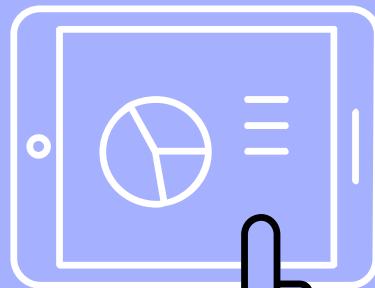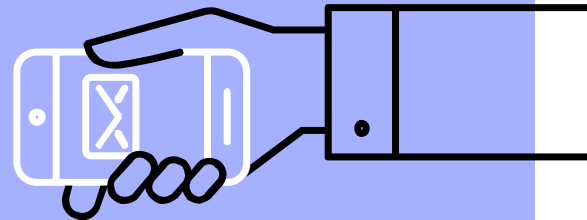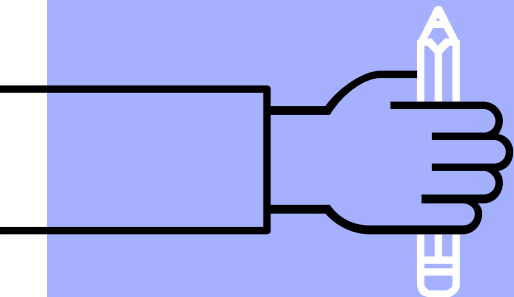# Sprint #0
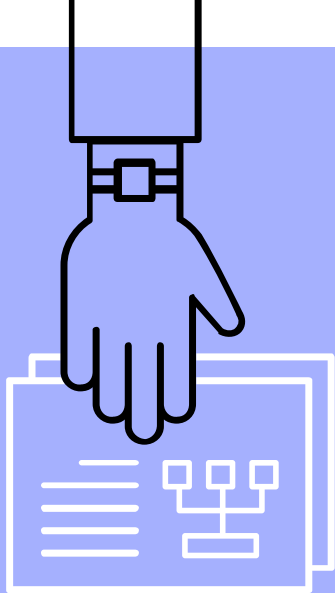## Instrument Recognition Software

Members:

Aleks, Aner, Axel, Cuong

Joe, and Thomas

Product Overview

▷ ## What does it do?

- Our software is tuned to isolate and identify sounds using computer vision/image analysis algorithms

▷ ## How does it work?

- Music frequency analysis, machine learning

▷ ## Why?

- Personal desire for better search criteria

- A better way to label audio

- Unfair advantage: feature does not exist
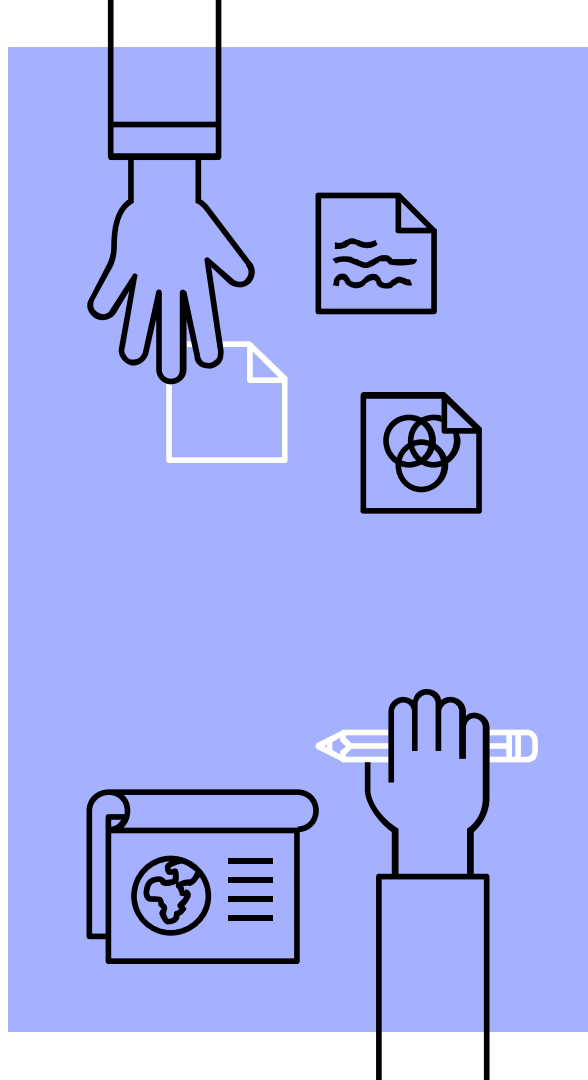
Users/Business Plan

▷ Needs
  ■ Automate music classification
  ■ Increased search capabilities

▷ Users
  ■ Primarily enterprises
  ■ Potential for individual consumers

▷ Commercialization
  ■ Patent and sell research
 ■ Adoption of service by larger provider
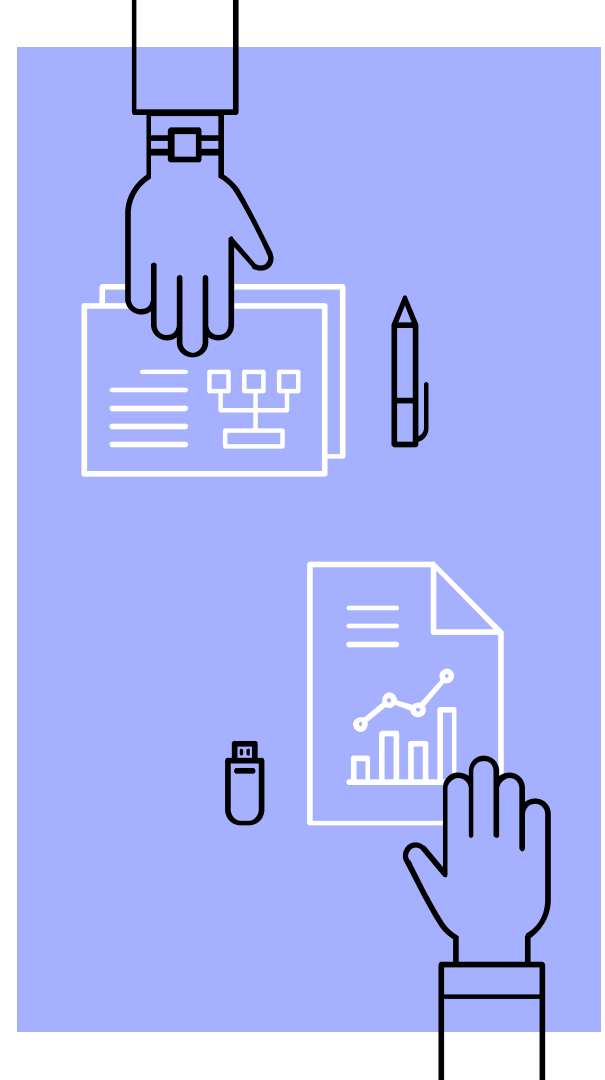
Primary/Secondary market research

▷ ## Secondary
- Target market are companies
- Research papers: sound conversion (2), single source (1), multi-instrument (2)

▷ ## Primary
- Sony selected as primary consumer
- Gauge interest/direction through interview
- Isolate desired features
- Interview instead of survey, scheduled 9/15/19
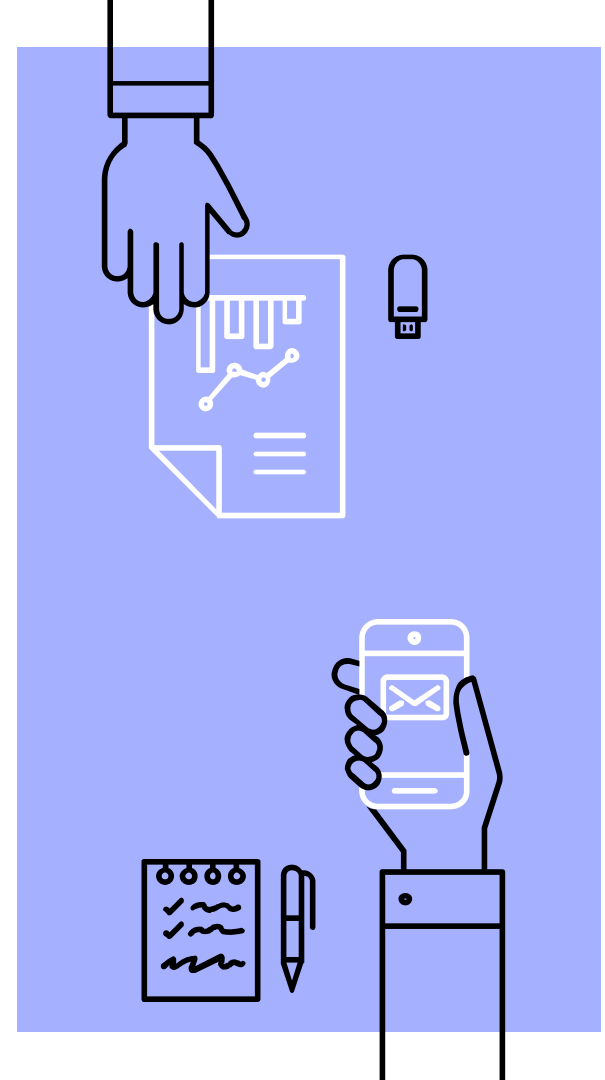
Persona/User Stories

▷ Sony
  - Large user base
  - Highly interested in audio technology
  - Largest music publisher in the world

▷ Stories
  - As a Sony sound engineer, I want a program to classify audio so I can sort large libraries
  - As a music listener, I want a new search criteria so I can find music more easily
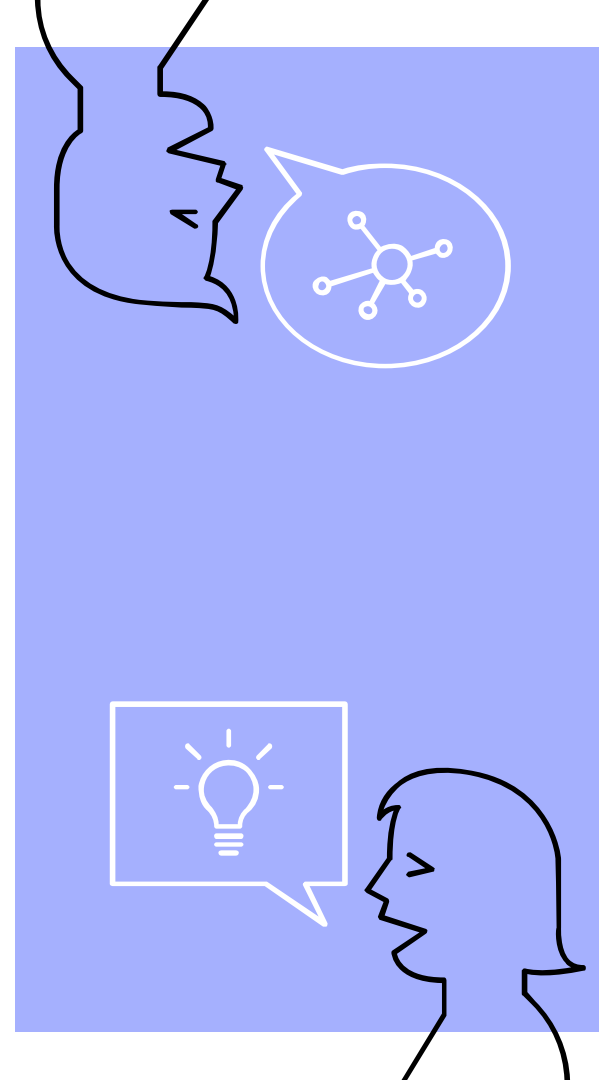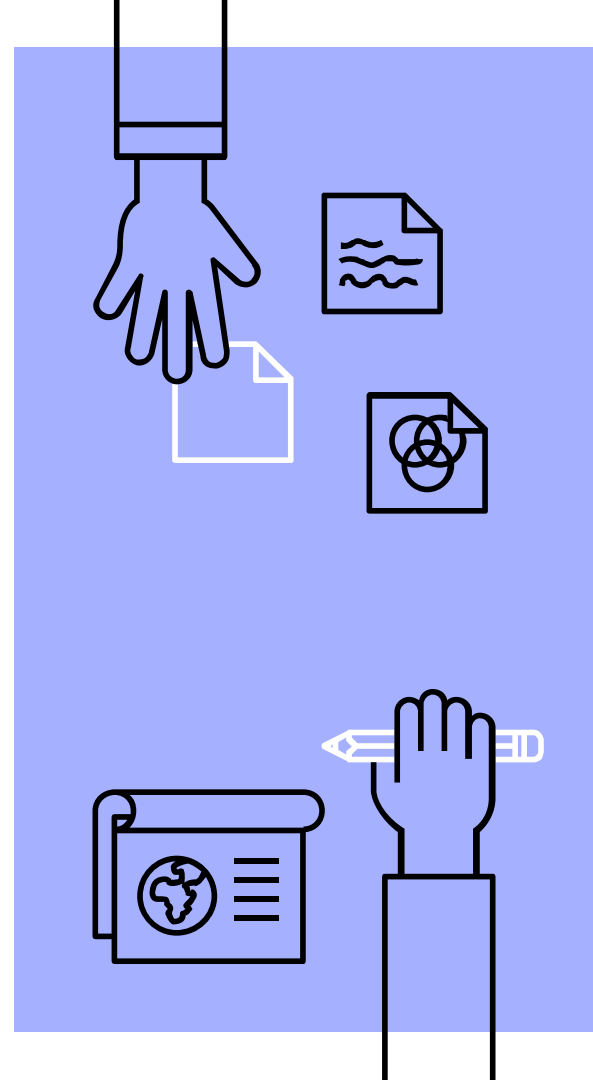
Next Step: Research required

▷ "Big 3" steps toward identifying sound
- Sounds conversion - diverse methods
- Single source - male/female voice differentiation
- Multi-instrument - quantity and scope

▷ Understanding machine learning
- Team training exercises
- Early small scale development projects
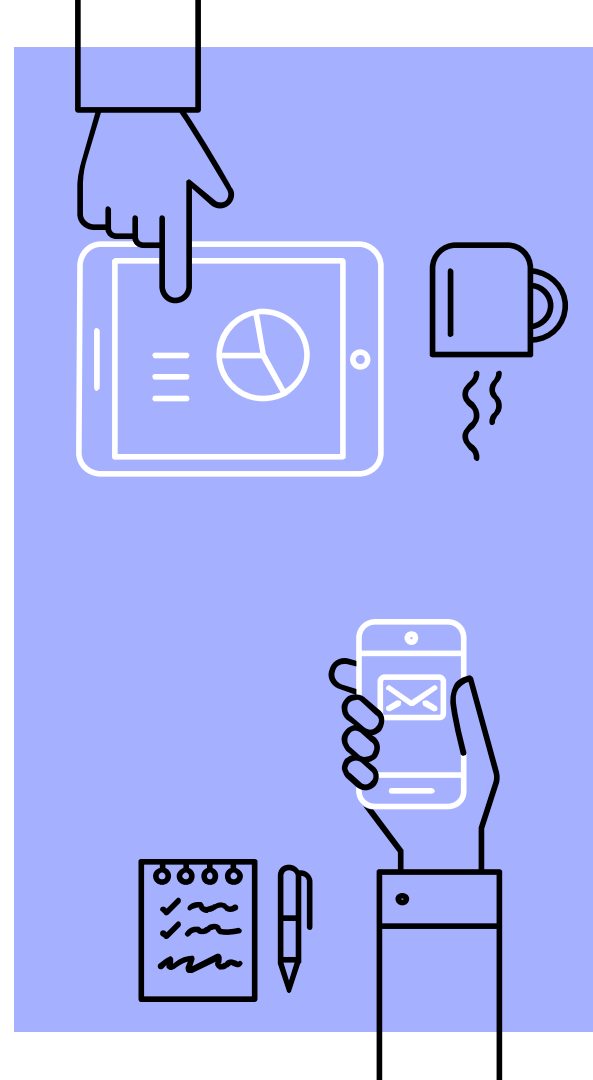
Sprint Goals

▷ Proof-of-concept project
- Small scale
- Demonstrates machine learning

▷ Determine preferred data
- Various ways to interpret sound

▷ Finalize application goals
- Sony feedback
- Branching possibilities for features
  - Labeling genres, instruments, suggesting similar music, sorting

Thank you for listening!