
RESQUAKE
SIMULATING POST-EARTHQUAKE DAMAGE IN PHILIPPINE HOMES USING PROCEDURAL MODELING
University of the Cordilleras
College of Information Technology and
Computer Science
May 2024

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CD CONTAINS/INCLUDES:

PROTOYPE

DOCUMENTS

"Enhancing the Fidelity of Post-Earthquake Simulation Models"

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ABSTRACT

Traditional post-earthquake training often relied on predefined scenarios that lacked the realism necessary to prepare trainees for the unpredictable scenarios of actual earthquakes. This research addressed this problem by introducing procedural modeling to create diverse models for simulations that reflected real-life post-earthquake situations. By leveraging procedural modeling, the researchers aimed to develop a comprehensive framework for procedurally generated post-earthquake models for rescue training operations on Philippine houses. Utilizing Houdini, a procedural modeling software, the researchers initially created a model incorporating standard architectural features of Philippine homes. These models were then refined under various earthquake scenarios, adjusting key parameters like magnitude. Preliminary results indicated that procedural modeling significantly enhanced the diversity of post-earthquake models for training scenarios, offering a more dynamic environment. Generating more training simulation environments rather than manually sculpting each led to a broader range of scenarios without a corresponding increase in time and resources needed to create them. This research held the potential to greatly enhance post-earthquake preparedness and response efforts in the Philippines and possibly other earthquake-prone regions.

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CD INCLUDES

PROTOYPE: Houdini FX Simulation

DOCUMENTS:

- Thesis Manuscripts
- Consultation Forms
- Attended Webinar Report
- Instructions Manual Conducted
- Webinar Report
- ACM Paper
- Endorsement Letter
- TBI Assessment Certificate
- Defense PPT

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