

IT 423 Project One Business Case
Your Online Database Architecture for Education (YODAE)

Organizational History and Mission

YODAE is a start-up company that has fewer than 40 employees. The organization kicked off in 2017 and has been growing in size since. The original mission of YODAE was to provide educators and schools with cloud-based databases and cloud systems to better manage classrooms and to create more engaging learning experiences for students. As YODAE grew as an organization, the board of directors realized that they could increase their revenue if they offered more services and products. As the market demand for the internet of things (IoT) increased, YODAE started to sell IoT devices. These devices easily connect to the cloud-based systems that are already in use. Now, YODAE's mission has expanded to IoT devices.

Client/User Needs

As a start-up, YODAE strives to meet the organizational needs of its clients: K-12 educators, school administrators, and IT professionals who work in the education sector. These three kinds of professionals will be using the cloud-based systems, databases, and IoT devices to better manage classrooms and school environments. Some of these technologies can also improve the learning experience for children ages 6 and older. These are needs that YODAE's clients have expressed:

- Database to keep track of student to teacher relationships
- Database should include details about teachers and students.
- IoT devices that allow for students who sit in the back of the classroom to see what's on the whiteboard, and allow students to participate in class by raising their hands via a handheld device
- IoT devices should be integrated into school and classroom settings in a way that doesn't violate student privacy, but these devices should also improve school security. For example, not all school staff should have access to IoT data.

Products

The IoT products that YODAE offers to K-12 schools are:

- **Voice Activated Virtual Personal Assistants (VPAs)** for teachers and all school staff to use. This IoT has a calendar, voice activation for users to ask questions and connect to the internet for answers, and a lesson plan creator for users to create lesson plans in a cloud.
- **Mini Handheld Student Devices** that connect to teachers' VPAs. These devices allow teachers and students to connect virtually in the classroom, and offer such unique features as a button where students can raise their hands and the teacher is notified through their VPA.
- **IoT Smart Fire Alarms** to be included in classrooms and hallways. With these alarms, users can determine which fire alarm sound is set. Alarms connect to administrators' VPAs so they know where the alarm went off.
- **IoT Smart Bicycles** for students to ride during recess or after-school hours. The bicycle keeps track of the distance a student rides the bike, and includes a location feature in case a student rides outside of school property.
- **IoT Whiteboards** that serve as electronic whiteboards and include educational games that students can play for specific lessons

- **IoT Smart Speakers** that make it easier for students who sit in the back of a classroom to hear what's displayed on the IoT Whiteboard. They are also in hallways and outdoors, in the event that the main office has a message.
- **IoT Smart Cameras** with AI face-recognition technology that can be mounted in hallways and classrooms to monitor behavior
- **Interactive Control Podium** for presentations and interactions with the whiteboard
- **Smart Projector** to show papers and documents on a big screen
- **Individual Smart Desks** that connect to the Interactive Control Podium to encourage students to engage with software or interactive on-screen activities
- **In-Demand Collaboration Software** for use with student and teacher screens. It can also work with the VPAs.
- **Smart Locks** using chip cards for entry
- **Motion Sensors** for entrances and outside administration offices
- **Backup System** for power loss and internet loss