

Tools and Technologies

Frontend Technology: Our application's user interface is built using the React framework. This choice reflects our commitment to creating a responsive and dynamic user experience that operates smoothly across all devices and platforms.

Backend Technology: The server-side operations are powered by the Django REST Framework. This framework supports our needs for a robust, scalable, and flexible back-end architecture that can handle complex web APIs and ensure seamless data handling and integration.

Deployment Strategy: We utilize Docker containers for deploying our application. This approach helps in encapsulate the application and its dependencies in a consistent environment. This uniformity eliminates the "it works on my machine" syndrome, promoting reliability and continuity across different development and production settings.

Database System: For database management, we use SQLite. This lightweight DBMS is integrated within the backend setup, offering efficient data storage and retrieval capabilities crucial for our application's performance and scalability.

NOTE: More information will be updated after the team completes negotiations and discussions are done by the team along with the client and his technical team.

Category	Technology/Framework	Version	Description
General Dependencies	certifi	2018.4.16	Python HTTP client security by providing SSL certificates
	pytz	2018.4	Python library for timezone calculations
	numpy	1.16.0	Fundamental package for scientific computing in Python
	colour	0.1.5	Color handling in Python
	matplotlib	2.2.5	2D plotting library which produces publication quality figures
	Pillow	8.3.2	Python Imaging Library (PIL) fork
	requests	>=2.25.1	Elegant and simple HTTP library for Python
Frontend	React	-	A JavaScript library for building user interfaces
Backend	Django	2.2.13	High-level Python Web framework
	Django REST Framework	3.9.1	Powerful and flexible toolkit for building Web APIs
	django-cors-headers	2.4.0	Handles Cross-Origin Resource Sharing (CORS) issues
	gunicorn	19.7.1	WSGI HTTP Server for UNIX
Database	SQLite	-	C-language library that implements a SQL database

			engine
Deployment	Docker	-	Software platform for building applications in containers
	pipenv	2018.7.1	Packaging tool for Python applications; manages packages and virtual environments
	virtualenv	16.0.0	Tool to create isolated Python environments
	virtualenv-clone	0.3.0	A script for cloning a non-relocatable virtualenv
	zipfile36	0.1.3	Backport of the zipfile module from Python 3.6