

**Carnegie Mellon**

**COMPUTER SCIENCE DEPARTMENT**

# **Speaking Skills Talk**

## **Logic Programming with Temporality, Names and List Comprehension**

**Kuen Bang(Favonia) Hou**

**Friday, March 21, 2014**

**12:00 pm**

**GHC 4303**

Logic programming has been known for its ability to execute specifications as programs directly. The one based on linear logic can further model the states in real systems. Unfortunately, some common concepts are rather inconvenient to express in a typical linear logic. For example, maintaining a global counter for the number of data in a system requires careful manual updating in every rule.

Motivated by social networking sites, I have created a new logic for logic programming which addresses several usability issues in a typical linear logic. The extensions include temporality (which can be used to handle global information), name generation and list comprehension. I also showed that there is a sound and complete compilation from this logic to a known linear logic. This talk will primarily focus on the definition and the usage of the new logic.

**Presented in Partial Fulfillment of the CSD Speaking Skills Requirement.**