Automatic Application of Programming by Voice: A Modeling Approach

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Overview of Presentation

Motivation

Proposed Research

Previous Work

UCP United Cerebral Palsy of Greater Birmingham
Created by researchers at the MIT Media Lab to provide Elementary to Middle School children an application to learn computer programming concepts while creating interactive stories, animations, games, music, and art. Students’ creations can be posted and shared on the web.

MIT launched an online community (ScratchEd) for educators using Scratch in the classroom. This community allows educators to share ideas as well as receive support for Scratch. Currently, 888,127 members all over the world and is supported in 14 languages.

http://stats.scratch.mit.edu/community/
Motivation

The WIMP assumes dexterity

The MYNA Solution for Scratch
Under the Hood of Myna

Diagram:
- **Grammar**
- **Speech Recognizer**
- **Command Executor**
- **Robot**
- **Mappings**
- **Component Hierarchy**

Move Right
Proposed Research
Myna Extension

Multi-lingual Support

Customized Vocabulary

Support for
- Scroll bar navigation
- Screen resolution adaptation
- Remove and Undo/Redo
Observation and Evaluation

- Observe target audience at UCP
- Peer evaluation
  - Observe interaction
  - Survey
Life without limits for people with disabilities
Questions?