



What is Handango

Handango takes advantage of a missing aspect of the online language learning market by providing a platform to learn and practice ASL on a web browser.

Technologies

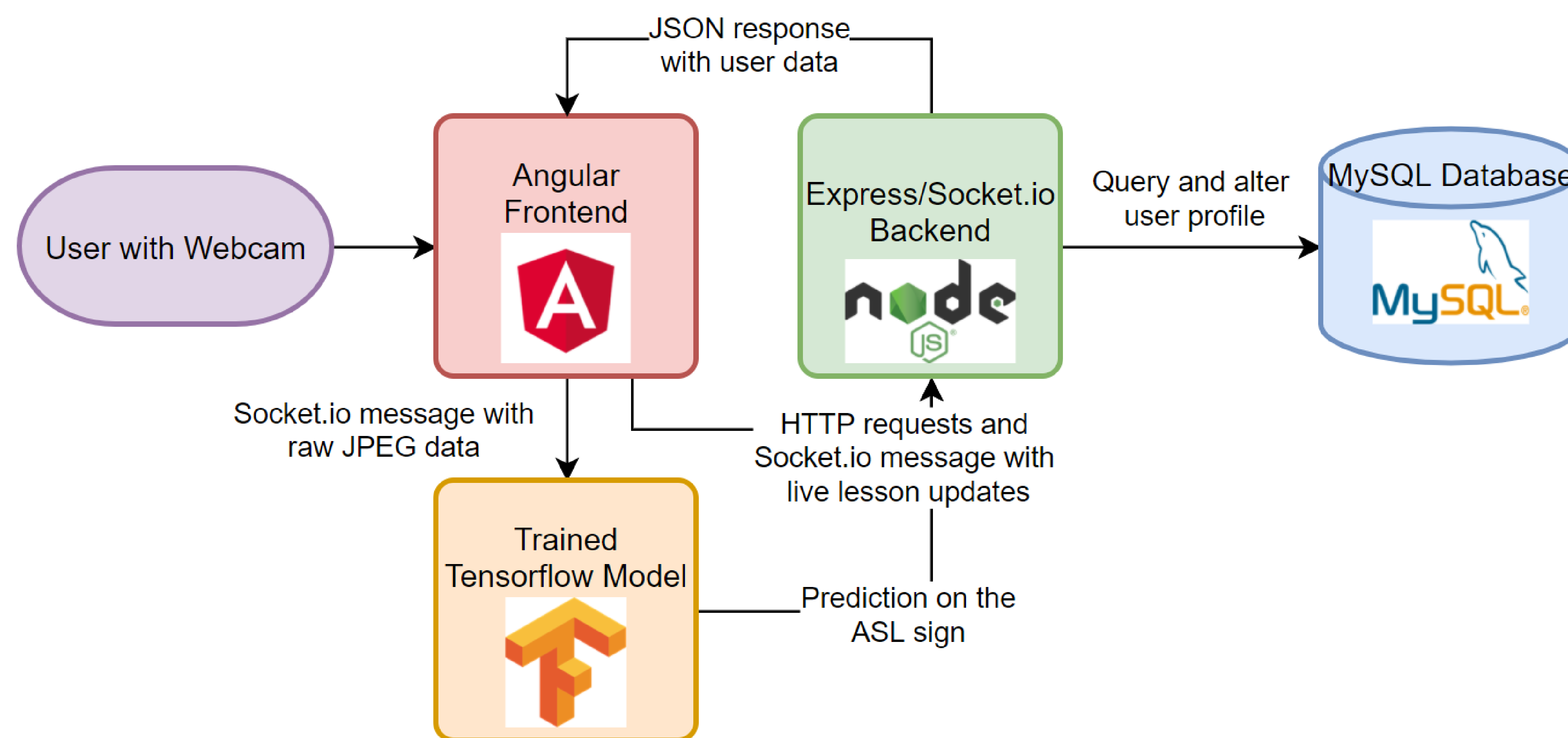
- **Node.js, Express, MySQL** back-end for user creation, user authorization, and session facilitation.
- **Angular** front-end for a near seamless UI.
- **TensorFlow** with Node.js for server-side ASL gesture prediction so that users can practice their ASL.



Challenges

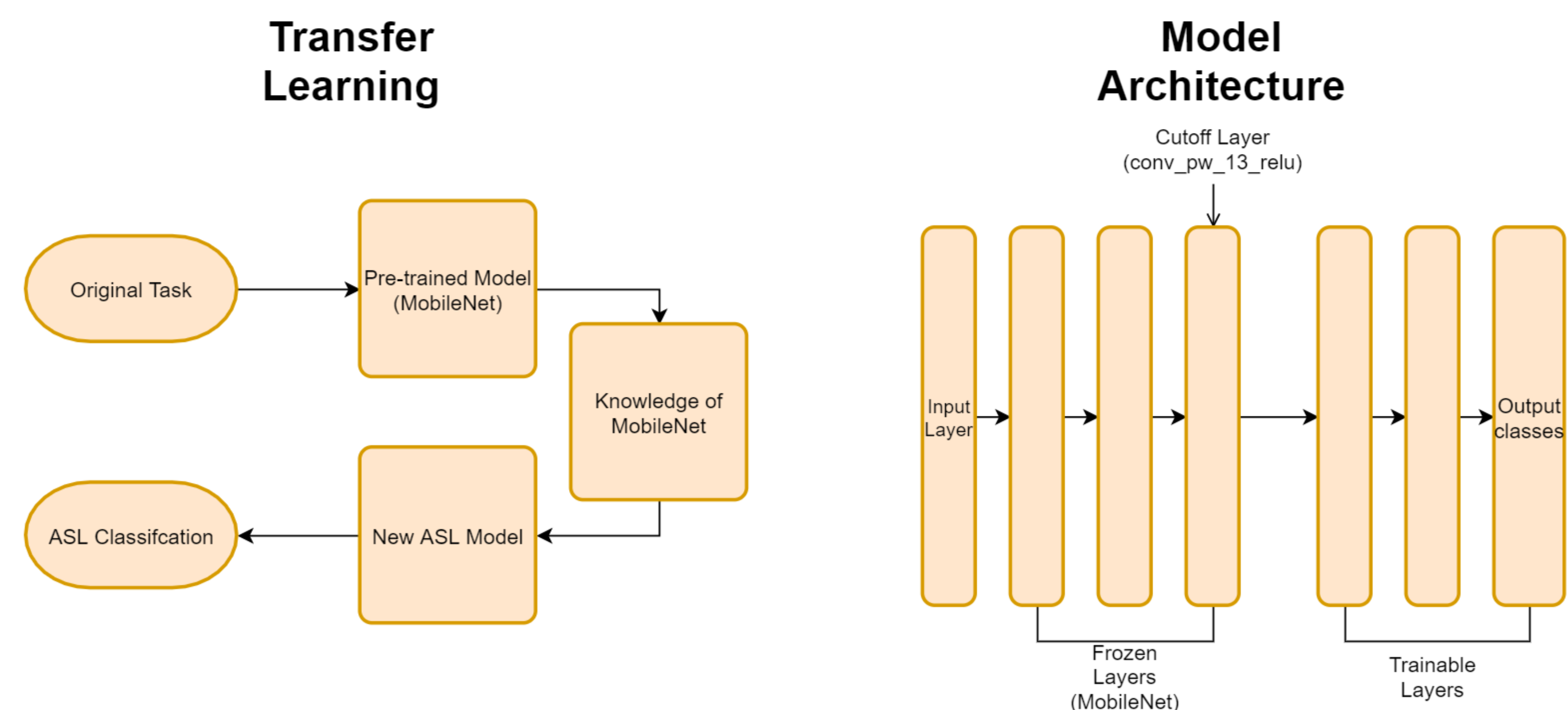
- Providing user profiles with several security options and features.
- Developing fun, and accurate, ASL lessons and games.
- Designing a machine learning model that accurately predicts ASL gestures.
- Searching for and creating diverse image data sets for machine learning.

Project Workflow



This workflow consists of 4 different servers communicating with each other asynchronously to provide a smooth, and secure platform to learn and practice ASL on.

TensorFlow Model and Workflow



Features

- Login via email/password, Google, or Facebook
- Automatic emails for all profile changes and creation
- Optional two factor authentication
- Three unlockable lessons each with their own lecture, practices, and quizzes
- Multiple different mini-games implemented into each practice and quiz
- ASL gesture recognition during practices and quizzes
- Lecture and practice progress is saved across sessions

Conclusion

In the development of this project, we have been able to implement many topics learned in our coursework:

- Web Development
- Database Systems
- Artificial Intelligence
- Networking

Some future plans and possible improvements for include:

- Additional lessons
- More diverse mini-games
- Implement social network features