INTERFACE DESIGN OF WEB-BASED EDUCATIONAL PLATFORMS FOR YOUNG STUDENTS

Lurong He, Fiona Nah
Missouri University of Science and Technology
Agenda

Research Background
- Major Challenges for Instructors
- Major Challenges for Students and Parents

Interface Design Ideas
- Design of System
  - Student
  - Instructor
  - Parent
- Interface Styling
- Multimedia Content
Research Background

OUTBREAK OF THE COVID-19 PANDEMIC

ONLINE EDUCATION CHALLENGES

NEEDS OF YOUNG STUDENTS
Major Challenges for Instructors

- Preparation for class becomes more difficult
- Online system not easy to use
- Online classroom discipline more challenging
- Less interactions
- Group work or discussion not easy to carry out
Major Challenges for Students and Parents

- Students’ computer skills are limited
- Too much screen time
- Difficult to follow virtual classroom rules and norms
- Not interested in online learning
- Homework and in class exercises not easy to submit
- Learning progress tracking is difficult
Interface Design Ideas

System Design  Interface Styling  Multimedia Content

System Design

Student Interface

Instructor Interface

Parent Interface
Student Interface

“ALL IN ONE”: All the subjects and classes are included in the same app.

“FIRST THING FIRST”: Classes line up according to schedule, the first one is the one students need to attend.

“BIG SCREEN”: The interface can be Air played on smart TV or projector, so students can enjoy the big screen just like in the classroom.

“EXERCISE FIRST”: Animated eye exercise video available to relax the eyes before class begins.

“LESS IS MORE”: Students have no permission to control video, illustration and chat options; permissions given by instructors.

“KEEP MEMORIES FRESH”: All classes will be recorded for future review by students and/or parents.
“Take control”: instructors can mute or unmute students, give permission to illustrate or send messages to chat with students, set up group discussions

“I see you”: instructors can see videos of all the students, videos can be highlighted if students raise their hands

“Markers and whiteboard”: instructors can easily switch to whiteboard, write with illustration tools

“You earn it”: instructors can reward students with stars or stickers or points

“Resourceful”: interactive teaching materials available for instructors to choose from the material library

“Go online”: announcements and assignments can be made in the system
“Keep informed”: parents have access to online live classes, recorded classes

“Keep on track”: parents get notifications of homework, supply lists, student performance

“Follow-up”: parents can send messages to instructors in the system
Interface Styling

- Branding themes for schools using the system
- Instructor & parent interfaces can have dark and light mode options
- Student interface can have interesting designs of themes, avatars and stickers
- Costumes available for instructors for special occasions or context
Multimedia Content

- Course materials can be designed by interface designers, including interactive teaching materials and homework.

- Augmented Reality technology can be used in animations, and instructors and/or students can be characters in the stories.

- Partner with educational apps like Khan Academy, IML, Homer, Learning A-Z, etc.

- Instructors are encouraged to design their own course materials and upload to the system.
THANK YOU!