
Let Me Know: A Dialogue For Notifications

— Project Pitch – CS294S Fall 2020 —

Goal: Event-based Notifications

- **Notifications** are useful across many domains
 - “Let me know if it will rain tomorrow”
 - “Let me know if Juventus wins”
 - “Let me know when the presidential debate starts”
- More general than reminders and timers
- Can be combined with **actions**
 - “Retract the awning if it starts raining”
 - “Turn on the TV when the presidential debate starts”
- With **filters**
 - “Let me know when someone tweets with #NLProc”
- With **parameter passing**
 - “When someone commits a release to GitHub, post the message on Twitter”

Problem Statement

- Almond supported notifications & trigger-action since day 1
- In one sentence:

when, filters => get, filters => do

- Whole statement in one sentence is too complex
- **Can we use a dialogue to build the program incrementally?**

Example (Basic)

U: When is the next presidential debate?

A: The next presidential debate is Tuesday Sep 29.

U: Let me know when it starts.

A: Sure I will remind you.

U: Also turn on the TV at that time.

A: OK, I will turn on your TV when the presidential debate starts.

Example (Proactive)

U: When is the next presidential debate?

A: The next presidential debate is Tuesday Sep 29. Would you like to be notified when it starts?

U: Yes please!

A: Sure I will remind you. Would you also like me to perform an action at that time?

U: Yeah turn on the TV.

A: OK, I will turn on your TV when the presidential debate starts.

High-Level Project Plan

- Step 0: choose skill setting (e.g. Twitter, IoT)
- Step 1: design dialogues
 - With pen and paper
 - Or, these days, with zoom whiteboard and wiki pages
 - Examples: <https://wiki.almond.stanford.edu/nlp/contextual-sentences>
- Step 2: templatize
 - Write skill-independent templates for dialogue state transitions
 - (Will be explained in the next lecture)
- Step 3: write example dialogues for evaluation
- Step 4: train, evaluate, iterate, get good accuracy
- Step 5: demo with real agent
- Step 6: profit!

Why You Should Work on This Project

- **Push the envelope:** build a capability no commercial assistant has!
- **Multidisciplinary:** HCI (dialogue design) + AI (getting the accuracy)
- **Multiple use cases:** choose your own!
- **Already started:** existing Almond work as starting point