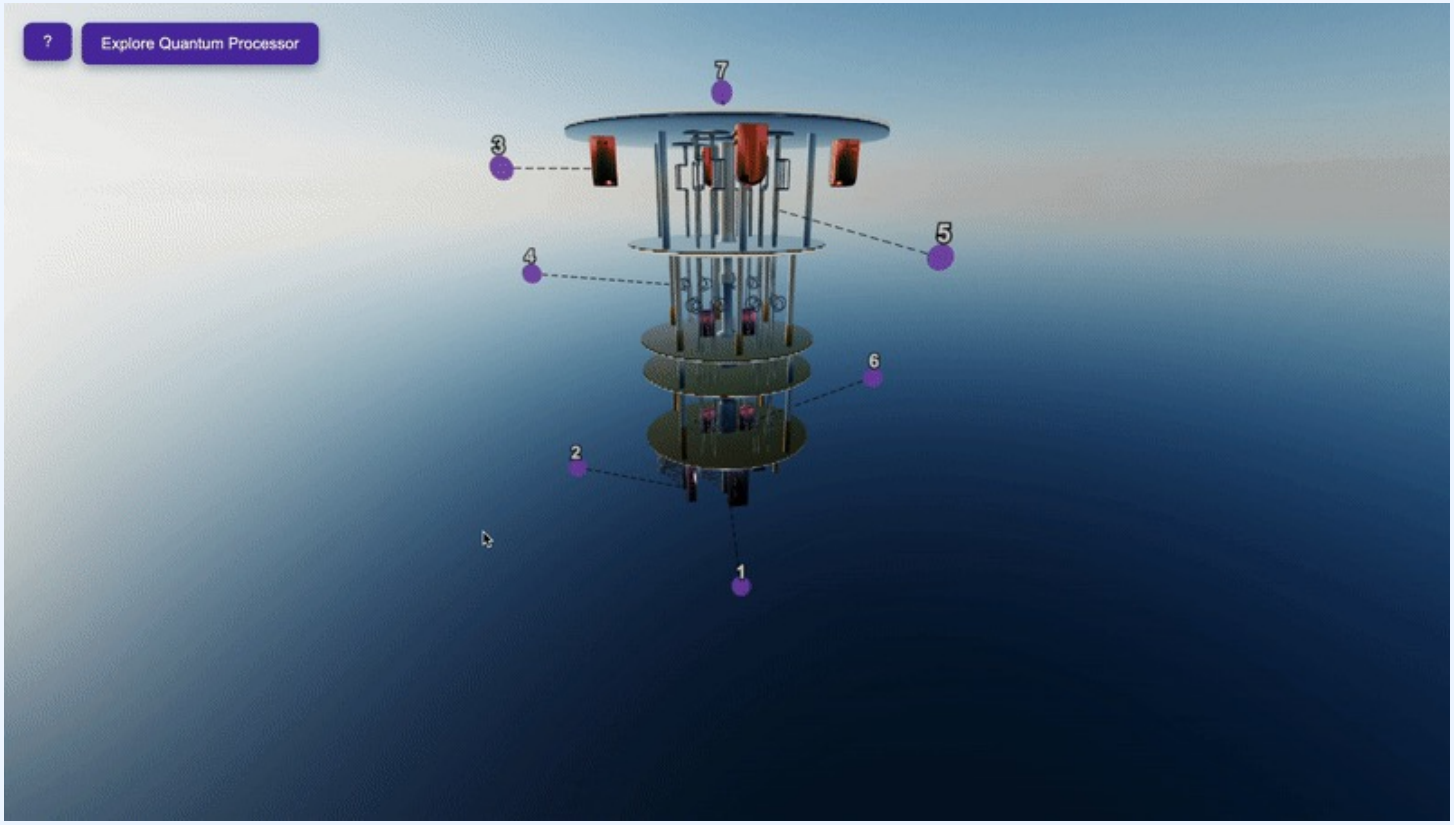
The physical implementation of quantum computers remains underexplained and ambiguous.

There is a lack of accessible tools for visualising quantum hardware.

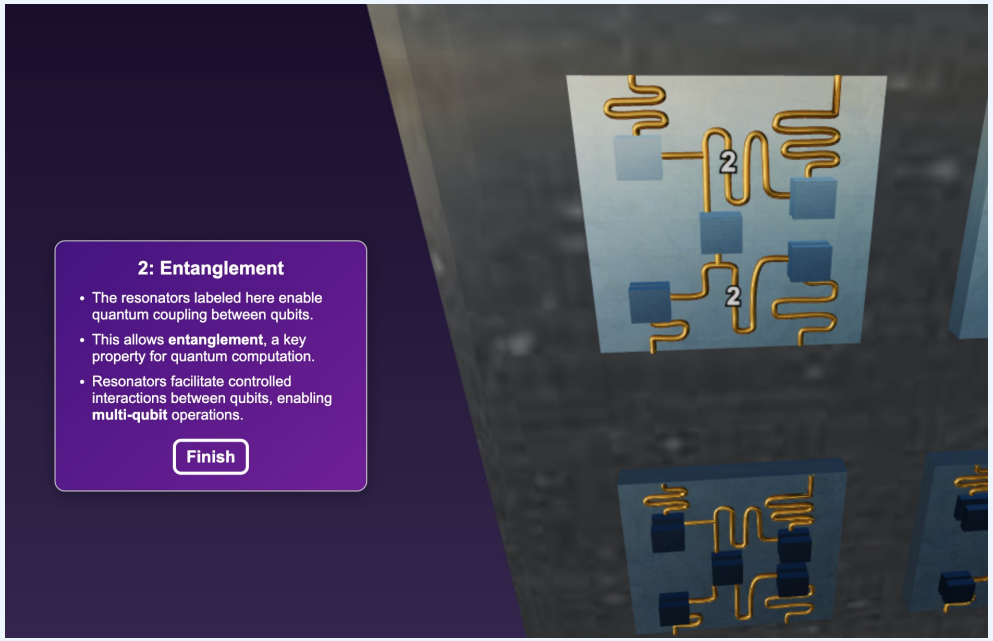
The solution: QuantumVerse

Web application built with Flask and Three.js to visualise a quantum computer based on IBM's superconducting architecture.

Coming soon:
Integration with IBM Granite for Q&A features.



The Value of QuantumVerse



1

Provides a tangible, visual way to understand how quantum computers are physically implemented.

2

Complements existing quantum learning platforms by focusing on an underrepresented area: physical hardware architecture.

3

92% of users thought the connection between theory and hardware was explained well or very well by the tool.

4

80% of users found the tool more engaging than traditional quantum learning platforms.

How did we learn the skills necessary?

Generative AI in Action
IBM

Getting Started with Threat Intelligence and Hunting
IBM

Getting Started with Cloud for the Enterprise
IBM

Getting Started with Enterprise Data Science
IBM

Getting Started with Enterprise-grade AI
IBM

IBM SkillsBuild

Experience of the project

Equipped myself with practical experience tackling real-world problems using IBM technologies.

Enabled me to build professional relationships and collaborate across disciplines.

Deepened my understanding of emerging technologies through IBM SkillsBuild.

Thank You!

For any questions feel free to contact toxley2