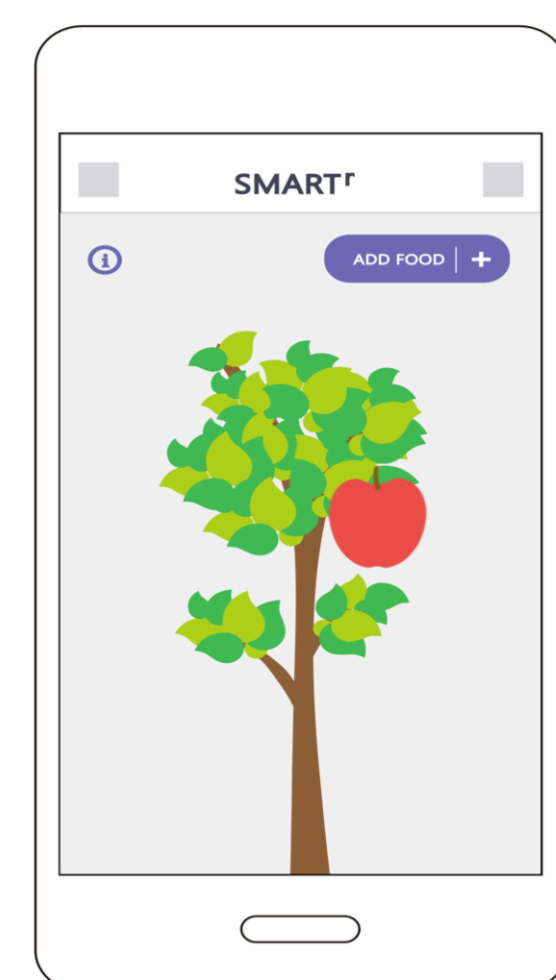


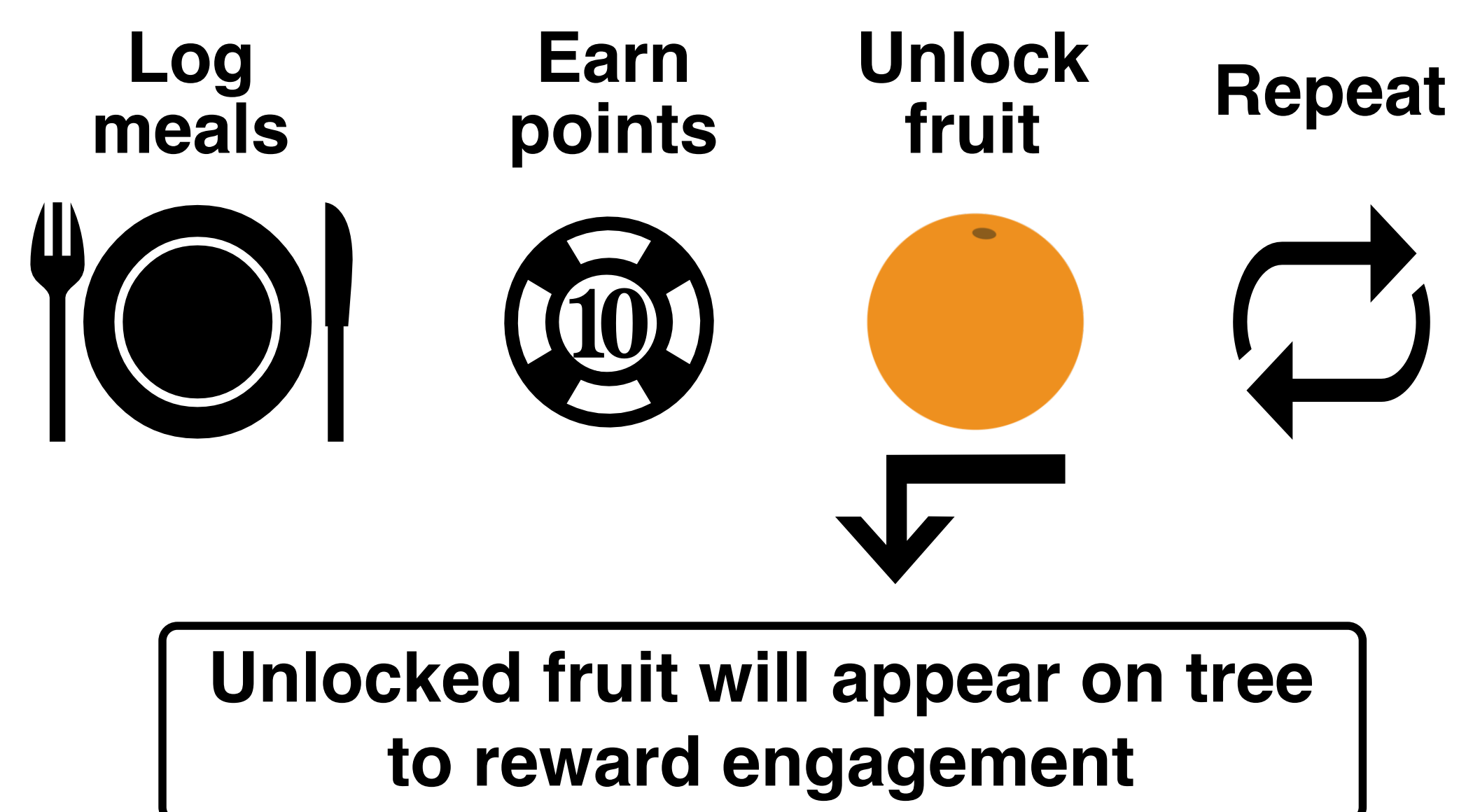
e-wrapper

+ weight loss app

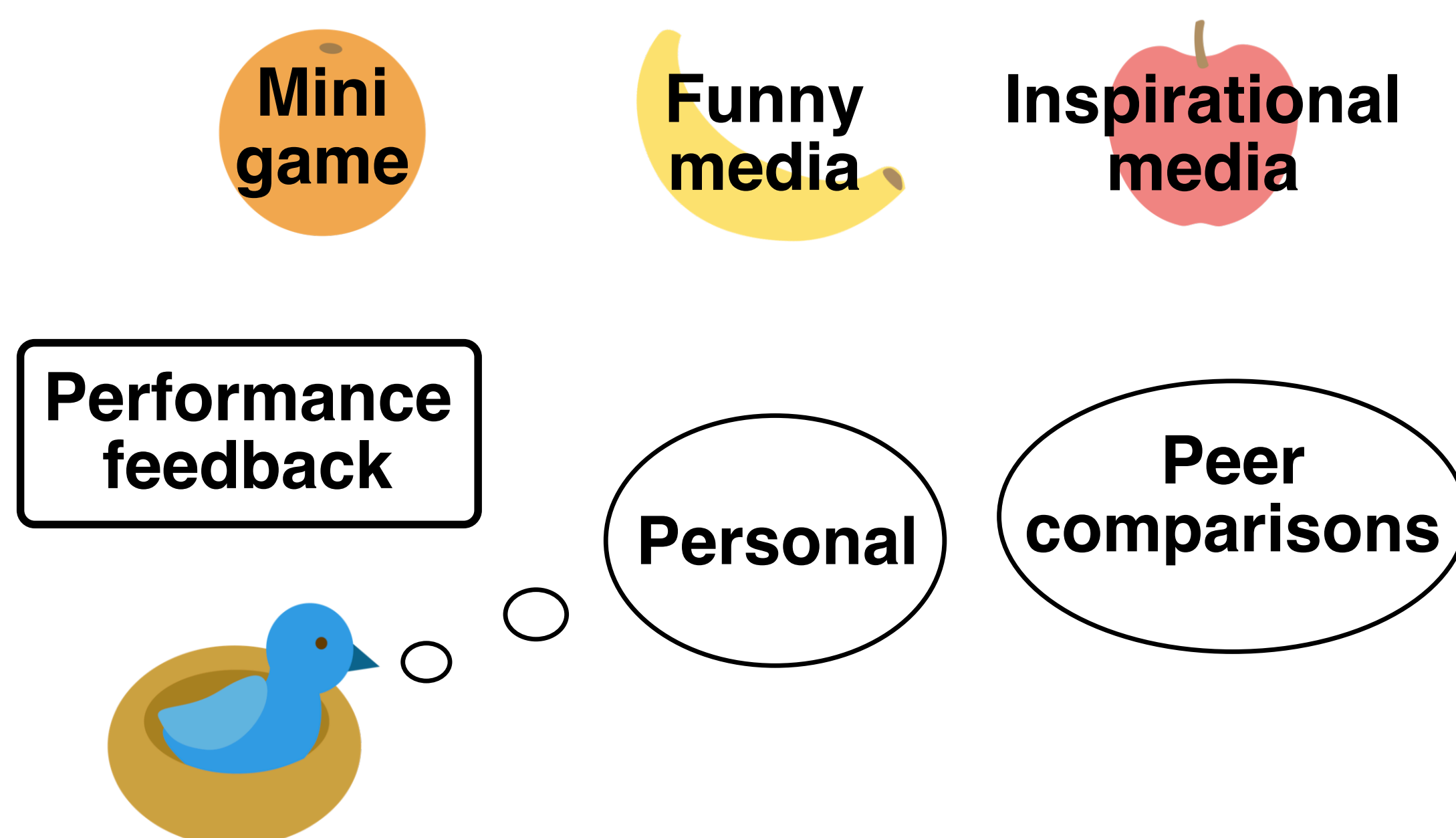
Ambient and adaptive display of Fruit Tree on lockscreen



Fruit Tree gradually grows as study progresses



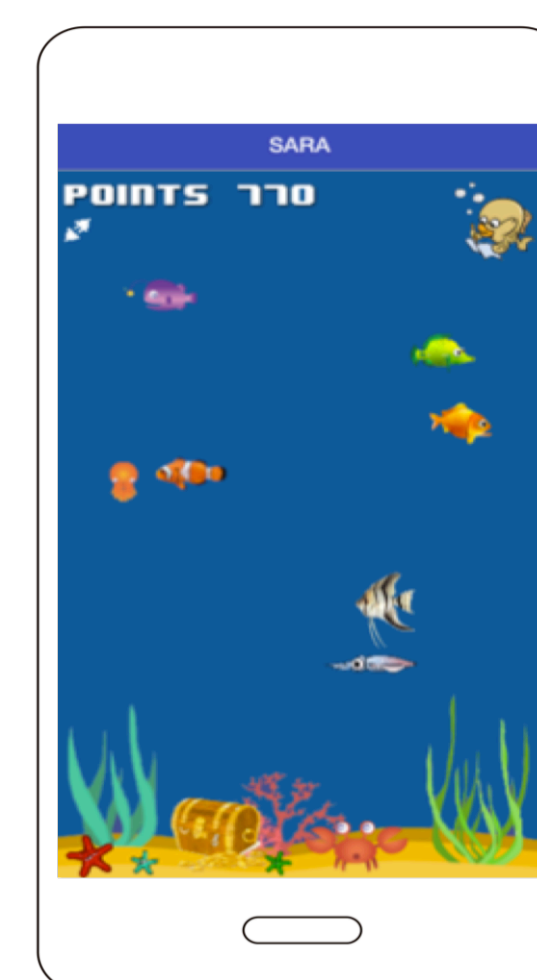
Each fruit contains a unique type of content



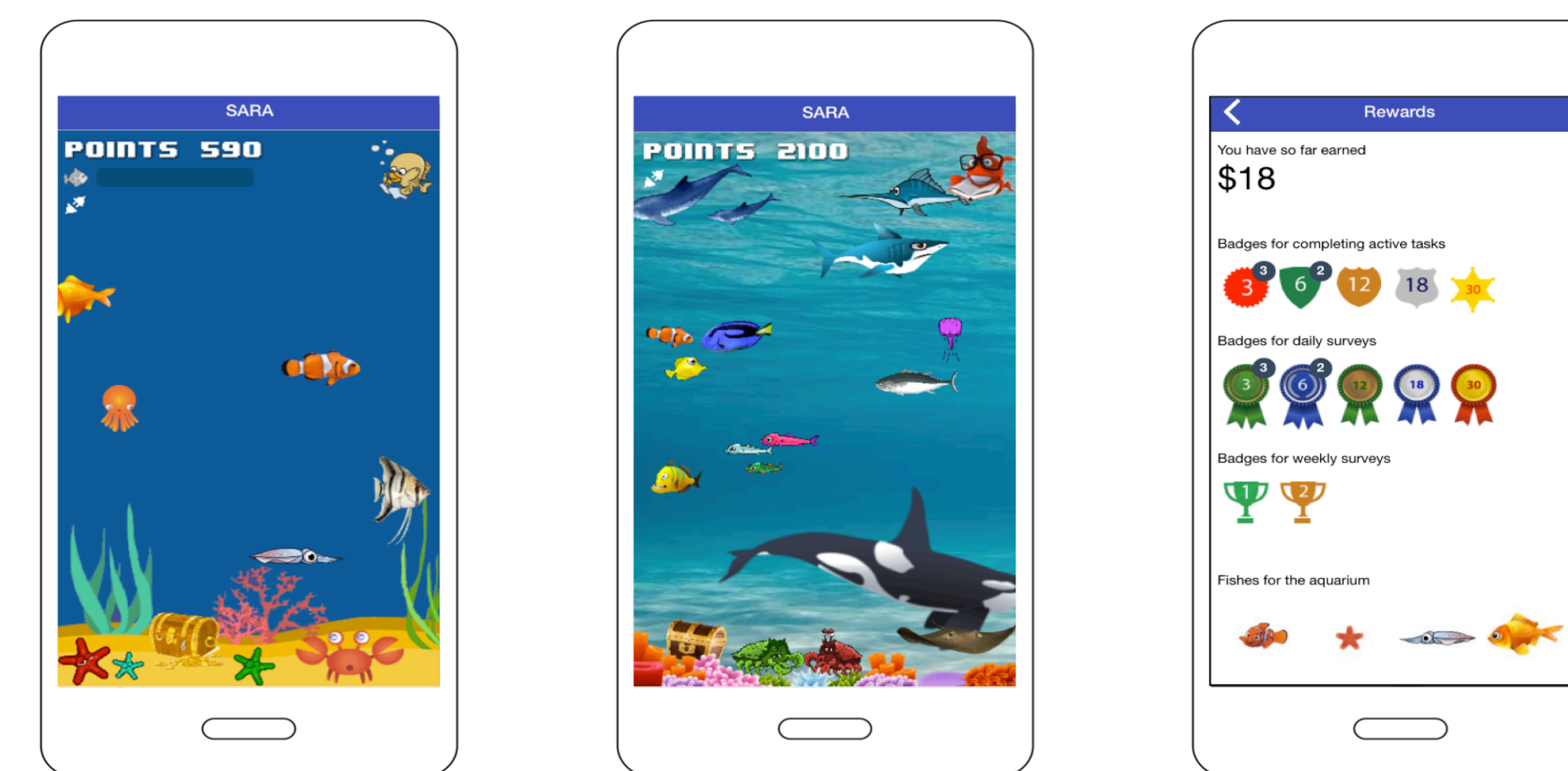
SARA

Substance Abuse Research Assistant

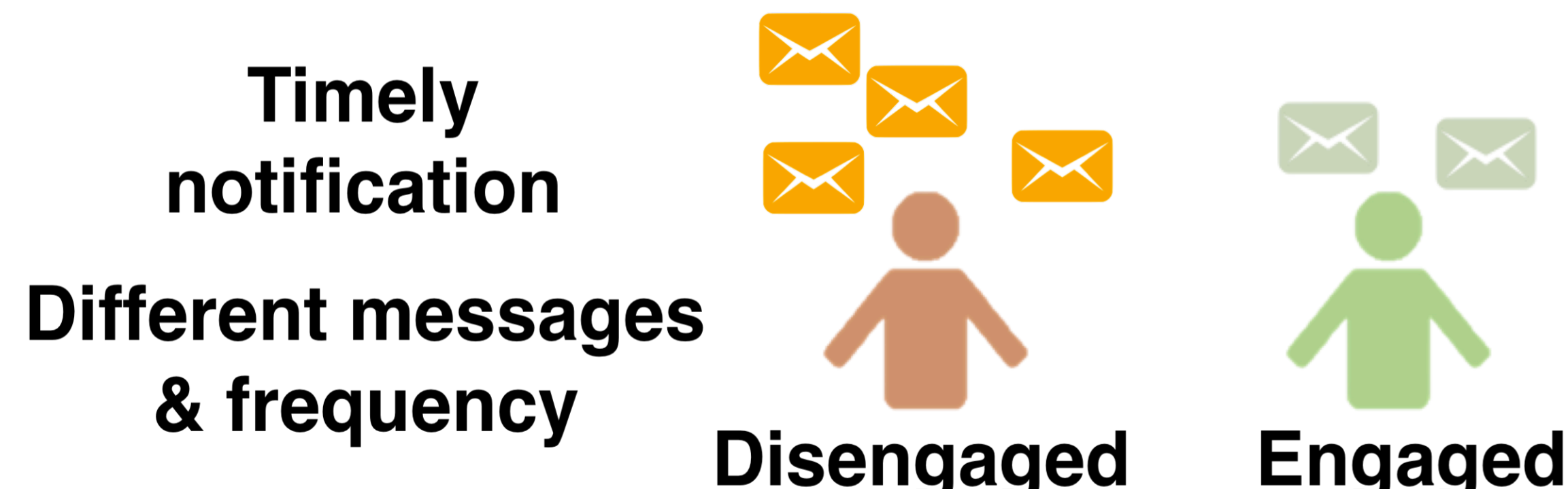
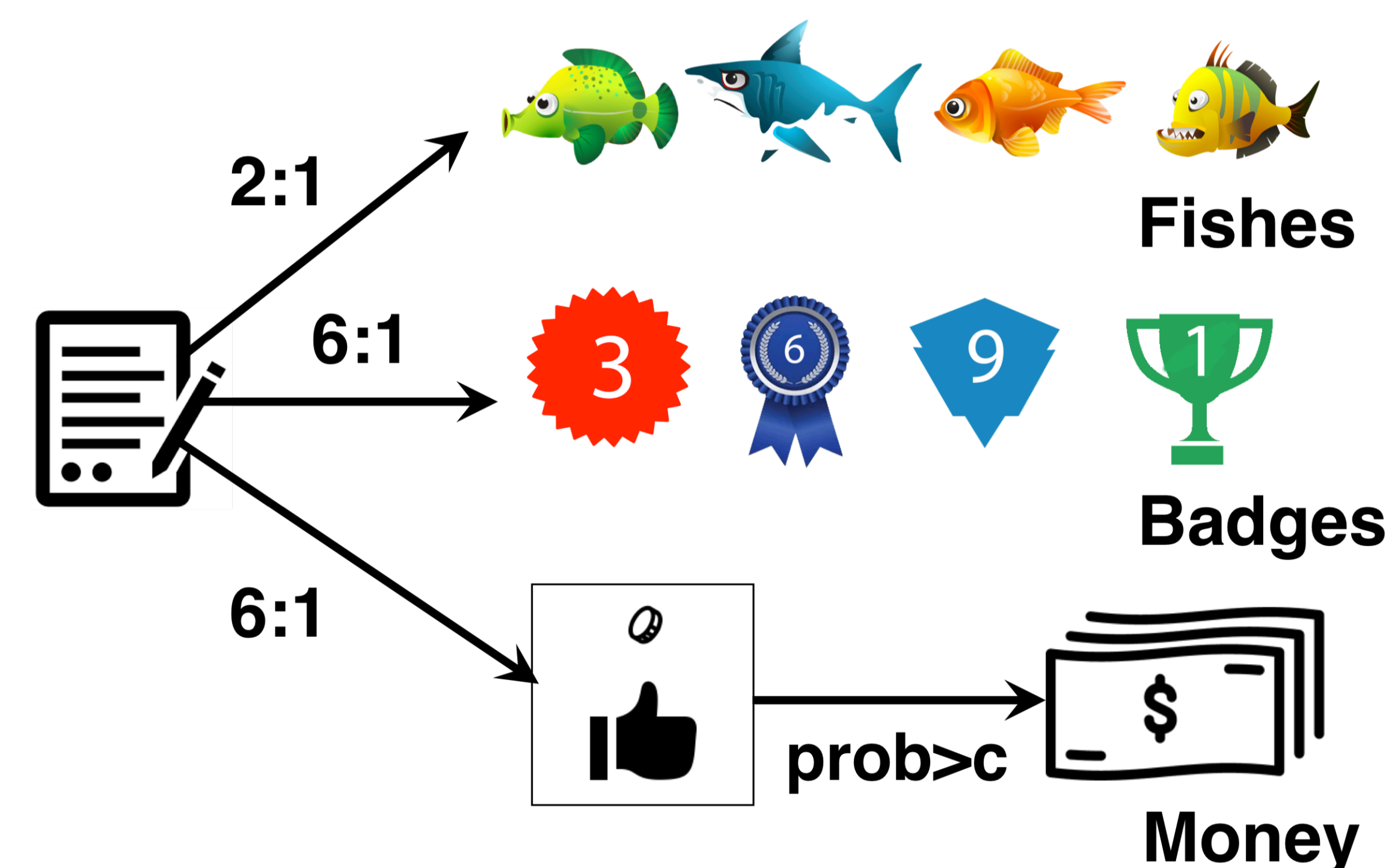
Interactive and growing aquarium of fishes



Fishes, badges, and money are earned by logging data



Different rewards are allocated at different rates or schedules



Future work

Engagement science

Which strategies work for whom, when, and under what conditions?

Online learning

Personalize and fine-tune engagement strategies to participant preferences

Use a contextual bandit algorithm (Thompson sampling) to learn and adapt efficacious engagement strategies over time

The bandit algorithm will allow (forced) exploration such that we can adapt if the need for different engagement strategies change over time.

Engagement Wrapper

We will generalize our findings to build an engagement wrapper for other mHealth applications.

We will create an open source framework for delivery and evaluation of engagement strategies.

Motivation

mHealth can bring data collection outside of a clinician's chamber.

Sensor technologies have advanced, but self-monitoring is necessary.

-For example, to capture mood or food intake

Most people stop using mHealth apps after self-monitoring <10 times.

Our idea

Handpick engagement strategies — conducive to mobile settings — from a range of disciplines

- Social Psychology
- Positive Psychology
- Human-Computer Interaction
- Business/Marketing
- Communications

Integrate these strategies into coherent and cohesive storylines that can parallel existing and future mHealth apps, and reinforce intervention engagement

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