MICHIGAN STATE UNIVERSITY

Beta Presentation AO Quick Capture

The Capstone Experience

Team Auto-Owners

Kevin Lin Zhi Lin John Cvetkovski Yaotong Lu Reed Miller Luis Sanchez Perez

Department of Computer Science and Engineering
Michigan State University

Fall 2025



Project Overview

- Insurance claims take time
- Speed up the insurance claims process
- By providing instant damage reports and cost estimates
- Through a user-friendly web application



Team Member's Technical Tasks

Technical Tasks Assigned

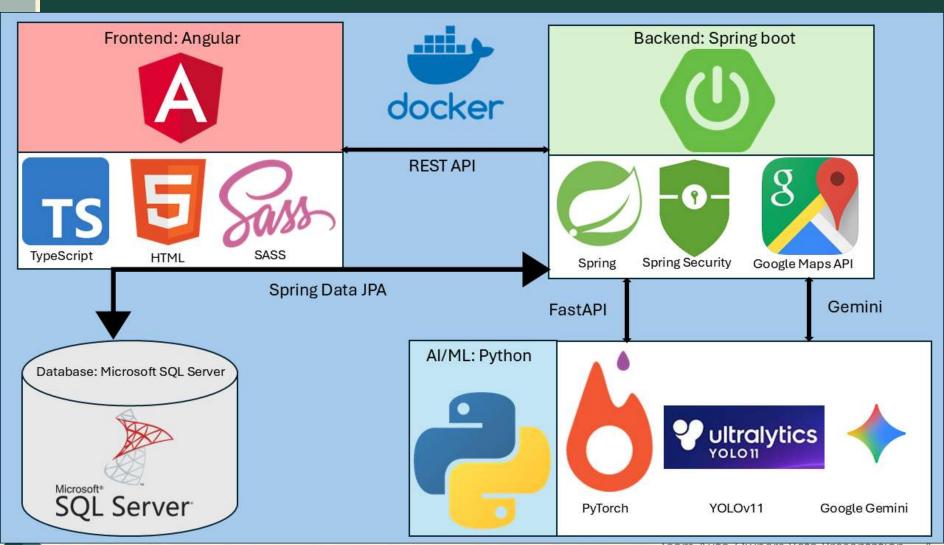
- Luis Sanchez Perez
 - Built and trained damage detection model
 - Built and trained car parts model
 - Built production REST API using FastAPI
 - Built algorithm to determine severity of damage
- Zhi Lin
 - User login & register backend
 - Google places API, VIN decoder API
 - Chatbot backend implementation
 - Secured backend with Spring Security
- Yaotong Lu
 - Implemented car cost estimation logic
 - Implemented mileage detection model
 - ML-AI to backend connection
- Reed Miller
 - Set up Docker and Frontend
 - Nav Bar, Header, Footer, Login, Homepage, Policy, Damage Report, and Chat Bot components
 - Created backend calling services for Chat bot, Auth, Claims, Policies, Damage Reports, and Service recommendations
- John Cvetkovski
 - Image upload and compression functionality
 - Created and implemented all necessary entitles and their connections for the MSSQL Database in the backend
 - All CRUD operations for each entity and their connections
 - PDF Generation, Email service, Damage visualization
- Kevin Lin
 - Section 1 Frontend design
 - Navigation buttons functionality
 - Image drop box & section 4 PDF view
 - Error checking and autofill functionalities

Technical Tasks Completed

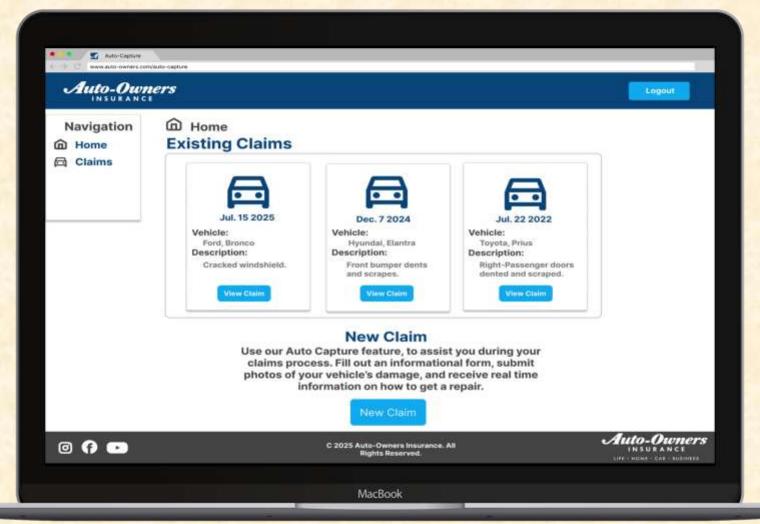
- Luis Sanchez Perez
 - Built and trained damage detection model
 - Built and trained car parts model
 - Built production REST API using FastAPI
 - Built algorithm to determine severity of damage
- Zhi Lin
 - User login & register backend
 - Google places API, VIN decoder API
 - Chatbot backend implementation
 - Secured backend with Spring Security
- Yaotong Lu
 - Implemented car cost estimation logic
 - Implemented mileage detection model
 - ML-AI to backend connection
- Reed Miller
 - Set up Docker and Frontend
 - Nav Bar, Header, Footer, Login, Homepage, Policy, Damage Report, and Chat Bot components
 - Created backend calling services for Chat bot, Auth, Claims, Policies, Damage Reports, and Service recommendations
- John Cvetkovski
 - Image upload and compression functionality
 - Created and implemented all necessary entitles and their connections for the MSSQL Database in the backend
 - All CRUD operations for each entity and their connections
 - PDF Generation, Email service, Damage visualization
- Kevin Lin
 - Section 1 Frontend design
 - Navigation buttons functionality
 - Image drop box & section 4 PDF view
 - Error checking and autofill functionalities



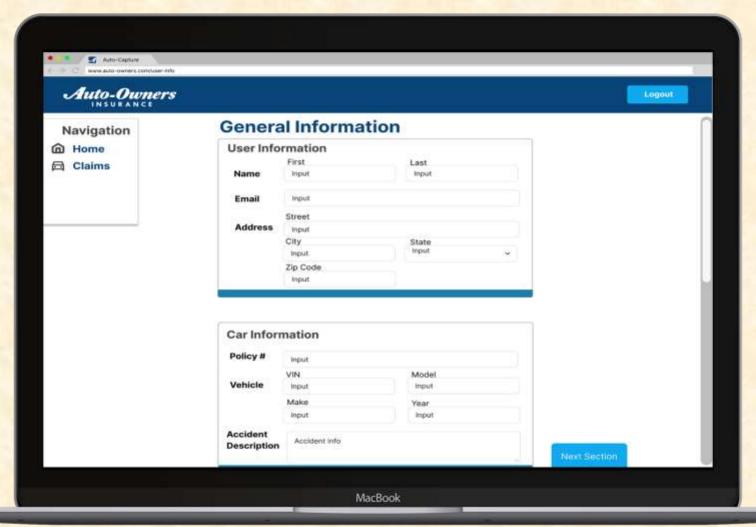
System Architecture



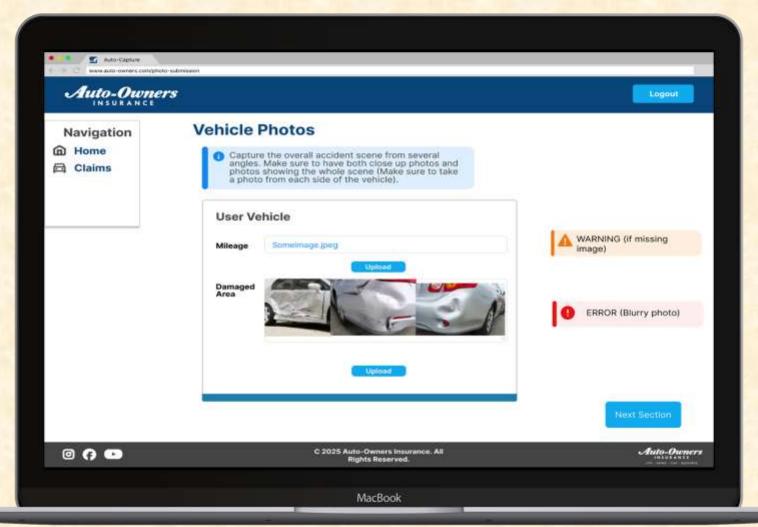
Home Page



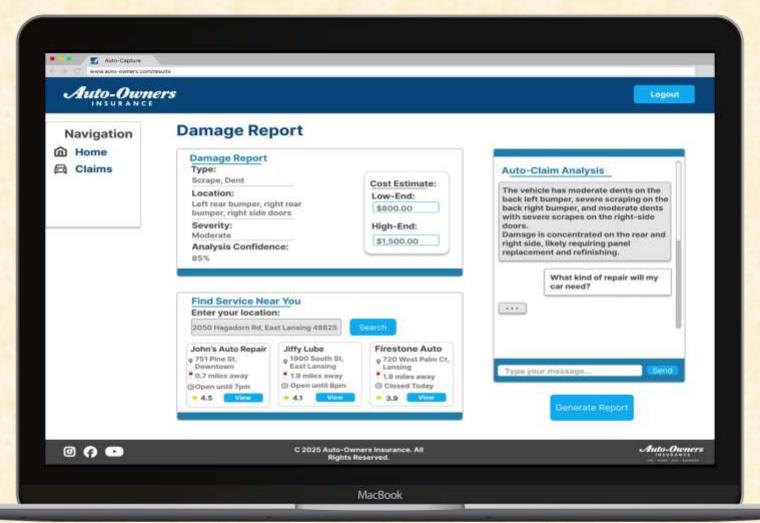
Section 1: User Information



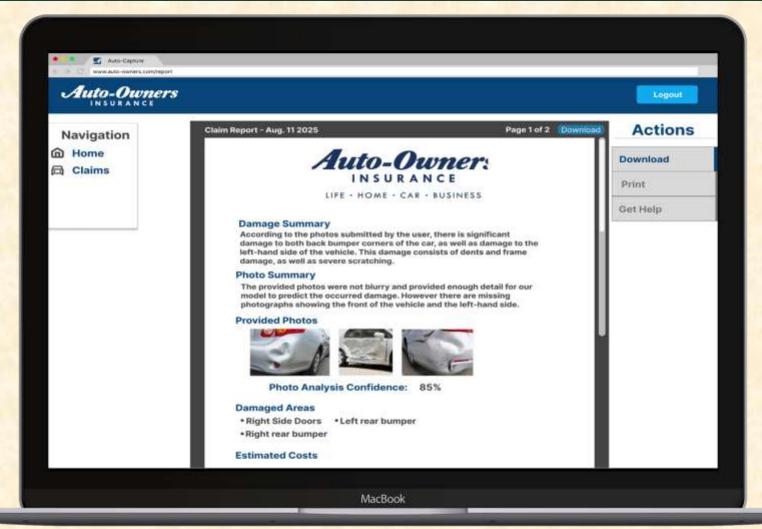
Section 2: Photo Upload



Section 3: Damage Report



Section 4: PDF



What's left to do?

- Features
- Stretch Goals
 - Make a mobile version of the app
 - Fraud Detection
- Other Tasks



Questions?



