

STEM QUEST: Find Your Path

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INSPIRING FUTURE GENERATIONS IN STEM

An educational project designed to specifically motivate young people, particularly women, to explore careers in Science, Technology, Engineering, and Mathematics. It combines stories of pioneering women with interactive activities (decision trees and storytelling) so that each participant can discover their scientific potential.

Who Did What?

Participants match each pioneering woman with her historical achievement, pairing their portraits with descriptions to deepen their understanding of these women's impact in STEM.

PAST



Marie Curie

She wrote the first algorithm in history for Charles Babbage's Analytical Engine.



Katherine Johnson

She discovered radium and polonium, becoming the first person to win two Nobel Prizes in different disciplines.

PRESENT



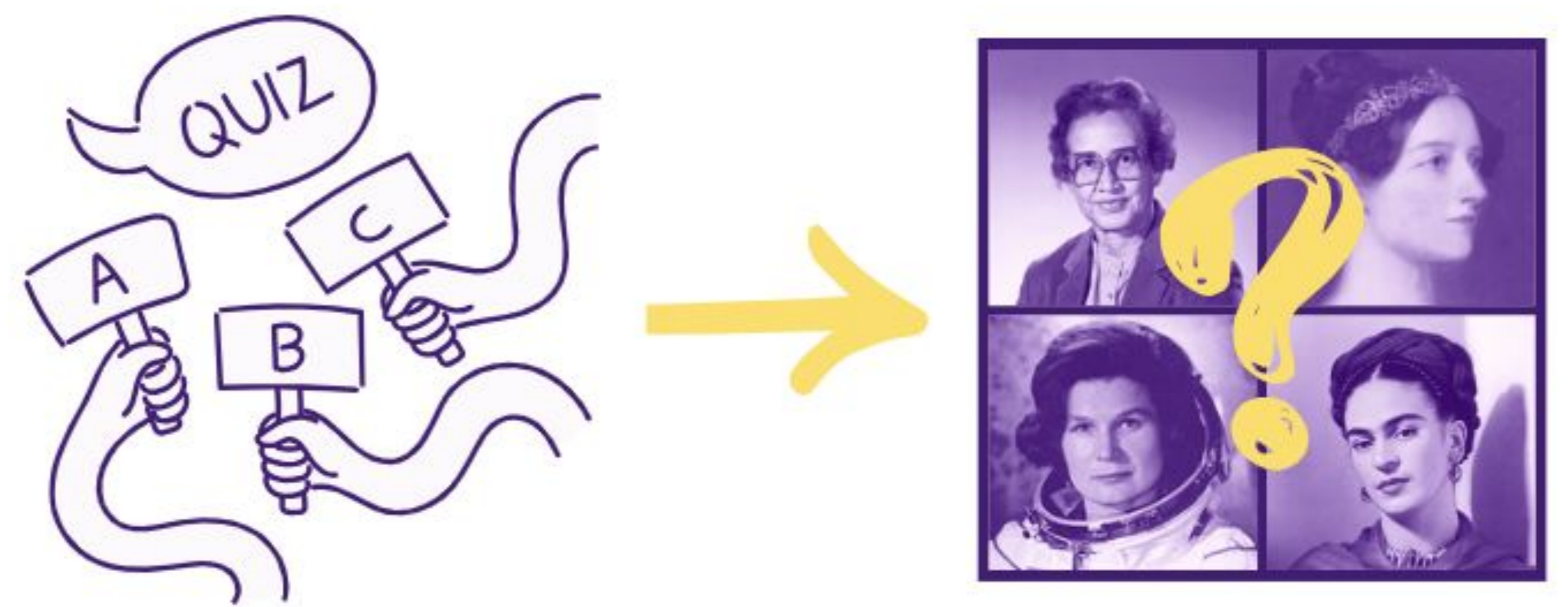
Sara García

She is a molecular biologist and Spanish astronaut candidate.

We developed a web-based platform using Python and modern web technologies to host both interactive games. The backend is implemented with Flask, exposing RESTful endpoints to collect and process user responses, while the frontend leverages responsive HTML, CSS, and JavaScript to render the decision tree and matching interfaces.

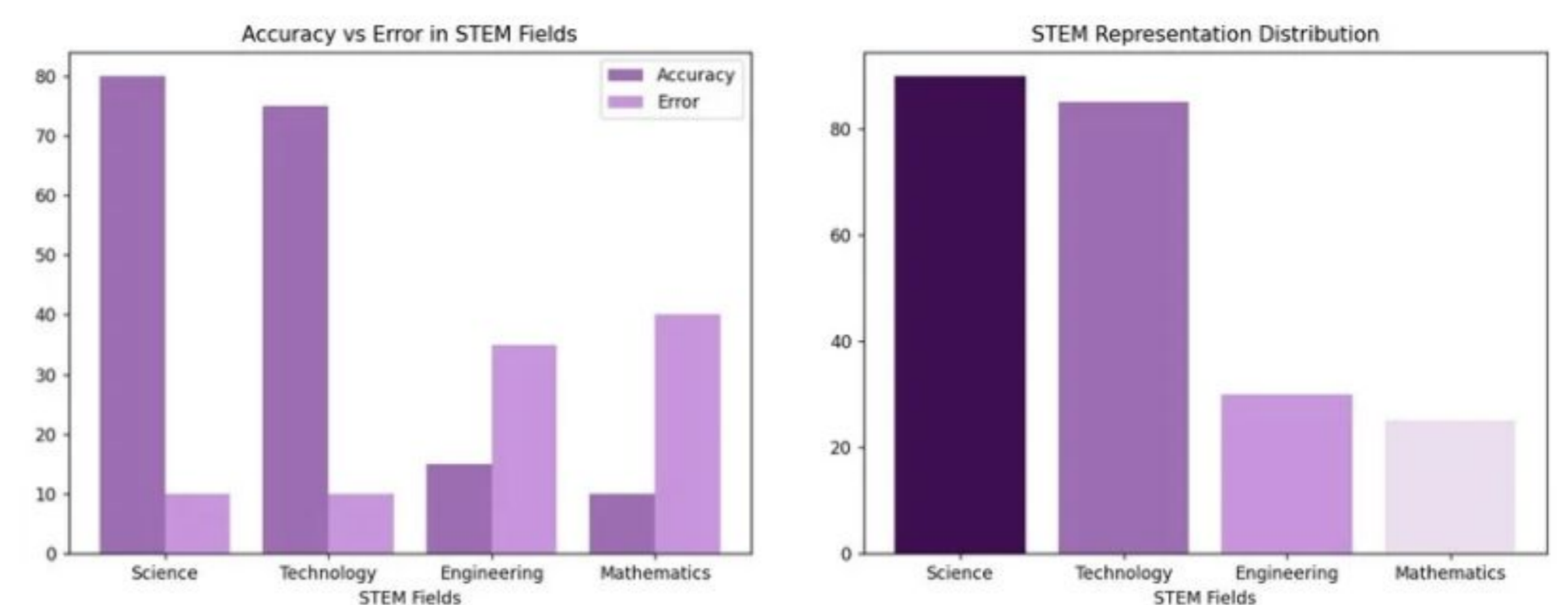
Discover Your Inner Scientist

Participants navigate a decision tree based on their interests, answering questions about problem-solving, programming, and design to discover which STEM field best aligns with their preferences, such as Computer Engineering, Data Science, Industrial Design, or Scientific Research. This interactive journey helps visualize potential career paths and encourages exploration.



RESULTS

Based on the responses gathered during this exercise, we analyze participants' affinities across the various STEM disciplines. By revealing which fields attract fewer learners, we can tailor future teaching strategies and resources to strengthen engagement in underrepresented areas, ensuring that every student feels empowered to explore all facets of STEM.



Data from the "Who Did What" and "Discover Your Inner Scientist" activities is stored in a SQLite database and analyzed in real time to generate insights on participant preferences. Modular design ensures easy maintenance and future expansion of the platform.

References

1. Gamificación en la enseñanza. Ministerio de Educación, Formación Profesional y Deportes. Biblioteca Central Blog, 2022. <https://www.educacionpydeportes.gob.es/biblioteca-central/blog/2022/gamificacion-en-la-ensenanza.html>
2. Aguillo, Isidro F. (2025). MUJERES INVESTIGADORAS ESPAÑOLAS Y EN ESPAÑA. EDICIÓN GS-ORCID FEBRERO 2025. figshare. Preprint. <https://doi.org/10.6084/m9.figshare.28334765.v10>



12th ACM Celebration of Women in Computing: womENCourage™
Braşov, Romania
17-19 September, 2025
Theme: Computer Science: a Catalyst for Educational Change

