MIT Job Description

Job Title: Other Academic Staff	**Position Title:** Postdoctoral Associate
Reports to: Hal Abelson	**% Effort:** 100
Department: CSAIL	**Prepared by:** Hal Abelson and Nico Lang
Date: March 15, 2016	

Project Overview:

The MIT App Inventor team builds, supports, does educational outreach, and conducts research on the MIT App Inventor platform specifically, and computer science education more generally. App Inventor is used by more than 300 thousand unique monthly users, from countries around the world, both in classrooms and informal educational settings. The team is embarking on a four-year pilot study of a Scratch and MIT App Inventor based curriculum in 30 primary schools in Hong Kong.

Position Overview:

The MIT App Inventor Postdoctoral Associate will contribute to curriculum development and adaptation using MIT App Inventor and Scratch, and will collaborate with researchers at MIT and in Hong Kong to develop and carry out an ambitious research agenda on computing education and computational thinking.
This position will work closely with the Educational Research Scientist to lead the research, data analysis, and adaptation of using MIT App Inventor and Scratch for the "Fostering Computational Thinking for Hong Kong Senior Primary School Students" project.

Our research in the MIT App Inventor group broadly focuses on systems, both technological and social, that prepare learners to build computational tools for social impact. Areas of inquiry include computing and computational thinking instruction; learning to create computational tools in informal environments; assessment of computational learning; computer science learning in interdisciplinary settings; broadening participation in computing; and the social impact that (young) people can have through the creation of computational systems.

Learn More: http://appinventor.mit.edu/

Note: This is one-year appointment with potential to renew for a second year.

**Principal Duties and Responsibilities:

- Works closely with the Educational Researcher to plan and conduct research, analyze data, and publish initial research results.
- Supports research studies using qualitative, quantitative, and design-based methods.
- Contributes to the definition of and/or creation of appropriate research instruments for data collection at both the learner and instructor level.
- Supports curriculum development efforts in collaboration with Hong Kong colleagues for an intervention for three upper-primary grades using MIT App Inventor and Scratch.
- Works with developers to define data to capture from online and in-person learning activities.

- Contributes to data analysis (qualitative and quantitative) from instruments, interviews, and online data collection.
- Publishes articles and reports.
- Works with university students and other researchers to train and support them in conducting related research.
- Other projects as required.
- Work will require several trips to Hong Kong for collaboration and classroom observation, and may include additional trip(s) to present research at conferences.

Supervision Received:

Receives supervision from Director of MIT App Inventor and Educational Research Scientist for this project.

Supervision Exercised:

Undergraduate research assistants

Qualifications & Skills Required:

REQUIRED:

- PhD in the field of computer-science education, social science, discipline-based educational research in a STEM field, or a related field.
- 2+ years experience in qualitative, quantitative, and design-based research methods, with deep expertise in at least one methodological approach (e.g. digital ethnography, learning analytics, design-based research, etc.)
- Demonstrated interest in computing and computing education, with a commitment to equity for all learners.
- Computer programming experience in Java, C++, Python.
- Research experience in computer science education, or related subjects.

PREFERRED:

- Experience programming and/or teaching with block-based languages.
- Experience conducting data-intensive research, such as using user log files from games, learning-management systems or programming servers.
- Familiarity with App Inventor, Scratch, and constructionist approaches to computing education.
- Fluency in Cantonese desirable.

Target Start Date: May 1, 2016