AD715 Business Simulation Web Application

Problem Statement

CURRENT PLATFORM LIMITATION	USER IMPLICATIONS
Old version Excel dependency	Poor Performance
V - Lab dependency	
Macbook vs Excel	Reduced Collaboration / Incompatibility
Incorrect calculations	Hindered decision making
High Dependency on TAs	Diminished Learning Experience

Objectives and Solutions

Feature	Reason
Cloud ready Platform	Hosted using Azure Cloud Virtual Machine.
Superior Performance	Dynamic computations using in-browser computation.
Enhanced Interactivity	User interface and experience through webpages.
Better Access	Access through browser, ensuring full runtime using cloud.
Enable platform learning	Gamified FAQ, Dedicated help and resources tab.
AI Compatibility	Provision of prompts engineered by simulation experts.

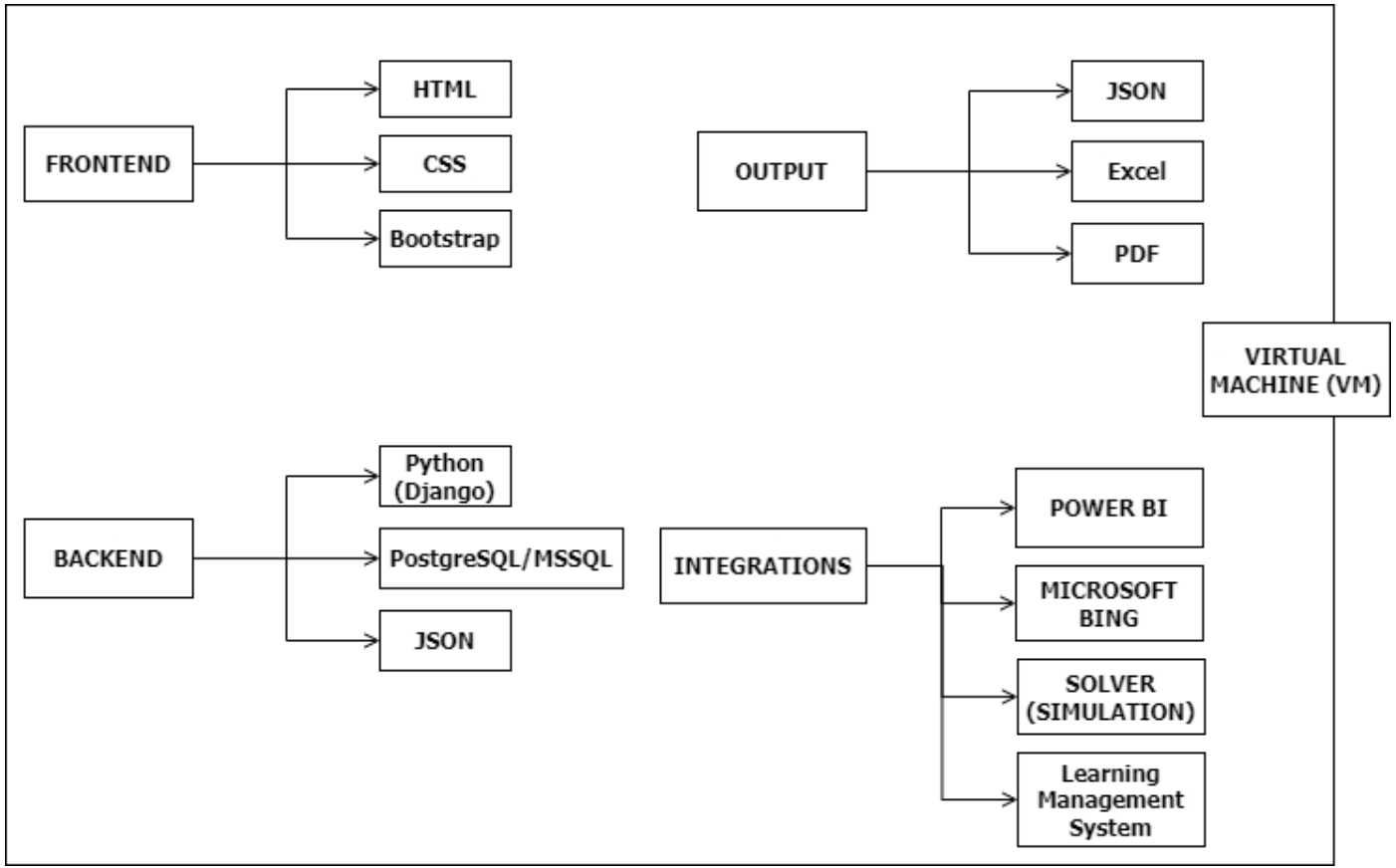
Division of Workload

Stakeholder	Members	Participation status
Business	Course Builder, Instructors, Teaching Assistants.	Currently Active.
Development	B-Sim Developer team consisting students and project supervisor.	
Testing	Business + Development + Students of ABA program.	
Deployment	Platform support from MET IT for advice on cloud solutions.	Yet to be identified.
Integration	Resource personnel to create connections between the simulation and the following: 1) Learning Management System. 2) Third Party tools and solutions. 3) Analytical Lab platform.	

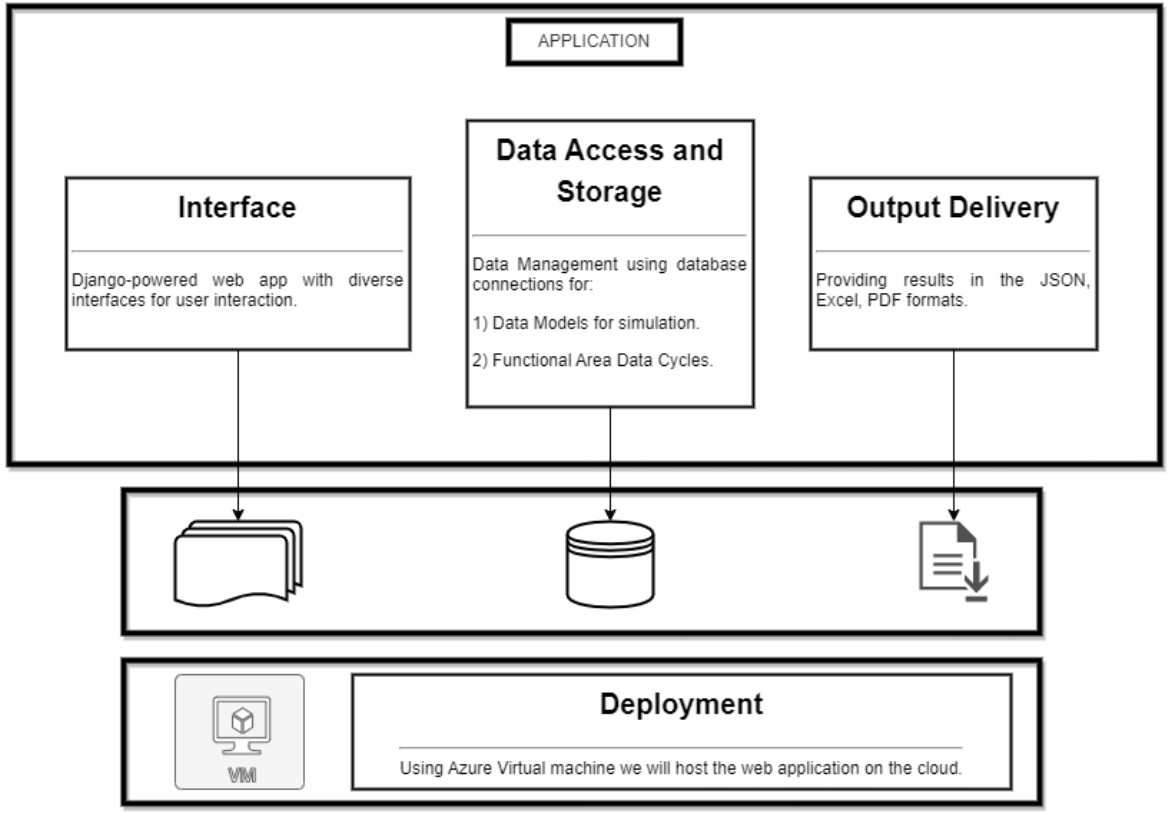
Risk, Challenges, and Possible Solutions

Factors	Possible Solutions
Dedicated personnel for development and deployment support.	Identify and assign designated roles as per “division of workload” to segregate responsibilities based on area of expertise.
Evolution of dependant environments like Azure or other third party integrations.	Version based deployment coupled with VM architecture to limit changes to occur during deployed editions of the simulation.
Limited knowledge with newer technologies like Generative AI, cloud computing solutions, and external tools.	Identifying the right mentor/supervisor to contribute based on area of expertise and need of the project. Creating protocols and documentation.
Protecting the IP.	Identify and use existing protocols on: 1) Application level (Program level) 2) College level (MET IT) 3) University level (Central IT) 4) Platform level (Microsoft Azure)

Dependencies



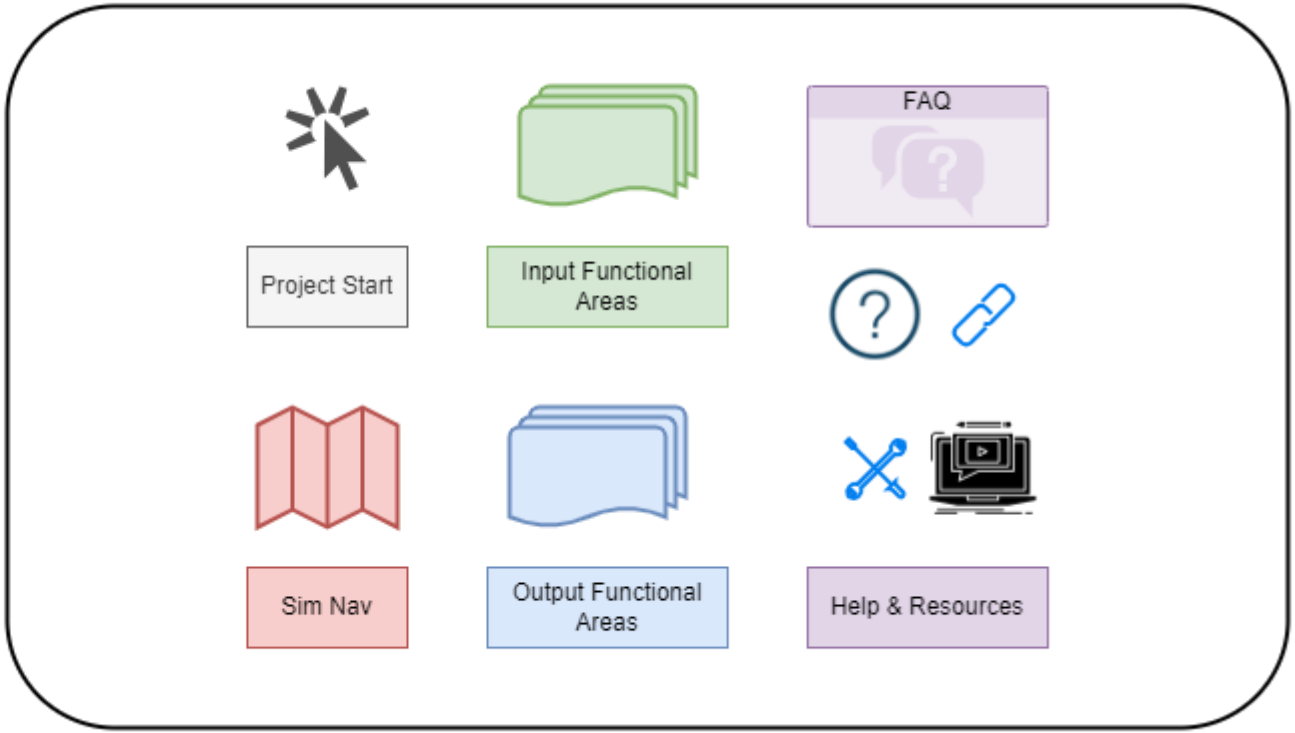
Architecture



Interface

Interface

Django-powered web app with diverse interfaces for user interaction.



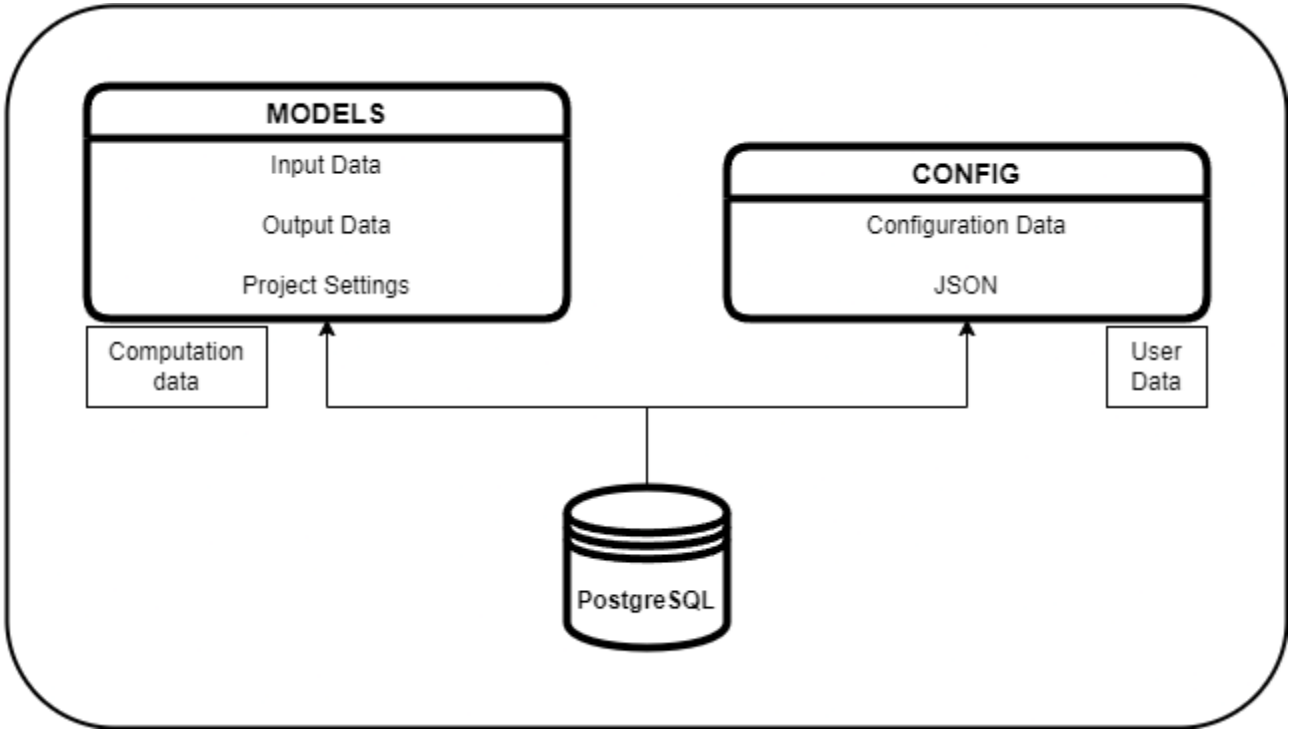
Data Access

Data Access and Storage

Data Management using database connections for:

1) Data Models for simulation.

2) Functional Area Data Cycles.



Output Delivery

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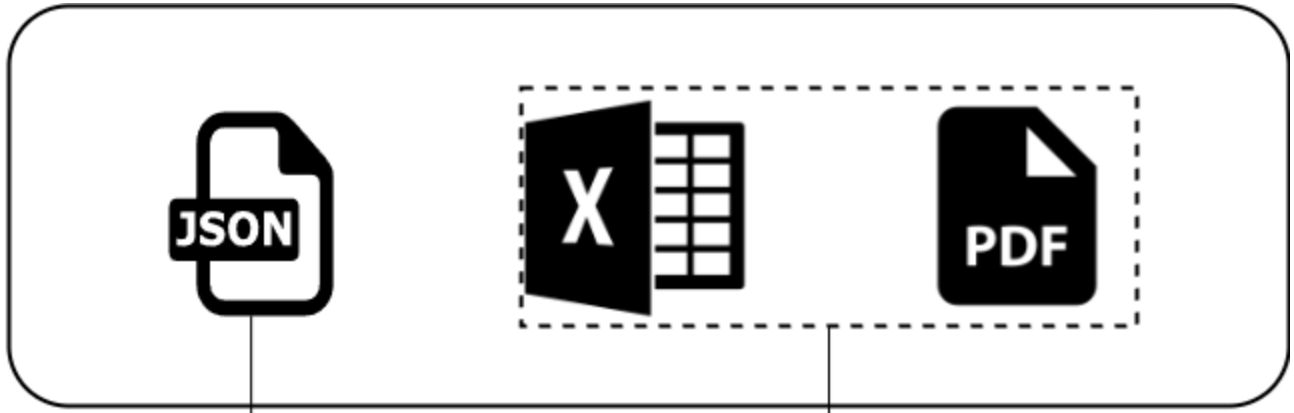
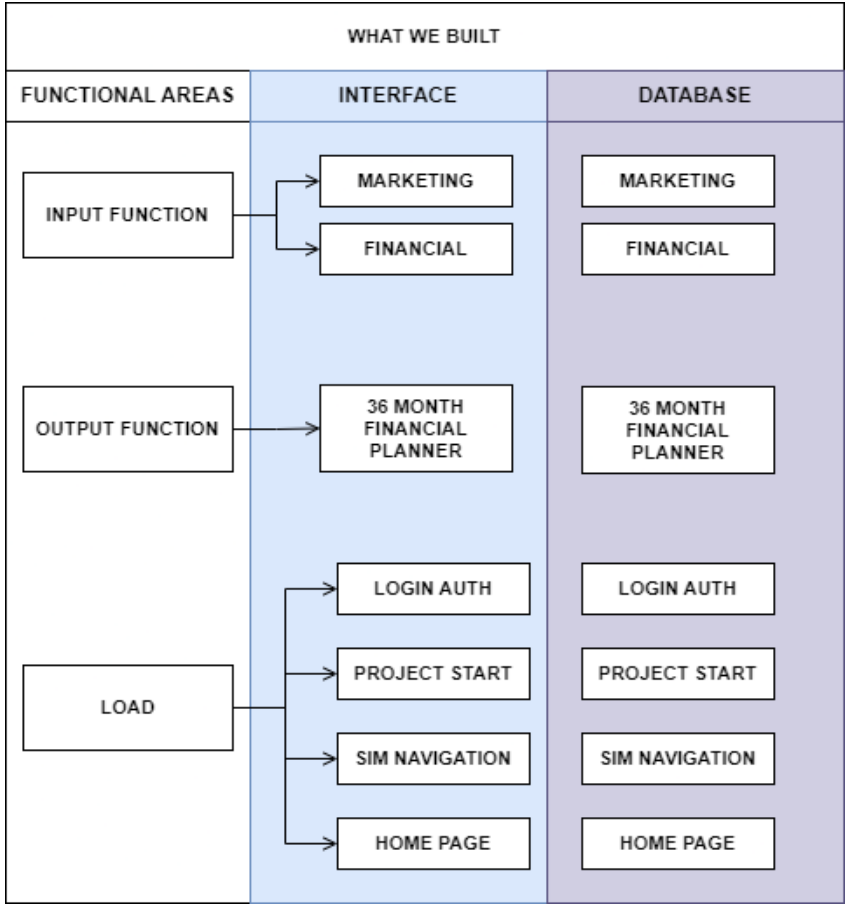
Providing results in the JSON, Excel, PDF formats.



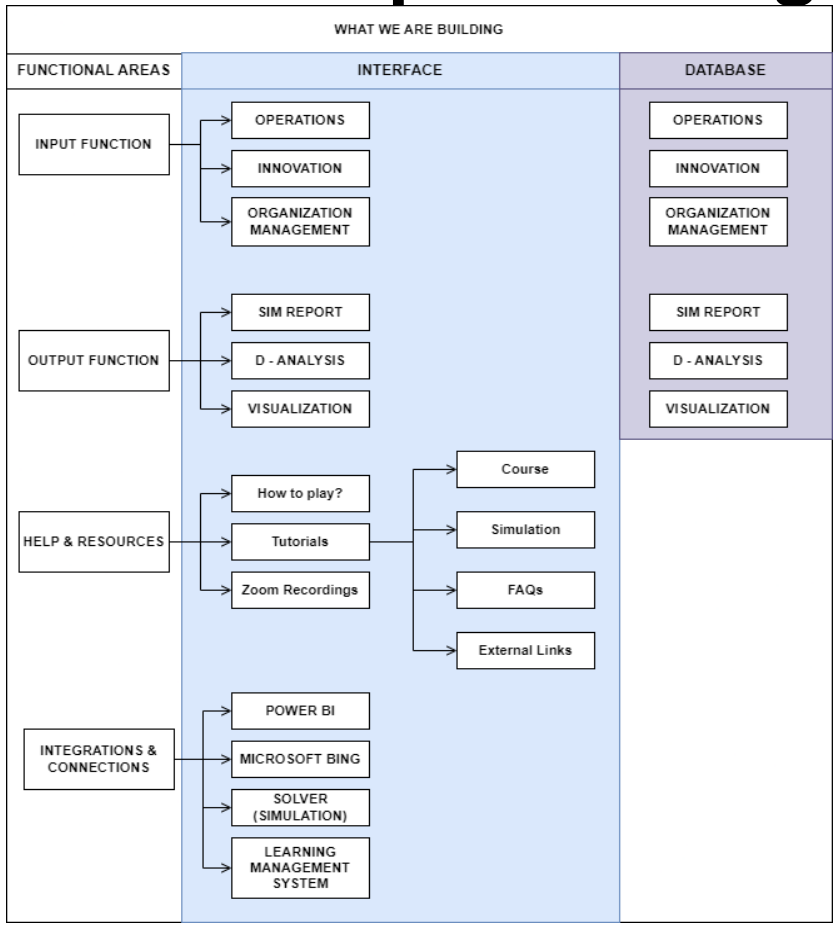
- Development
- Diagnostics

- Submission
- User analysis
- Documentation

Website Development Progress



Website Development Progress



What next? (timeline):

Timeframe	Deliverables
Jan 15 - Feb 16	Identifying and assigning personnel into teams/groups. New student support members, MET Support for division of workload. Estimating migration costs and working with cloud experts (MET IT) for feasibility of migration.
Feb 19 - Mar 29	Continue development of remaining simulation components based on the architecture, with a focus on the design of remaining functional areas and cycle implementation. Deployment ready to be tested by instructors, online facilitators, and teaching assistants; perform integration testing to test the platform and fix bugs. Work with ABA program facilitators to build “Help & Resources” for the web application. In-class lunch by March 31, 2024, for all AD715 classes (OL and FF).

Thank you