

iPad Application Development

Dine Right: A Study in Educational Interface Design and App Development



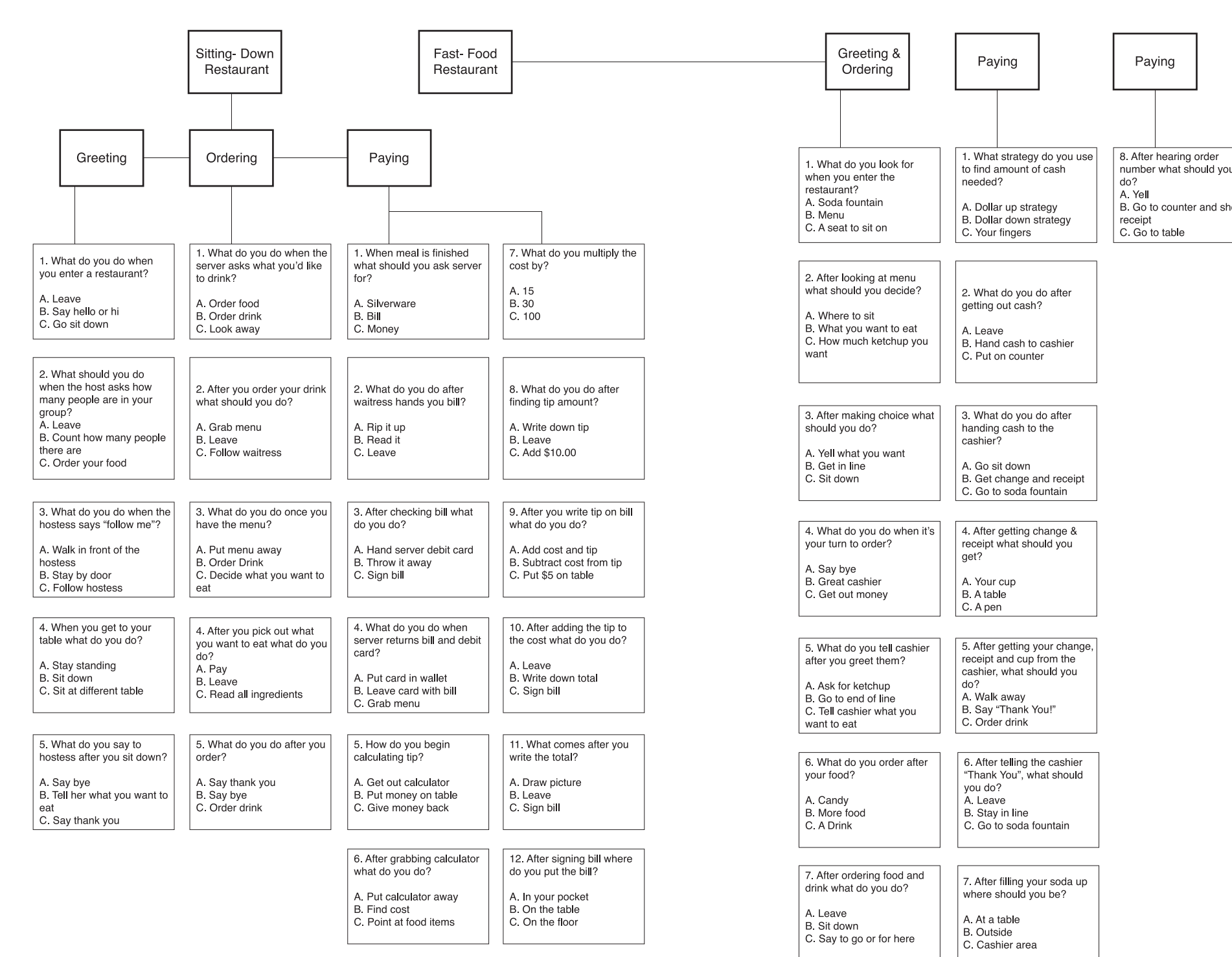
Department of Art & Design - University of Wisconsin- Eau Claire
 Students: Derek Hestekin, Steven Scherz, Drew Hagen, BFA, Graphic Design + Photography
 Faculty Mentor: Sooyun Im, Department of Art & Design



ABSTRACT

The purpose of this research was to develop an educational iPad application to teach life skills to students with developmental disabilities. It was a collaborative project between the University of Wisconsin- Eau Claire Special Education Department and the Art & Design Department. In today's society, it is crucial for students with special needs to acquire knowledge such as shopping, purchasing, and dining skills that promote independent living. However, majority of the existing tools for teaching these skills are not very effective or reliable to individuals with developmental disabilities. After researching existing interface designs and technologies, the group's goal was to develop the iPad application Dine Right, which is visual, easy to use, portable, and presents dining skills in ways that is fun and easy to learn. In using Dine Right, students are taught different aspects of dining in sit down and fast food restaurants through movie segments and photo sequencing. Lessons include greeting, ordering, and paying. Dine Right is currently in the development stage, with the technical programmer and graphic designer working together to create a technologically functional app that is educational and easy to use for students.

DINE RIGHT FLOW CHART



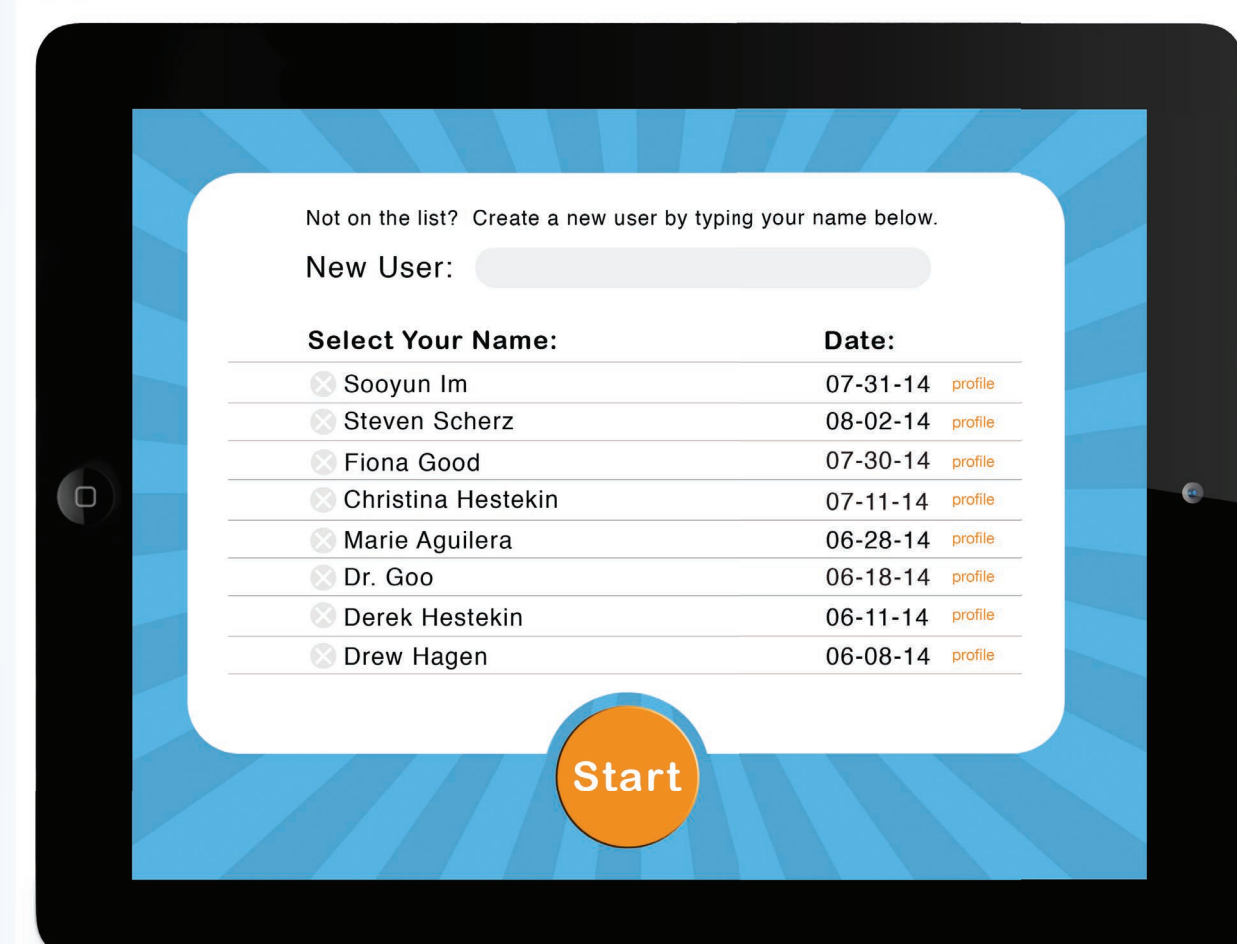
APPLICATION DEVELOPMENT

Design Process

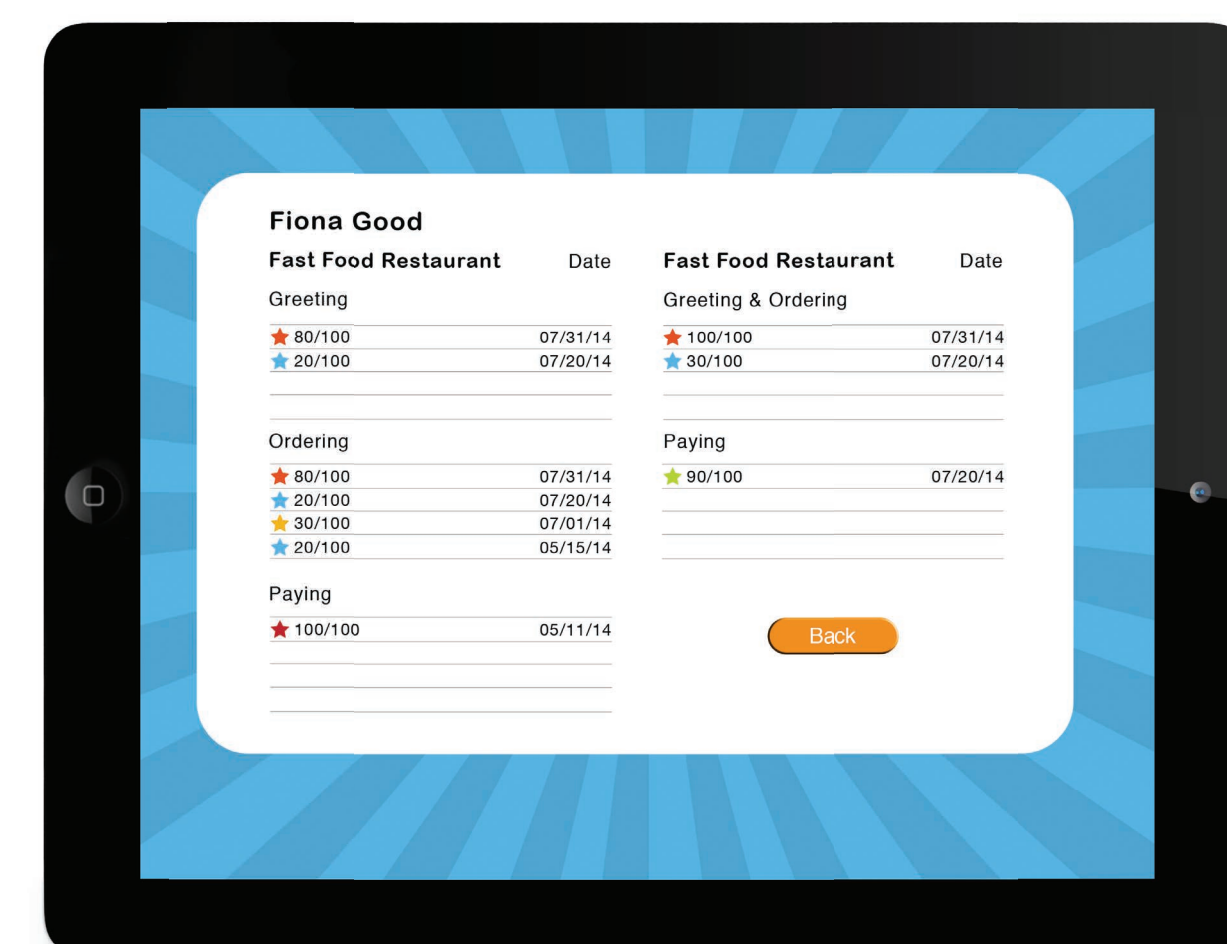
Deciding on a restaurant skills concept for the application, Derek gathered a series of images in a "mood board", and developed a set of application icons, as seen below. A plate and flatware inspired the app icon. Without previously knowing the context, the visual icon may inform a user of the app's uses and functions. After additional academic research, Derek established a color palette for Dine Right that was exciting, yet not distracting to those with short attention spans. This included an analogous color palette of varying shades of blue with lime green accents. For areas of importance, such as play video and start buttons, a complimentary orange color was introduced. This ensures that the app is usable for a wide variety of IQ levels and age groups. In addition to the color scheme and icon, Derek created several sketches illustrating the information flow. This can be seen in the final product, with a continuous navigation bar and simplistic design layout, which makes the navigation and use of the app easier for users. Throughout the development and design of the application, Derek would regularly present his designs to both the Special Education Department and Art & Design Department, making the design a true collaboration.



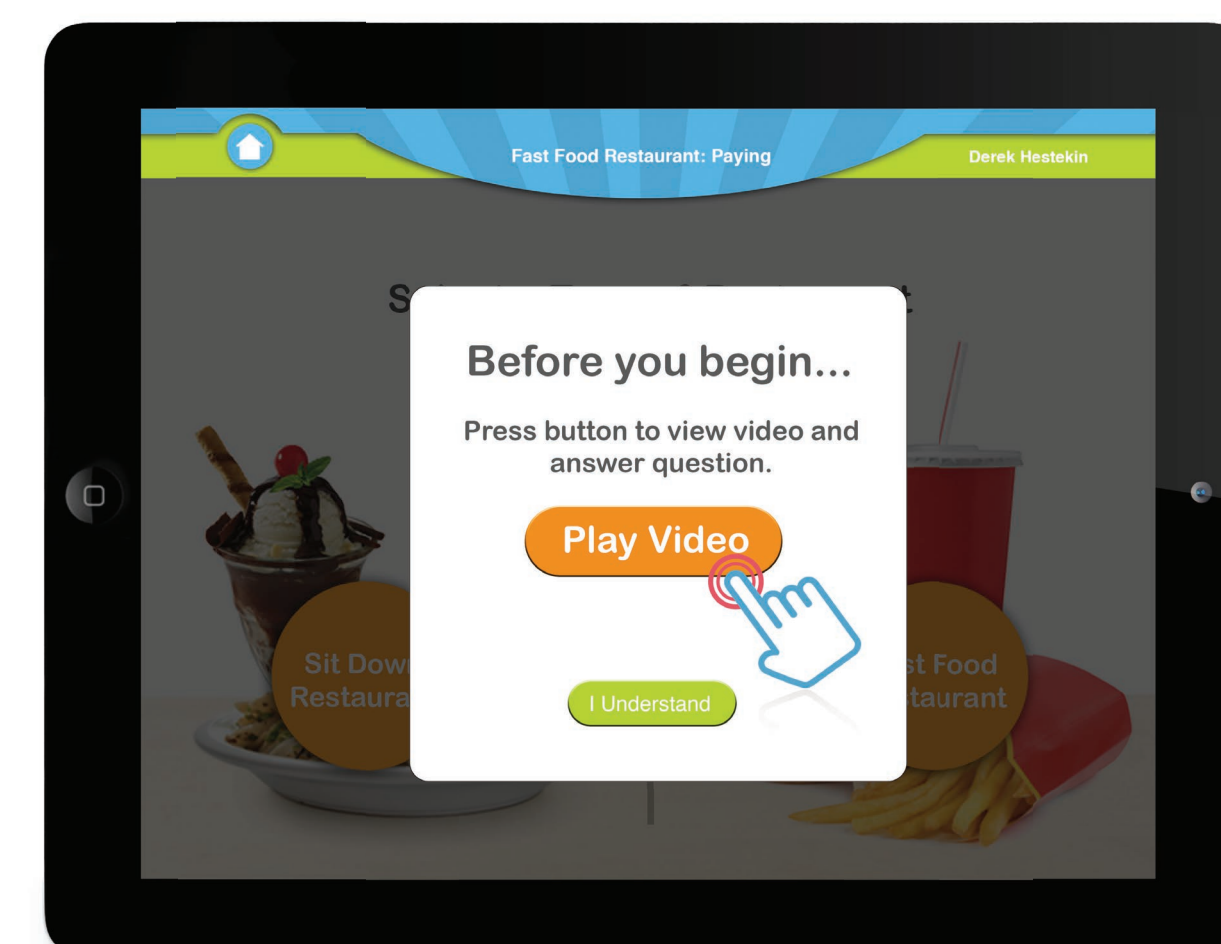
STORYBOARD DESIGN



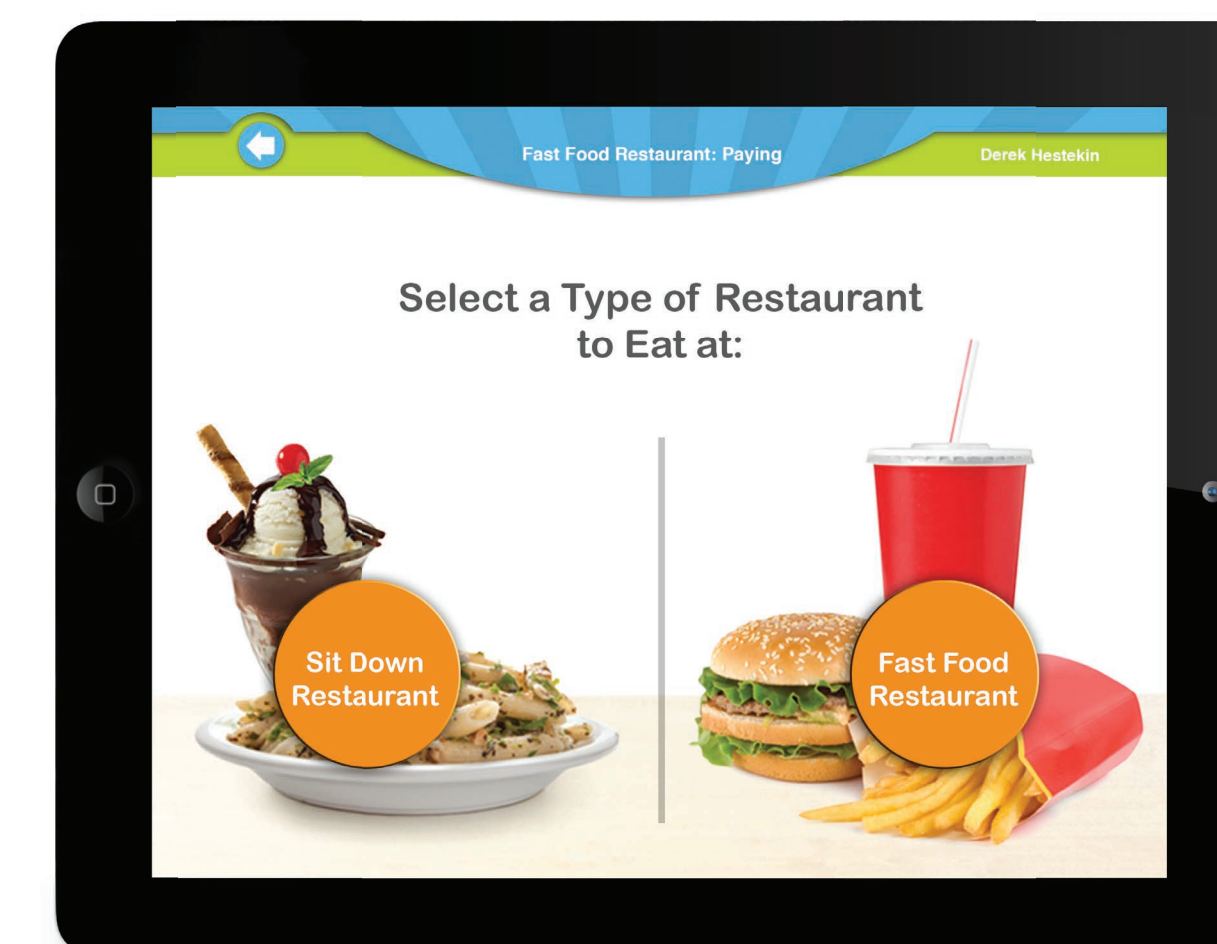
User screen allows for students to continue where they left off, or the ability to create a new profile.



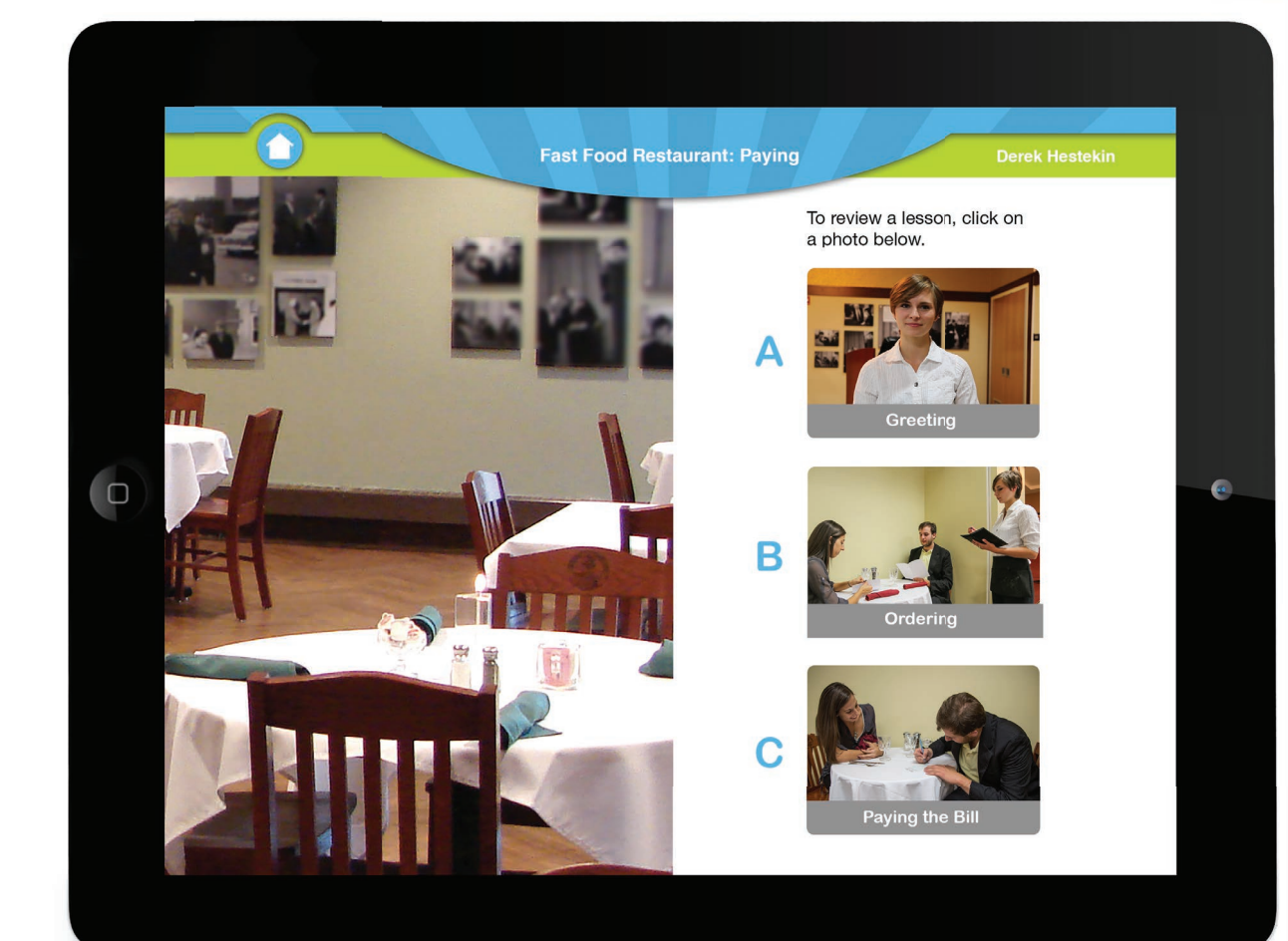
User profile page allows educators and parents to track the student's progress over a period of time.



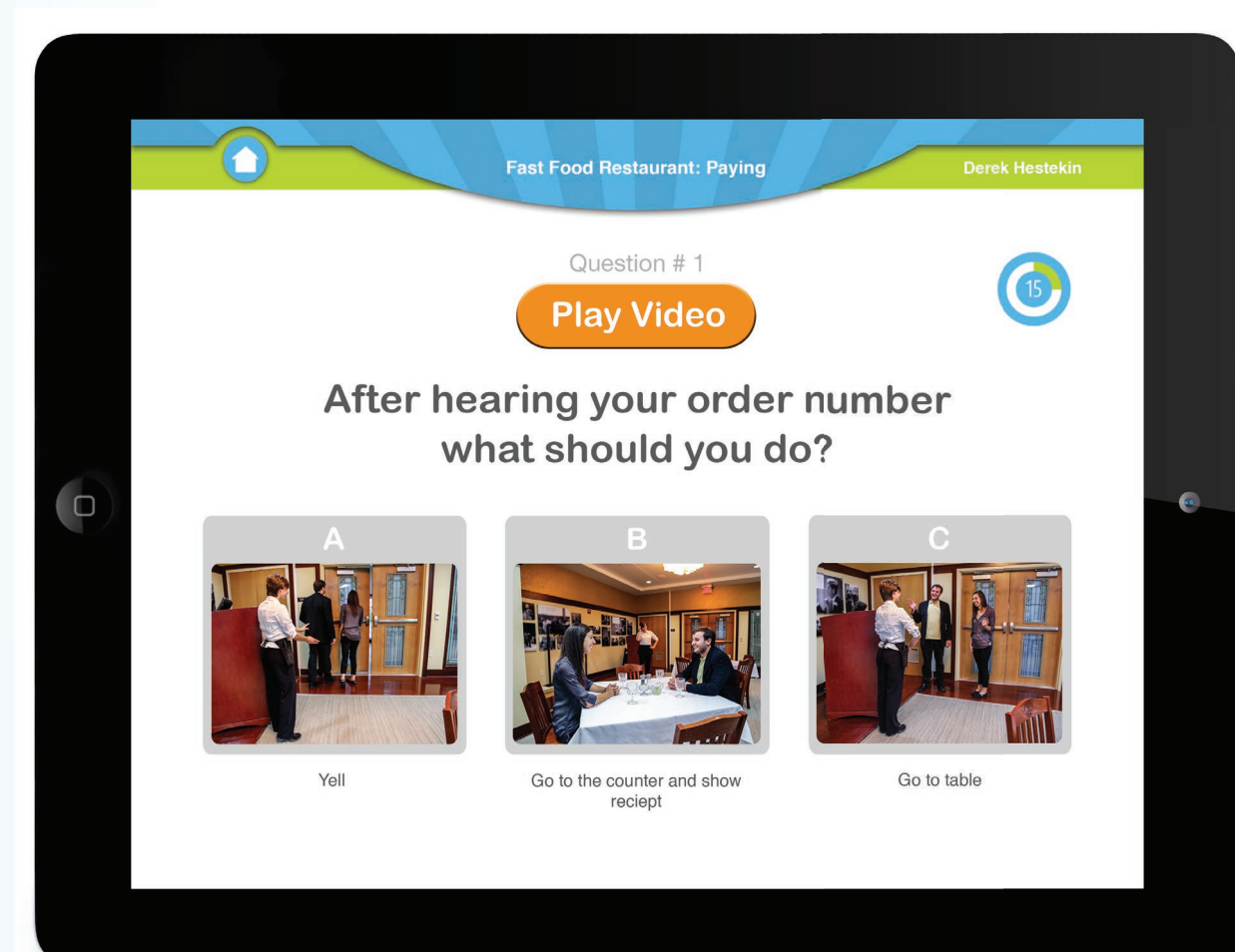
An instructional pop up appears before the app begins. This ensures that the user understands the directions.



Home screen serves as the principle page for the app and allows the user to select the desired restaurant setting.



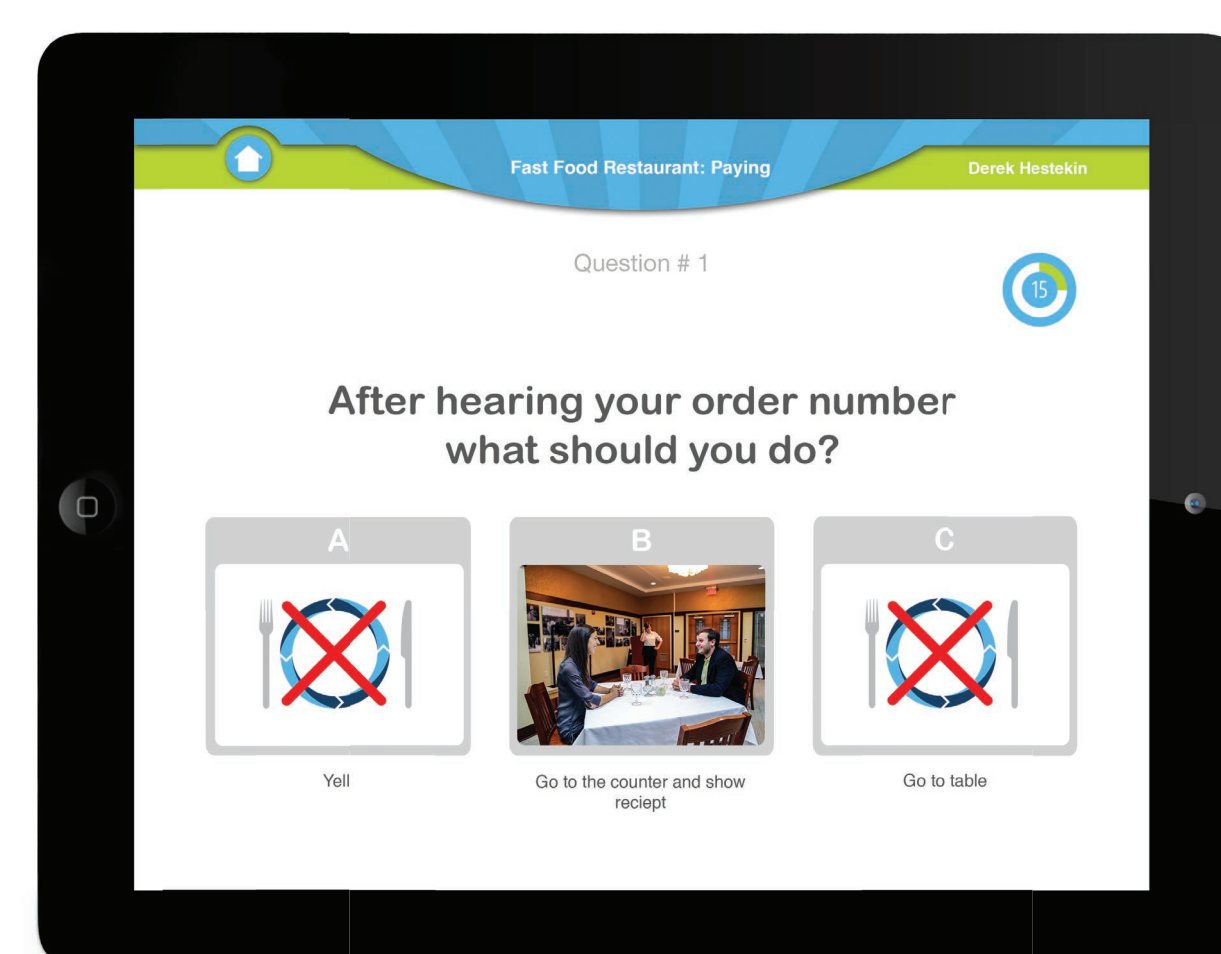
After selecting the setting, this page prompts the user with different restaurant sequences.



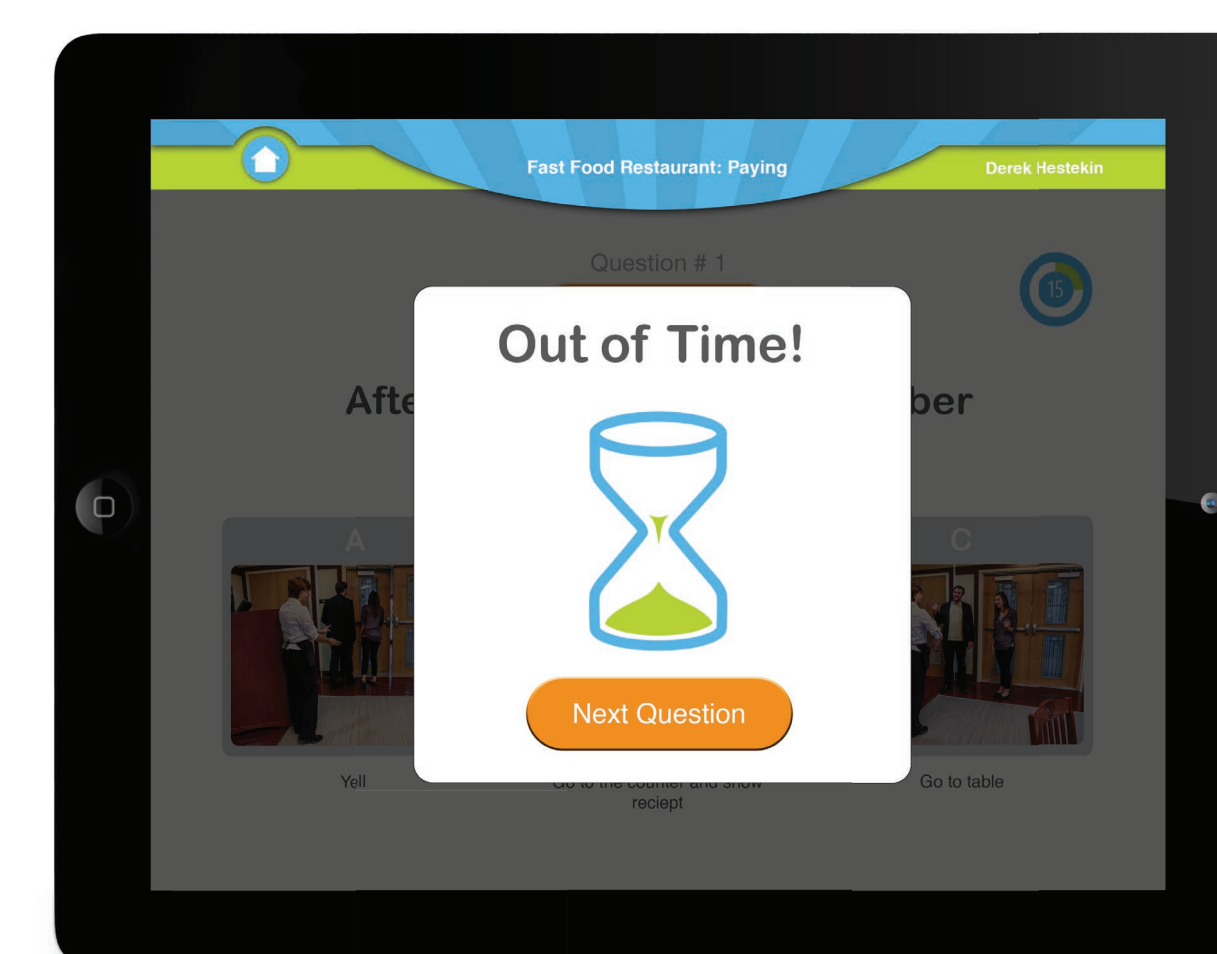
The user reads the prompt at his/her own pace, and then clicks the "Play Video" button to load video.



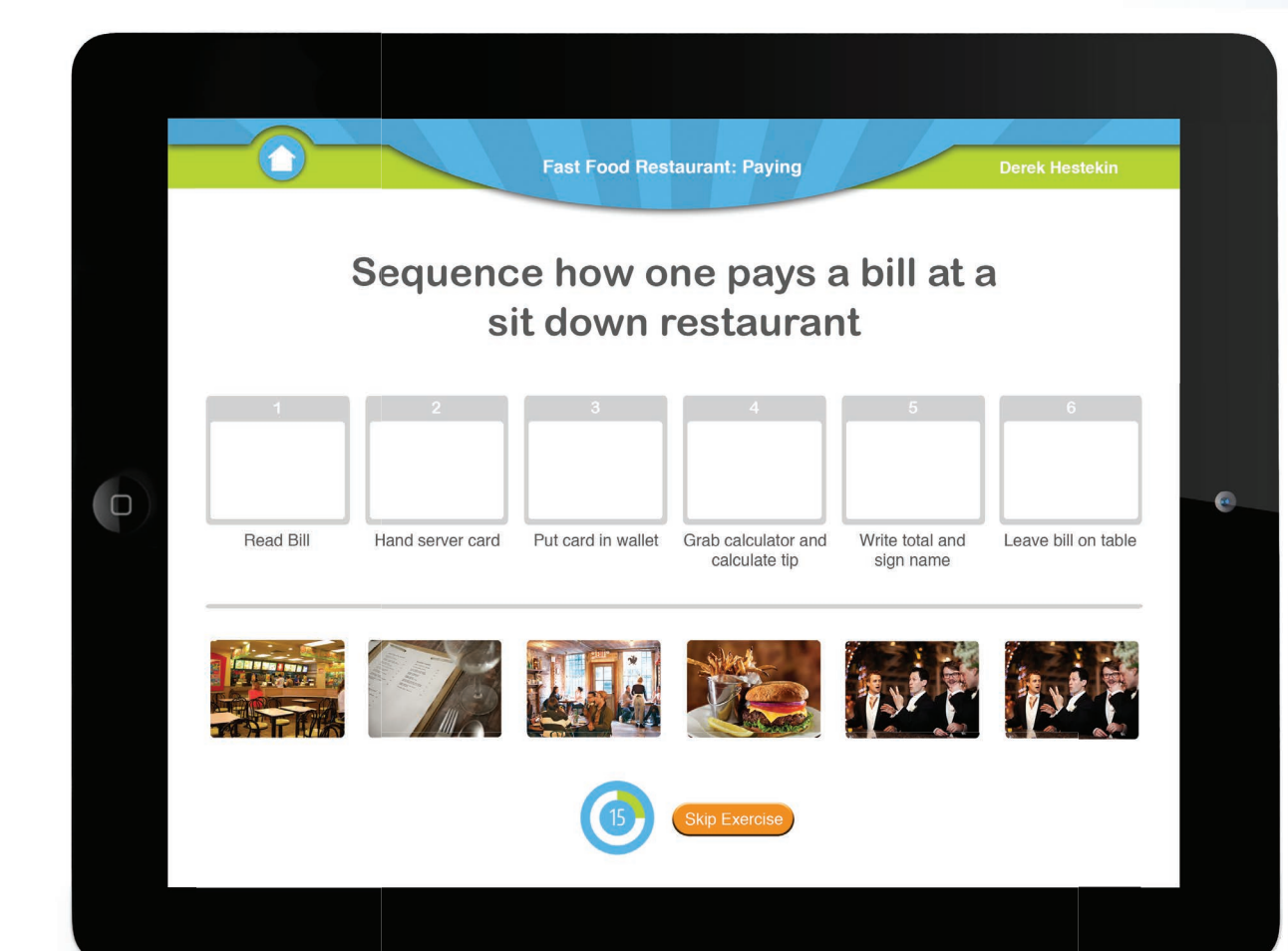
Each 10 second video clip was shot by Drew Hagen in the UW- Eau Claire Dulany Inn and Marketplace.



After the video ends, the user has 20 seconds to answer the question by selecting the correct text image.



If the user fails to select the correct answer in 20 seconds, this time out will appear, and the user will be directed to the next question in the lesson.



Lastly, the user will finish each lesson by dragging steps into the correct sequence. If the task is too difficult for a user, they have the option to skip the exercise.

RESEARCH

Design Research

Derek's task throughout developing the app was to research current tablet interface designs and concepts. After the initial meeting with the special education department, Derek downloaded a variety of current iPad applications that had sequence-learning elements. Examples include *My Life Skills Box* (fig. 1), *Let's Be Social* (fig. 2), *Social Skill Builder* (fig. 3). Derek researched existing educational tablet interface design and evaluated the designs based on creativity, visual appeal, simplicity, color scheme, and user usability. Pairing this knowledge with researching academic articles that pertained to special education design, Derek developed a basic color palette and simple layout for Dine Right that would be user friendly for students and would encourage interactive learning.



Figure 1: My Life Skills Box (2010)



Figure 2: Let's Be Social (2011)

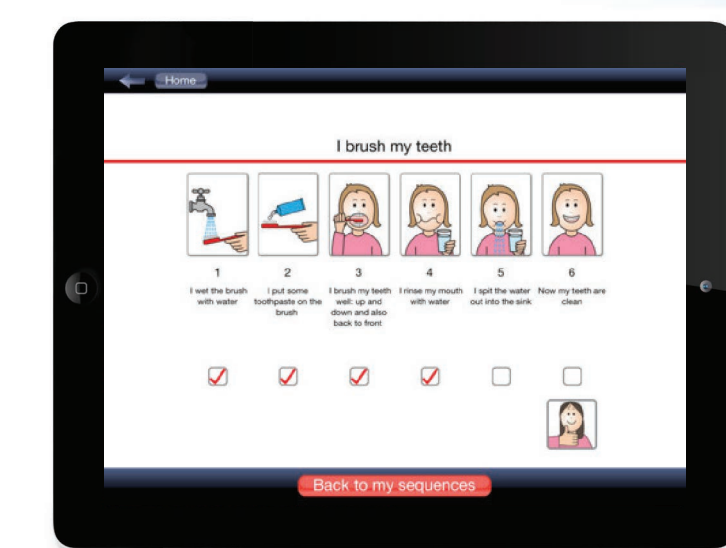


Figure 3: Social Skill Builder (2013)

INTERDISCIPLINARY USE

With Dine Right installed on an iPad, the instructors and students in the Eau Claire Special Education Department could use the app to help students with developmental disabilities develop restaurant skills. Students with special needs would use this app to learn how to greet, order food, and pay in restaurants. The planned app would teach these skills through a variety of activities, including quizzes, multimedia instruction, and sequencing exercises. With Dine Right, the instructors would be able to keep track of each student's learning progress using the history of progress feature in the iPad app. This would be especially useful in evaluating student's increased comprehension of the material over time, and be useful in determining areas in which students need improvement for the future.