

POINT OF VIEW

Stop-motion animation is a unique artistic medium that has endless creative and educational applications. However, many potential animators are deterred by its apparent difficulty and equipment requirement.

A PLUG AND PLAY APPLICATION THAT LETS **IMAGINATION** TAKE THE WHEEL.

USER NEED

PROFESSIONAL

- Creates complex animated shorts
- Technical set-up requires at least four people
- Uses a bevy of film equipment and editing software to create stop-motion
- Perfectionist, but discovers faults only at edit time, when crew and camera set-up are gone



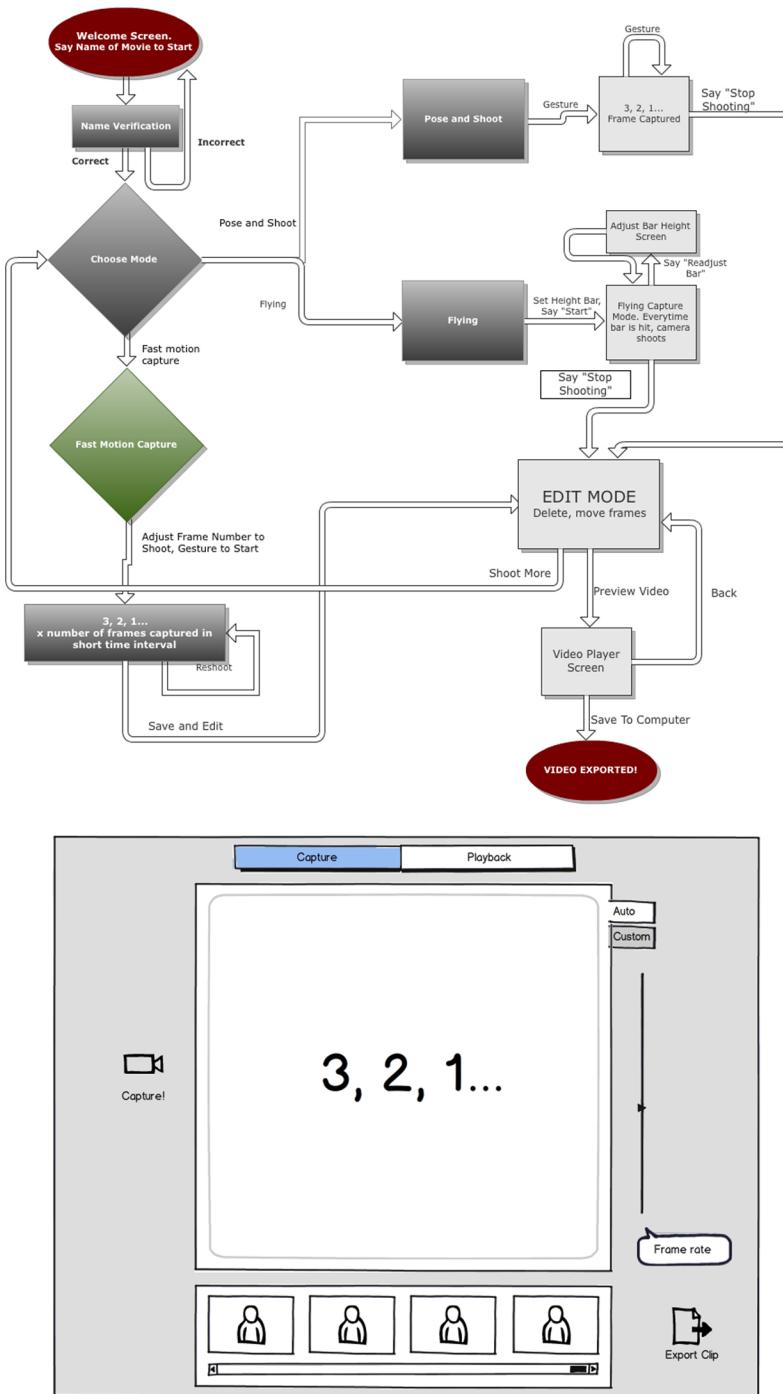
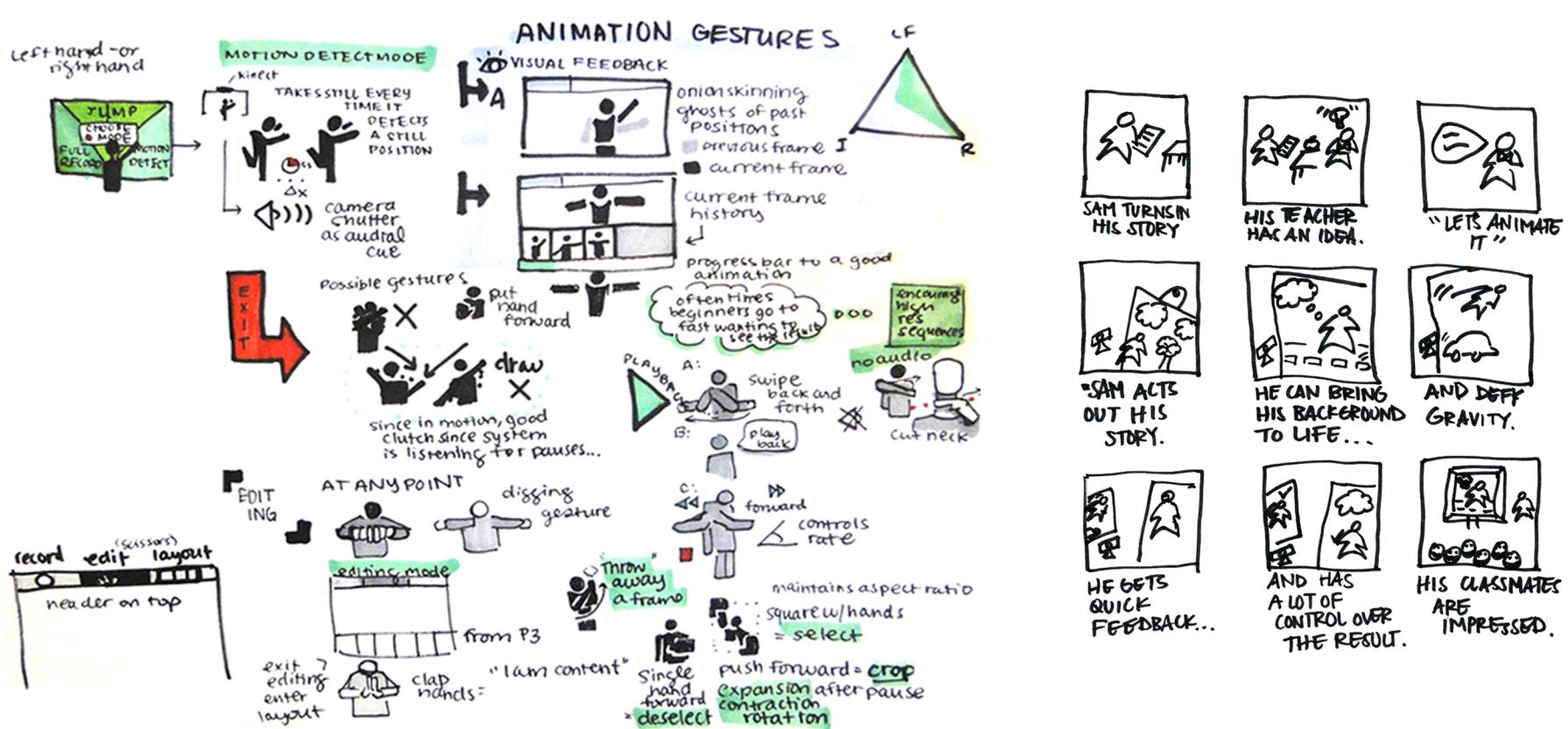
NOVICE

- Has never created a stop-motion
- Thinks stop-motion looks really neat, but is intimidated by its difficulty and tediousness
- Doesn't have the required resources or technology: cameras, film-editing software, technical crew
- Interested in producing simple animations without a steep learning curve



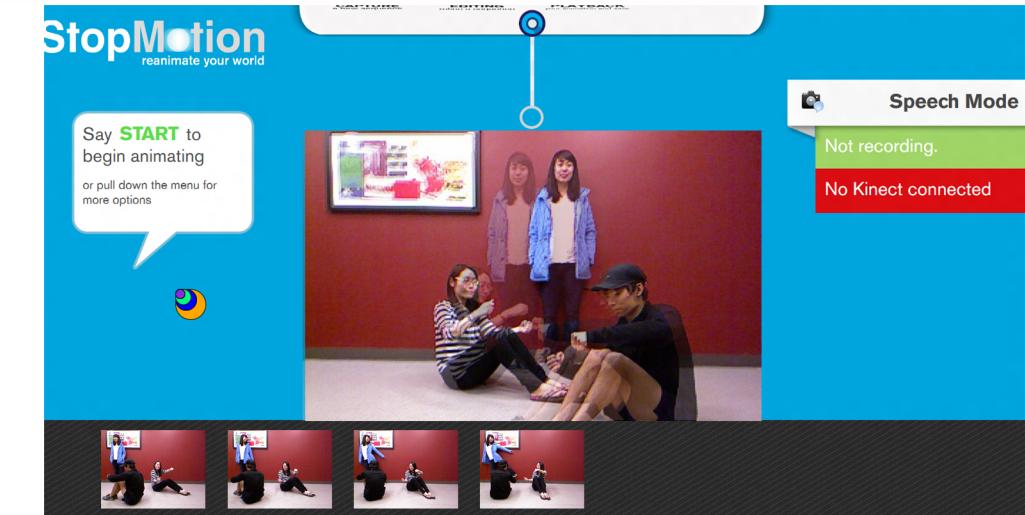
PROTOTYPES

We produced parallel prototypes of various mediums to flesh out the idea from different angles. These included gesture sketches, storyboards, flow diagrams, and lo-fi UI mockups. We performed heuristic evaluation at each step to determine the optimal adjustments to our envisioned product.



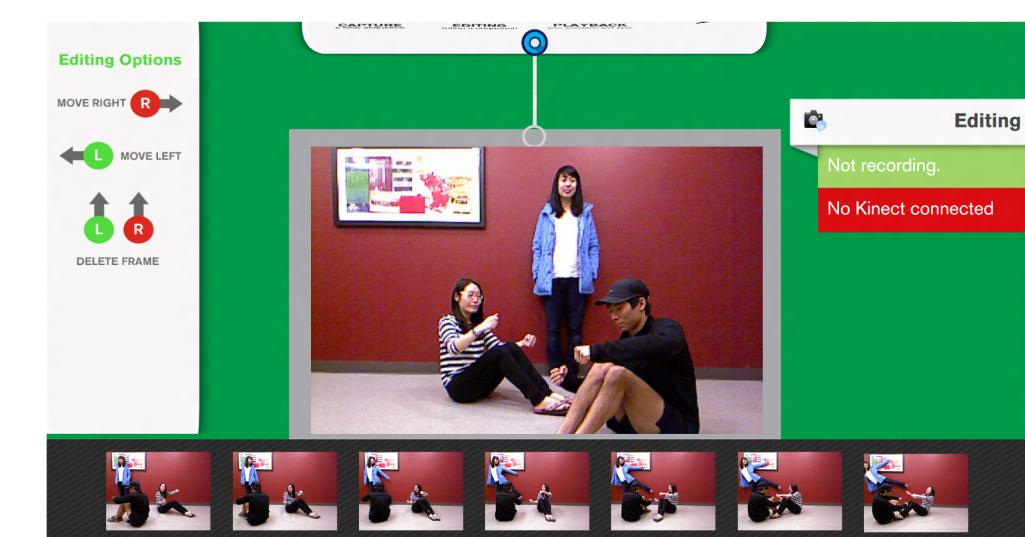
1. CREATE

Capture mode allows a user to select a capture mode (Timed or Speech input) and create an animation on the fly. A ghost of the previous captured frame appears on each new take, serving as a positioning guide.



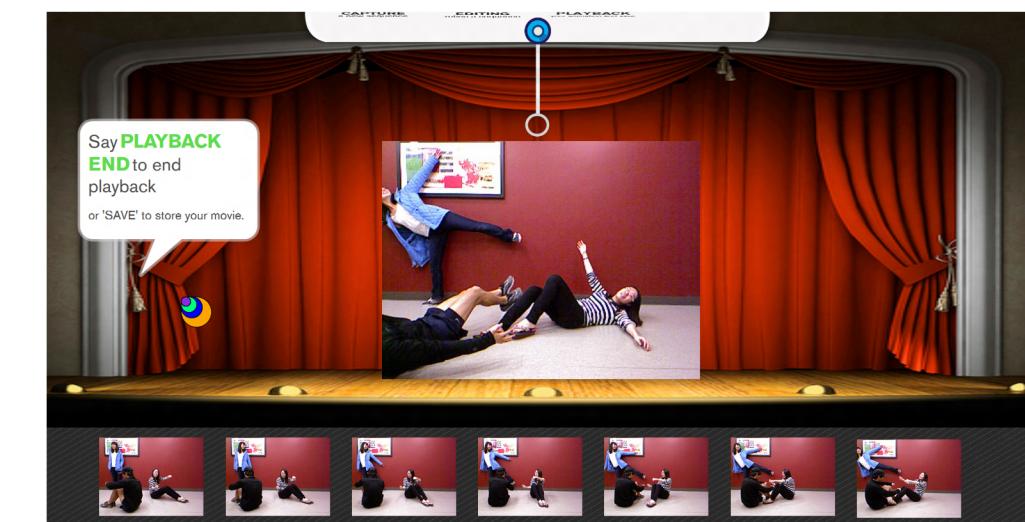
2. EDIT

As a post production bonus, the editing mode allows the user to pan through frames and delete unwanted frames using intuitive body gestures.



3. PLAYBACK

Finally, the user can see his or her creation on stage and save it as an animated graphic.



USER TESTING

We profiled a diverse group of users and had them spend 3 minutes "thinking aloud" while exploring our interface, and then perform a couple of representative tasks. Our primary goals and methodologies (in **bold**):

- 1) To determine the relative accessibility of different application states within our interaction flow, by **graphing the frequency of the states the subject was able to achieve during the exploration**
- 2) To gauge the clarity and fluidity of our application, by **observing difficulties users had in performing representative tasks and noting the correlation between their vocalized thoughts and actions during exploration**
- 3) To address usability concerns via **qualitative observations of usage patterns and common pitfalls among subjects, as well as closed questions regarding general reception and suggestions for improvement**

INSIGHTS

- More clearly communicate the "pull-down menu" analogy to users with gestural cues, proximity feedback, subtle demo
- Disambiguate user instructions from system status with visual organization
- Make menu selection more ergonomic: ambidextrous and lateral rather than specific hands and circular
- Consolidate application flow with capture mode dialog rather than menu item
- Display humanized error messages so users know how system interprets their commands