Making things perceive

signal and noise

Filtering beforehand is better than filtering afterwards

Goal: find the easiest data point to read

JSON

XML

Listening

Text

Text is the easiest thing to do

Text, twitter, facebook, etc, all are easy to read

If you know what you're looking for then there's tons of info everywhere

All you need is (usually) a log in

Location

Location is just a 2d or 3d data point

Lots of things tag themselves by place (for instance Twitter tags or Facebook posts)

Temboo

Read from anywhere

Get data you can play with

Processing friendly

https://www.temboo.com/processing

Temboo 2

You need to make a Temboo account

You need to (maybe) make an account for whatever you want to read from it

Reading the weather

yahoo weather

Give it a location

Get back the weather in F because ‘Murica

Speech to Text

It’s not easy

Requires a good clean data source (sound)

Requires that your data matches the training data used

Let’s see how wrong it can go :)

SpeechRecognizer

Google provided

Android only

Have to have an internet connection

Works good :)

Requires a slightly hacked up version of Android for Processing

Let’s hack chrome!

http://stt.getflourish.com/

Leave Chrome running & let Processing talk to it, get free speech to text

Is someone there?
Who’s there?

Strategies

Is there someone in front of me? (many strategies)

Is there a person in front of me? (OpenCV or BoofCV)

Is Josh in front of me? (that’s tricky)

Recognition

In ascending order of difficulty:

“Is someone there?”

“Who’s there?”

“What’s that?”

“What’s happening?”

Rekognition library

Internet-based API

Send it an image and get back information about a face, recognition of that face, or for a complex scene, what's in that scene

Requires the HTTP Requests library

Speaking

A chatty bot

RiTA

“RiTa is designed to be an easy-to-use toolkit for experiments in natural language and generative literature.”

Markov Chains

A state

A likelihood to stay in or leave that state

A set of states to enter once leaving that state

Markov Chains

RiTA uses them a lot.

You'll recognize them from spam email :)

RiMarkov

rm.loadText()

rm.generateSentences()

Context-Free Grammars

A set of recursive rewriting rules used to generate strings

RiGrammar object

Rules written in json or yaml

WordNet

Can be downloaded with RiTA. Helps you understand what a word is.

Things like getAllSynonyms() or getAllHyponyms()

Figure out if a word is a adjective or noun.

On OSX you can install using macports.

Assignment

An informative machine: "Did you know that..."

We humans cannot know all, we need objects to help us deal with far, complex or invisible information.

Grab some information from remote and present it in whatever way or interpretation that you might like.

It can be helpful or bitchy, or just blunt...it can be spoken or translated into subtle colors....