



## Terry Timeline (Retrospective)

Owen Gallagher | April 12, 2020

- Kaldi** - created first scribe transcript with Kaldi Aspire
- Intercom** - created the prompter intercom window with the glasses icon, that registers mouse clicks
- DeepSpeech** - created scribe transcript with DeepSpeech
- LanguageMapping.Pattern** - the pattern class stores a graph representation of ways an instruction can be said, and can convert from expression representation (ex: [hi,[whats\_up],) ?world))
- Scribe to Parser** - handles the connection between two asynchronous classes to pass the transcript to the instruction parser
- Dict. Lookup** - created a dictionary for quick reference to known language mappings in memory, accounting for edit distance
- Robot** - first primitive actions with driver: point, type, click, shut-down; first driver demonstration with primitive action sequence
- Console** - added console window to prompter, connected to logger
- Parsing Pipeline** - the pipeline fully connects the intercom, to the scribe, to the instruction parser, to memory, to the driver for execution
- Google Speech** - improved transcription accuracy by switching to Google Speech API
- LanguageMapping Storage** - actions and dictionary can now be read and written to files in src/res/memory/
- Google Vision** - Google Vision API added for optical character recognition
- Screenshot & Overlay** - driver can now take a screen capture hiding prompter windows; prompter can create an invisible overlay over GUI
- Lessons** - first lesson for widget definition created
- Widgets** - widgets with labels can be created via lesson and referenced in instructions
- Multiword Arguments** - struggles with multi-word arguments in instruction expressions, with eventual success
- Spring Break + Coronavirus** - about a 1-month pause for Spring break, the break extension, and later cancellation of campus classes at JC
- Widget Label Finding** - uses Google Vision to find the widget label in a screenshot, then can direct the driver to move the mouse to that location
- Widget Image Finding** - defines widget appearance and can search for a widget by appearance to move the mouse to that location
- Watcher** - created watcher to read system keyboard and mouse events with JNativeHook. I have been struggling to get it to work consistently even now
- Unknowns** - Terry partially recognizes unknown actions and widgets to be learned
- WIN Speaker & Log Files** - added speaker to windows using voice.exe and enabled log file creation
- WIN Overlay & MAC Speaker** - fixed windows overlay and added mac speaker
- Demonstration Pipeline** - drafted the workflow for demonstration learning, but without a functioning watcher
- Baby Driver** - functioning driver demonstration with primitive actions
- Widget Finder** - theoretically find widgets on screen by label and appearance
- Compiler** - instruction parser to driver pipeline complete
- Widgets (milestone)** - widgets can be learned, referenced, found, saved, and loaded
- Watcher (milestone)** - create watcher connected ot peripheral input events
- Extras** - everything I hoped to do but did not reach: functioning demonstration learning, instruction learning, conditional and argument actions, multipattern actions