

SpeakFun 言悦

A language learning App for preschool children with interactive stories and voice-controlled adventure games. Addictive fun put to productive use.

Problem

The Chinese language learning market is increasing rapidly as Chinese parents want their children to start learning English at an earlier age (3 - 8 years old). According to our interviews and surveys, Chinese parents pay the most attention to their children's listening and speaking abilities. These parents, accustomed to the Internet and technology, are open to new language education forms such as online courses, language learning apps and remote tutoring. The latest trend in language learning is with social educational robots. Our sponsor, Roobo, released such a robot named Pudding BeanSprout, specially designed to teach Chinese children English. In just 3 months since its release, it has attracted over 20k daily active users. Despite its success, however, the applications on the Pudding platform and on other competing platforms, fail to address children's listening and speaking abilities in a fun way.

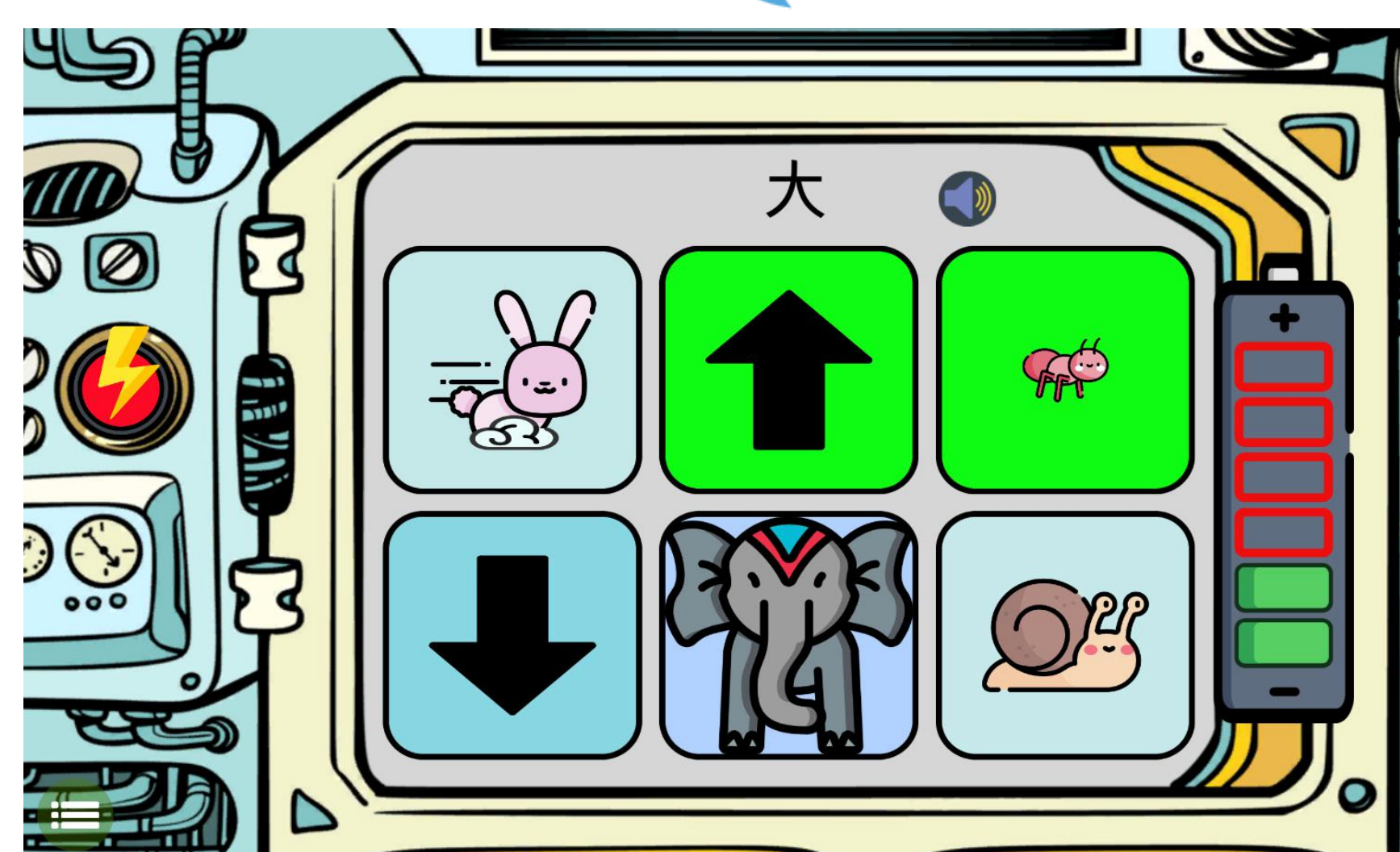
Solution

We developed a new language learning App that keeps children engaged. The app contains a backstory and interaction designed to **introduce** and **teach** words, allow children to **practice** and then **evaluates** their progress. We leveraged insights from our user research, like learning with peers, creating social attachment and controlling the game with voice instead of touch. Pudding, the robot and the main character of our App, starts by telling a story and teaching a set of new words. A virtual peer shows the children how to play the games, then the child controls their character to overcome obstacles by pronouncing the right words. This interactive speech practice encourages children to apply what they have learned in context. The children are evaluated on their learning via quizzes. We proved that our solution leads to effective learning with user evaluation (2 new words per 10 min). Compared to tutors (> \$50 per hour), our App costs less and is accessible anywhere.

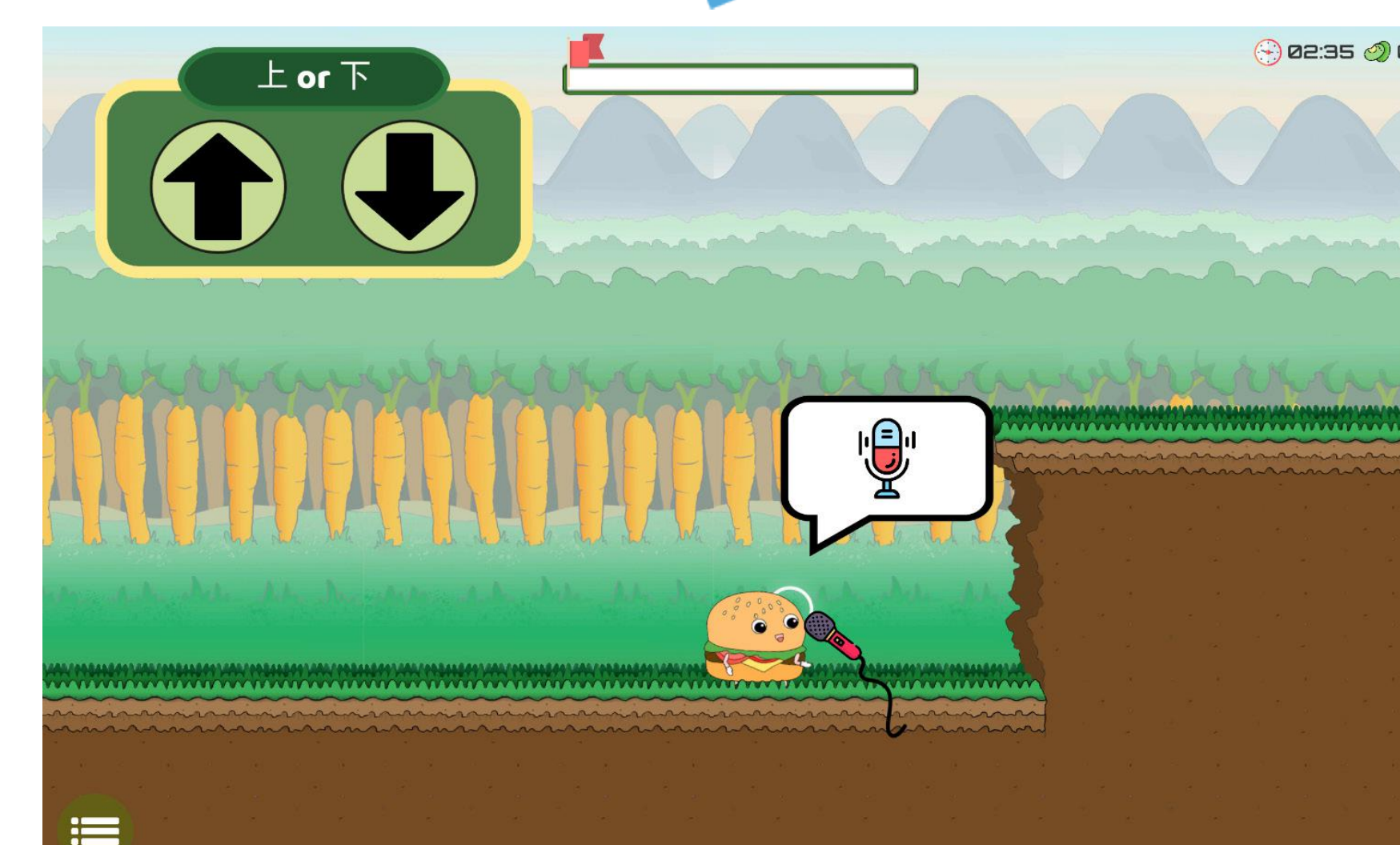
Introduce - in story mode, the child is exposed to new words



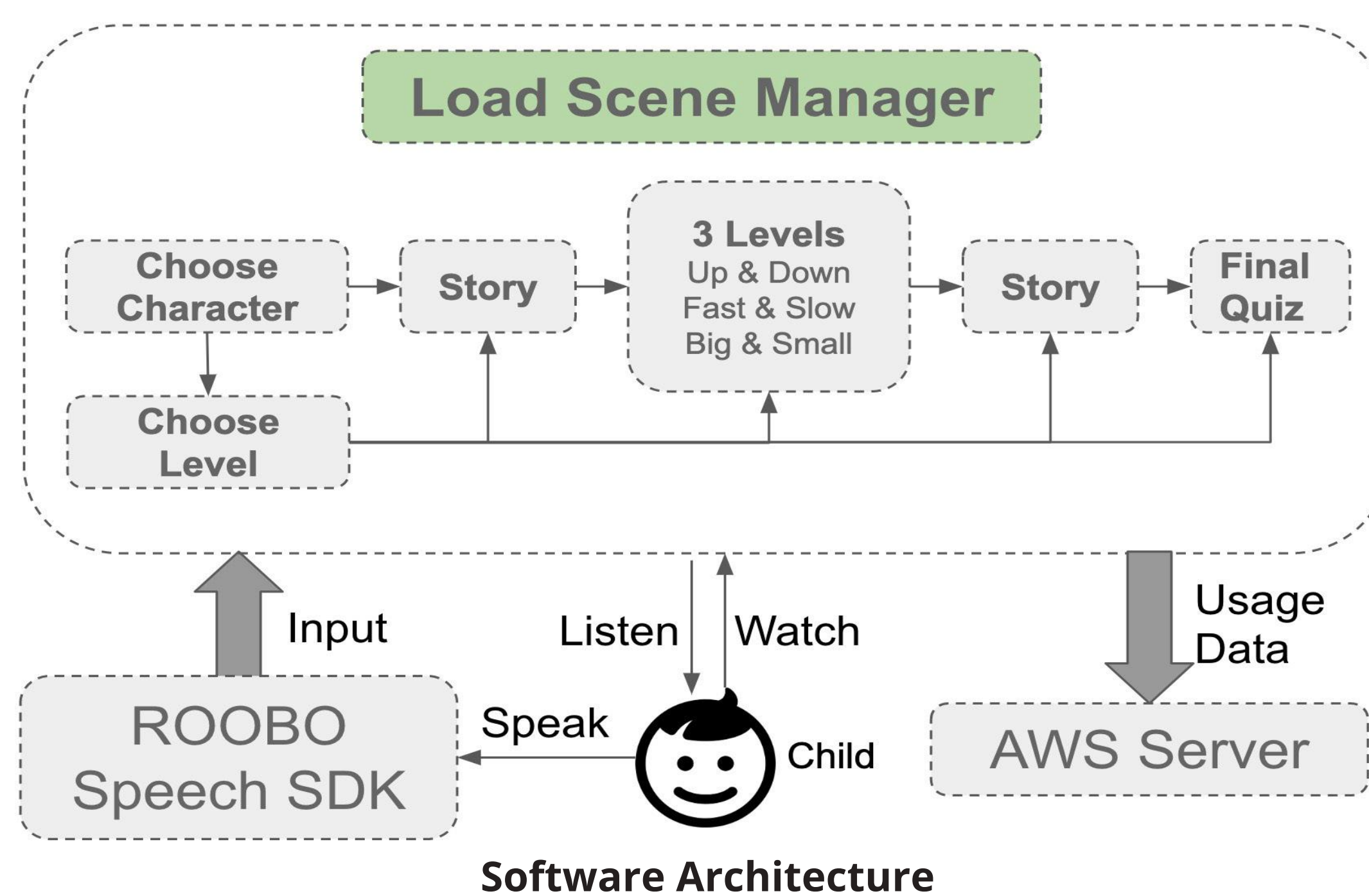
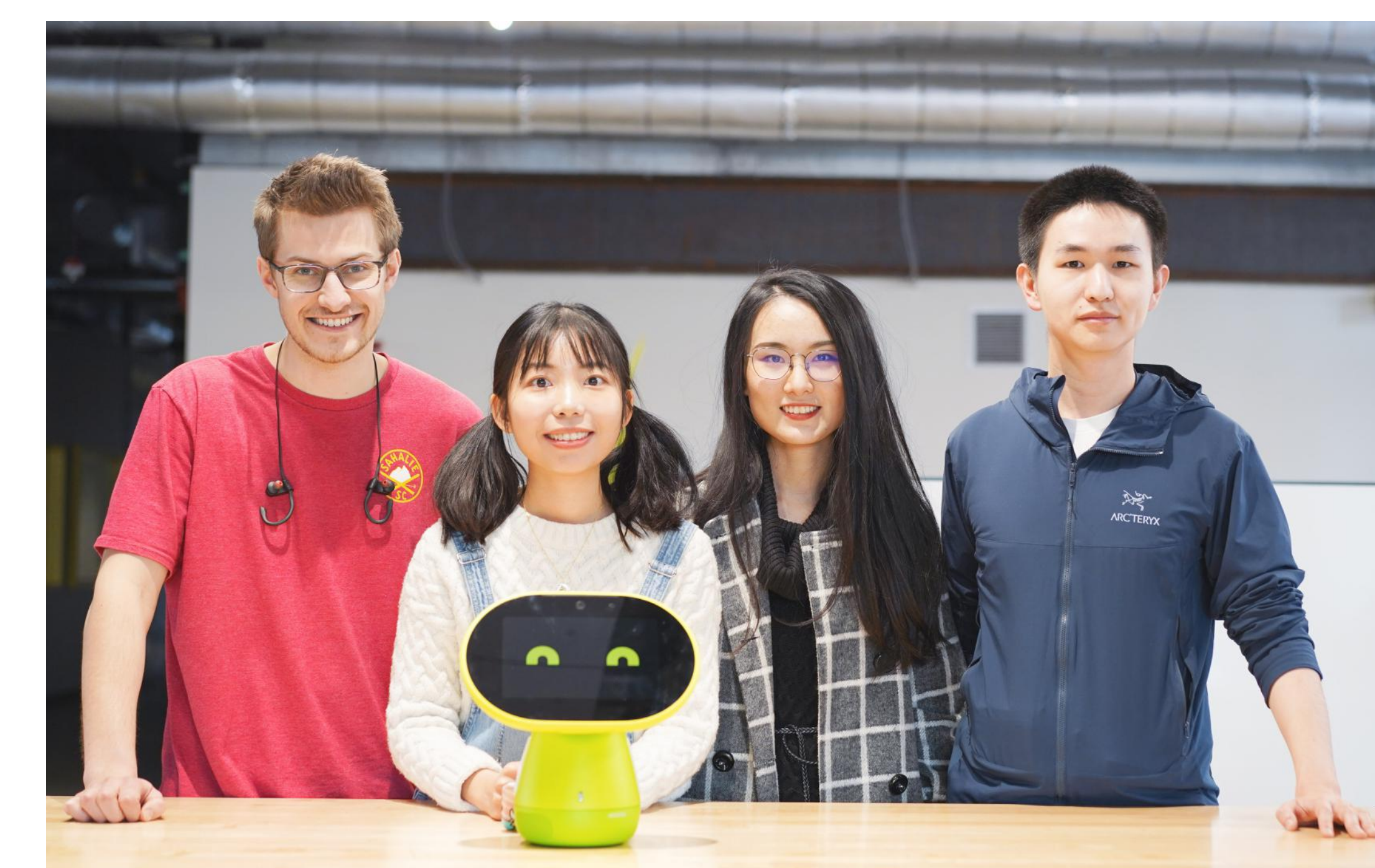
Teach - in eye mode, Pudding says 'up', child repeats after Pudding



Evaluate - the child listens and taps on the corresponding word



Practice - in game mode, the child has to say 'up' to jump onto the cliff



Process/Approach

We identified potential problems to solve by talking to our customers (parents) and the users (children). Then, we interviewed English teachers in China and social robot experts. We also reviewed literature in social robotics, speech recognition and children's language learning. To understand the competition, we did market research and evaluated all popular English learning Apps. After multiple brainstorming sessions, we decided to tackle the problem that Chinese children don't practice speaking enough. We iterated from PPT video, to a demo App and finally to a mature App. We evaluated all prototypes with children aged 2 to 10 years old. Our evaluation started with 15 Chinese children in the US. However, the results were biased as they had already learned some English. So we pivoted to teach American children Chinese. In the last round of evaluation, we conducted remote user testing of our final prototype with over 7 English speaking children. Our testing results showed that all the children learned new Chinese words with our solution.