



400 Santa Fe Dr., Suite 4
Denver, CO 80204 USA

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News Release
FOR IMMEDIATE RELEASE

Michael Moran
+1 201-264-5751
michael.moran@buildchange.org

Build Change Coders and Developers Reach Finalist Round of IBM's Call for Code competition
Team Cited for Innovative Use of AI to Identify Structures Vulnerable to Earthquakes

Katmandu, NEPAL (October 25, 2018) — A team of developers and coders from Build Change are among the top three finalists in the global Call for Code Developer Challenge, a prestigious worldwide competition sponsored by IBM that seeks to identify and promote creative digital approaches to disaster relief and preparedness.

This exceptional achievement underscores the quality of the innovations developed by Build Change's New Frontier Technologies division. Competing against more than 2,500 submissions from 156 countries, Build Change's Post-Disaster Rapid Response Retrofit (PDR3) team, consisting of Build Change employees, contractors and volunteers, was selected as finalists for their innovative use of Artificial Intelligence (AI) code to identify vulnerable Nepali houses that would be good candidates for seismic retrofitting, and for the innovative linkage of AI with 3D-modeling that can make the AI operational within days of a disaster.

"This solution could accelerate the deployment of construction teams to more than 100,000 displaced residents still awaiting support after the 2015 Nepal earthquake," said Angel Diaz, IBM's Vice President of Developer Technology, Open Source & Advocacy. Writing on the technology giant's [Developer Blog](#), Diaz added that Build Change "hopes to scale this concept worldwide, resulting in a rapidly deployable country-specific system that is capable of going live immediately after a disaster."

In their short-listed submission, the Build Change team provided code and other materials describing a smartphone-based Artificial Intelligence (AI) and image-capture interface, that informs rural Nepali homeowners of whether or not their vulnerable house can be seismically retrofitted. The app provides free engineering advice that is normally prohibitively expensive to people whose homes either were damaged by an earthquake or who live in areas vulnerable to seismic events.

The Build Change team initially taught the AI using images generated by a 3D computer model. This dramatically reduced the time required to teach the AI. In doing so, the team demonstrated that such an AI approach could be rapidly taught and deployed following future natural disasters, thus bringing free rapid house evaluation advice to affected populations within days of an event.

Former U.S. President Bill Clinton, a member of the judging panel, praised the finalists and said technology can play a major role in reducing the impact of natural disasters. "As more and more people around the world are affected by these catastrophes, the need for new approaches toward disaster



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prevention and response is greater than ever.” The Clinton Global Initiative Haiti Action Network launched an Action Network on Post-Disaster Recovery earlier this year.

“Making this technology available in every country exposed to natural disasters, including earthquakes, hurricanes and typhoons, will go a long way in helping millions of homeowners and their families around the world live in disaster resilient houses,” said Noll Tufani, Build Change Nepal Country Director and Head of Build Change’s New Frontier Technologies division.

The submission from the Build Change team included a video produced to demonstrate the vital, real world application of their concept. The video can be viewed [on the Build Change website](#).

Call for Code’s inaugural award competition features entries from over 100,000 developers worldwide, a testament to the impact of the unique submission from the Build Change team. Over 2,500 apps and other digital approaches to disaster resilience and response were submitted from 156 countries. The five applicants from Build Change are Lakshyana KC, Nicolas Ortiz, Nirmal Adhikari, Shreyasha Paudel, and Kshitiz Rimal.

The Call for Code challenge, launched this year by IBM and the philanthropic advisory David Clark Cause (DCC), includes support from the United Nations’ Human Rights Office, the American Red Cross, the Linux Foundation and others. The winning submission will receive a \$200,000 cash prize and technical support from the Linux Foundation to help “open source” the application. The prize will be awarded at a gala event in San Francisco on October 29, 2018.

About Build Change

Build Change saves lives in earthquakes and windstorms by working with people in emerging nations to build homes and schools that will protect their families and children. Build Change works to strengthen buildings before and after disasters strike in Colombia, Guatemala, Haiti, Indonesia, Nepal, and the Philippines by improving local construction practice and building long-term resilience. More than 25,000 people have been trained in disaster-resistant design and construction techniques and have built over 48,000 safer homes, impacting more than 250,000 people. Visit www.buildchange.org and follow us on Twitter [@BuildChange](#) or on [Facebook](#).