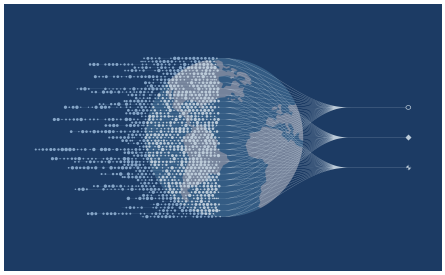

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Programming Learning for Visually Impaired Individuals

Visually impaired individuals face challenges in both learning programming and engaging with exhibitions due to the predominantly visual nature of both activities. This project explores tangible block-based programming, where users interact with physical objects to construct computer programs. I am developing a web application that uses the TopCode JavaScript library, 3D-printed fossil models, and audio feedback to create an interactive game. Users arrange physical model pieces to form a program, triggering audio prompts and storytelling that guide their exploration of the story. Initially designed for museum exhibitions, this approach can be easily adapted for CTBTO-related exhibitions, enabling visually impaired individuals to explore topics like on-site inspections, seismic monitoring, and verification technologies through touch and sound. As tangible programming gains recognition for fostering inclusive STEM education, this project provides an accessible way to engage diverse audiences with CTBTO's mission.

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