

TRANSFORMING GEOLOGICAL TRAINING WITH VIRTUAL REALITY

Summer Symposium 2022
Geological Society of Zimbabwe

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We learn geology the morning after an
earthquake

--- Ralph Waldo Emerson





QUESTION

Do we really learn anything until we have first-hand experience with it?

FACT

Geology is a highly practical subject

- Since the early days of geology, fieldwork has been the primary method of studying Earth's processes.
- Most geologists agree that "the field" is a crucial component of teaching and learning of geology.



FIELD TRIPS

CAN Be Expensive

- Field experience is frequently severely restricted when resources are limited.
- As a result, many students wait until their third or final year to participate in any fieldwork.





CAN YOU IMAGINE

Trying to understand the complex formation of geological structures and forms, geological materials from different geodynamic processes, depositional environments from a textbook?

SOLUTION

Virtual Reality Assisted Learning Of Geological Sciences

Without the expense of traveling, virtual reality enables us to learn about and understand complex geological formations, geodynamic processes, and depositional environments of a particular location and region.



What is Virtual Reality?

Virtual Reality means replacing your existing reality with an immersive environment you can interact with





Nolonger just a hype

Many companies in various industries are tapping into the massive potential of VR to harness its benefits



HEALTHCARE



AUTOMOTIVE S



TOURISM

PRACTICAL APPLICATIONS OF VR IN GEOLOGY



DIGITAL OUTCROP MODELS

Outcrops from wide ranging geographical locations can easily be visited to provide a comprehensive understanding



GEO- HAZARD ASSESSMENT

Geohazard assessment involves the collection of information about the possible sources of geological hazards (e.g. active faults, volcanic structures, ground morphology)



DEVELOPMENT OF PROTOTYPE



Scope

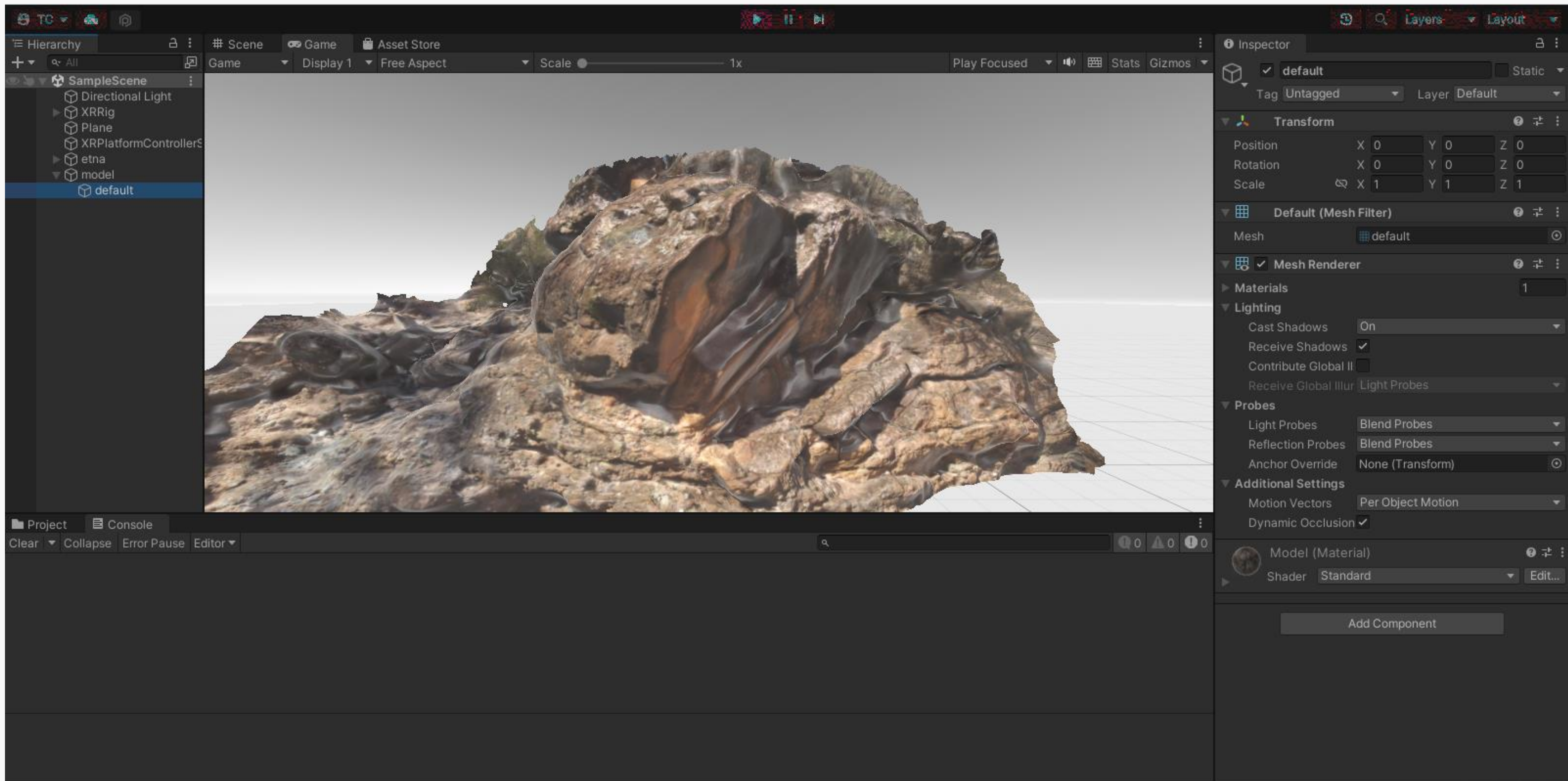
✓ 3d modelling

- 3d models available for research
 - Canadian Government (Free License for Research)
 - Sketchfab

✓ VR development

- Mobile App Development - Android
- Deployment





DEMONSTRATION OF PROTOTYPE

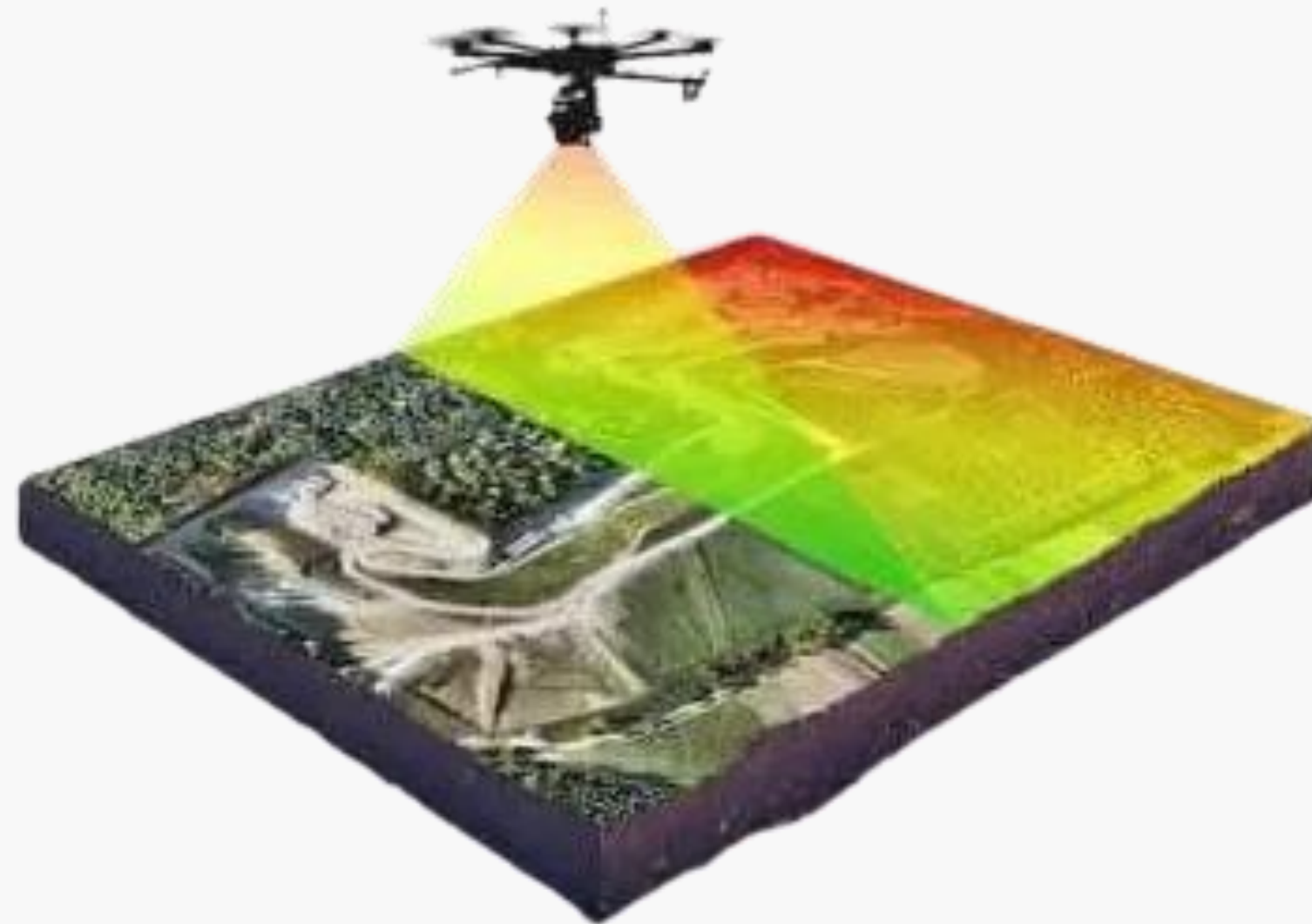
App Demo

Future Research

Local content

➤ Photogrammetry

- Making 3d models from 360 videos or photographs



CONTACT

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**THANK
YOU**