



# Project Plan Presentation

## Insurance Quoting Assistant

The Capstone Experience

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Fall 2025



*From Students...  
...to Professionals*

# Project Sponsor Overview

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- One of the largest dental insurance providers in the U.S.
- Sells highly configurable dental insurance packages to businesses of varying sizes
- Provides coverage to more than 83 million Americans



# Project Functional Specifications

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- Automate manual data entries from files of multiple types into quoting systems
- Generate professional and consistent PDF quotes ready to share with customers
- Manage all proposals from file upload to finalized quote
- In a single web application



# Project Design Specifications

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- Standalone Web Application
- Documents Upload Page with drag-and-drop area and clear sections
- Quotes data shown in multiple tabs for best UX
- Proposal Page to manage all proposals with search and sort functionalities



# Screen Mockup: File Upload

The mockup shows a web browser window with the title "Insurance Quoting Assistant" and the URL "https://www.deltadental.iqa". The page has a green sidebar on the left with the "DELTA DENTAL" logo and two menu items: "Create quote" and "View all quotes". The main content area is titled "Quote Intake" and features a breadcrumb trail: "Upload documents" (underlined and highlighted in green) > "Review Information" > "Generate Proposal". Below the breadcrumb is a large dashed rectangular box containing the text "Drag and drop file here, or click to upload". Underneath this box, a section titled "Files added" lists four files, each in a light gray box with a close button (X) to its right: "DeltaDental2023Coverage.pdf", "UnitedHealthcareBenefits.docx", "BenefitsHandwritten.img", and "AutoOwnersCoverage.xlsx". A green "Next" button is located in the bottom right corner of the main content area.

Insurance Quoting Assistant

https://www.deltadental.iqa

**DELTA DENTAL**

Create quote

View all quotes

## Quote Intake

Upload documents > Review Information > Generate Proposal

Drag and drop file here, or click to upload

Files added

- DeltaDental2023Coverage.pdf
- UnitedHealthcareBenefits.docx
- BenefitsHandwritten.img
- AutoOwnersCoverage.xlsx

Next



# Screen Mockup: Review Data

The screen mockup shows a web browser window titled 'Insurance Quoting Assistant' with the URL 'https://www.deltadental.iqa'. The page has a green sidebar on the left with the 'DELTA DENTAL' logo and two menu items: 'Create quote' and 'View all quotes'. The main content area is titled 'Quote Intake' and features a breadcrumb trail: 'Upload documents > Review Information > Generate Proposal'. The 'Review Information' section contains several input fields: 'Quote ID' (1112), 'Name' (Tomatki, Inc.), 'Effective date' (07/14/2022), 'Group' (Previous Insurer: No Previous Insurer), 'NAICS' (331111), and 'Edited By' (Username: No Previous Insurer). At the bottom, there is a 'Back' button on the left and a green 'Generate' button on the right.

DELTA DENTAL

Create quote

View all quotes

Quote Intake

Upload documents > Review Information > Generate Proposal

Quote ID

1112

Name

Tomatki, Inc.

Effective date

07/14/2022

Group

Previous Insurer

No Previous Insurer

NAICS

331111

Edited By

Username

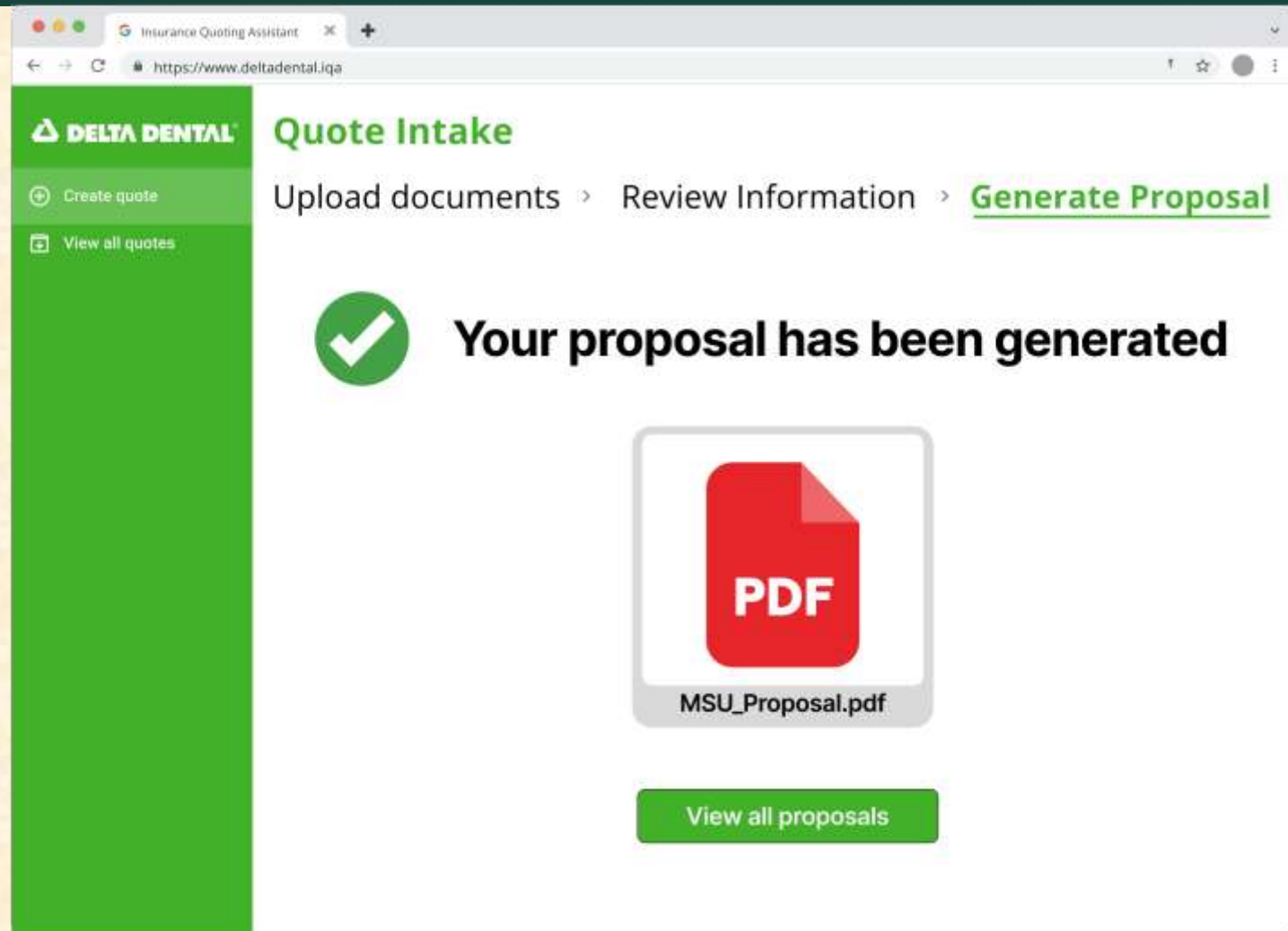
No Previous Insurer

Back

Generate

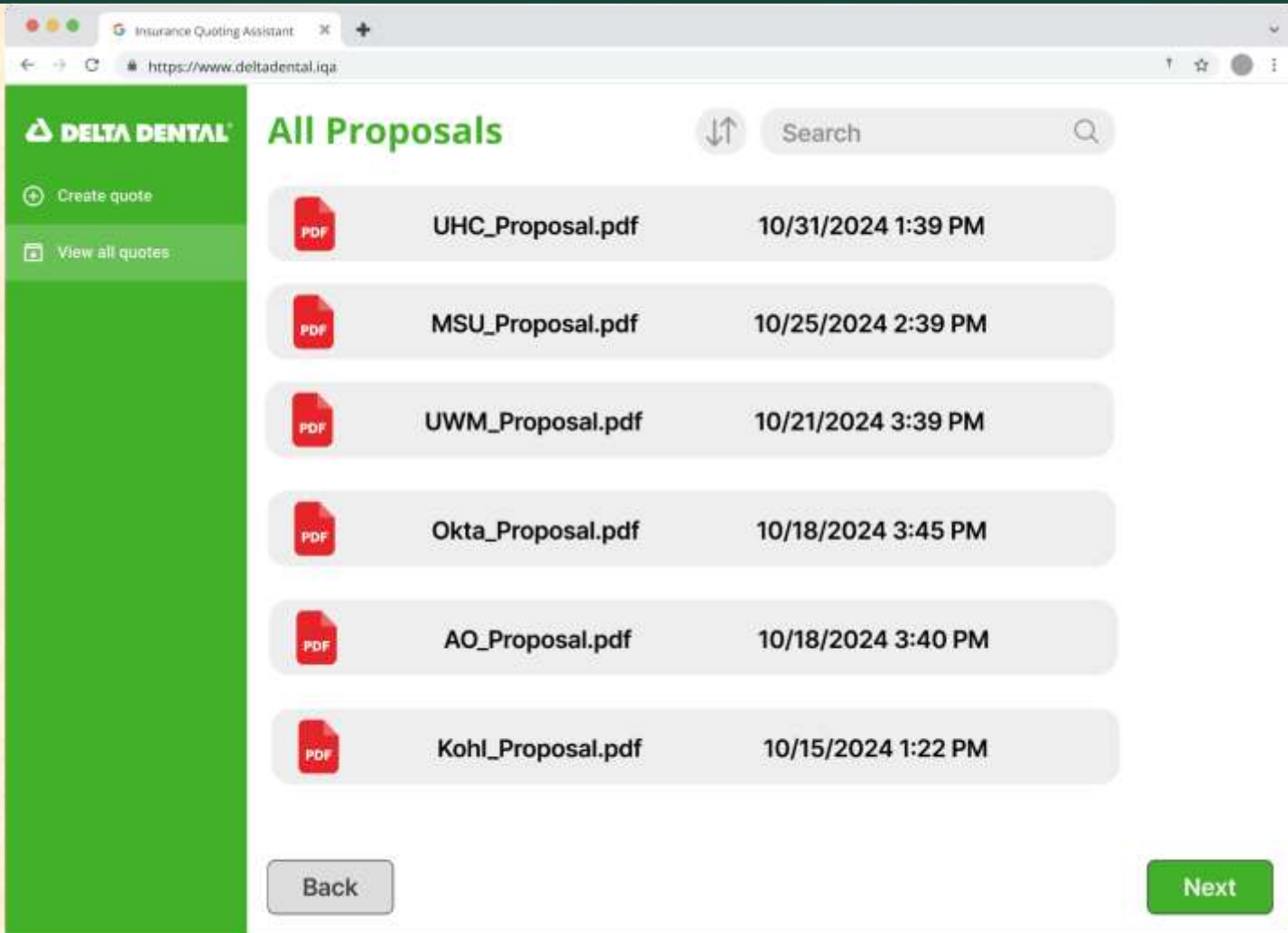


# Screen Mockup: Generate Proposal





# Screen Mockup: View proposals





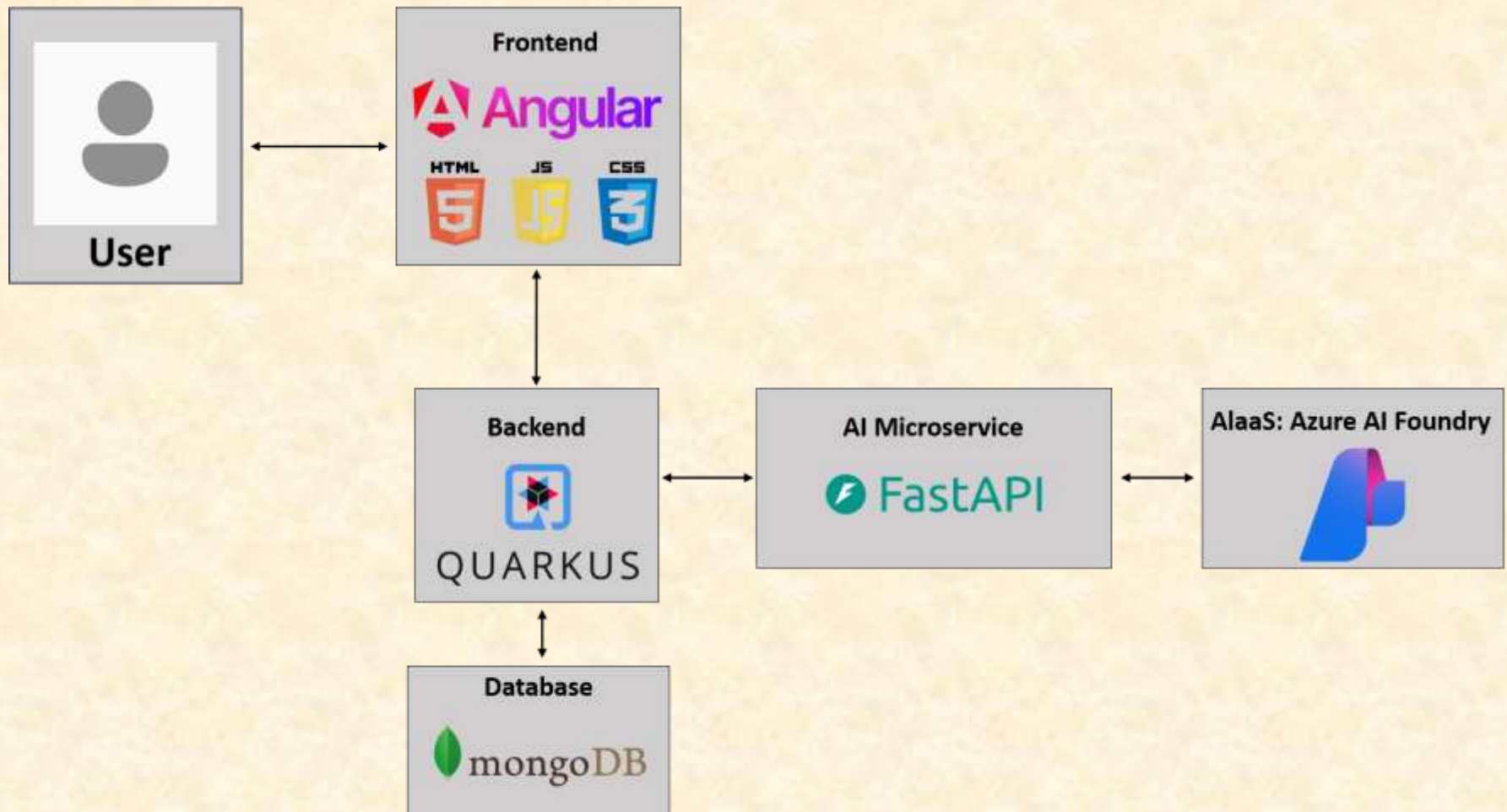
# Project Technical Specifications

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- User interacts with the Angular frontend for uploading documents, reviewing extracted information, and managing generated quotes
- Frontend communicates with the Quarkus backend, which handles application logic, coordinates requests, and manages persistence
- FastAPI microservice integrates with Azure AI Foundry's Document Intelligence service to parse and analyze the uploaded content



# Project System Architecture



# Project System Components

- Software Platforms / Technologies
  - Angular/Bootstrap
  - Java Quarkus
  - Python FastAPI
  - MongoDB
  - Azure AI Document Intelligence
  - Azure OpenAI



# Project Risks

- Risk 1
  - Accurately and effectively parsing data from various media
  - Research and develop a targeted system that processes all incoming files with different approaches
- Risk 2
  - Getting consistent results from completely different company formats
  - Sophisticated prompt engineering and agentic systems (RAG, COT)
- Risk 3
  - Limited budget
  - Use cost-effective/mini models. Adjust latency to reduce costs
- Risk 4
  - UI not user friendly to non-technical users
  - Leverage personal networks for testing



# Questions?

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