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\documentclass[12pt]{article}

\usepackage[margin=1in]{geometry}
\usepackage{hyperref}
\usepackage{enumitem}

\title{ChatBox AI \\ Large Design Specification}
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\date{\today}

\begin{document}
\maketitle
\thispagestyle{empty}
\newpage

\section{Purpose}
This Design Specification describes each page, component, and tool used in ChatBox AI, and lists all packages, dependencies, and libraries that would be required in a Dockerized deployment.

\section{Page-by-Page Breakdown}

\subsection{Landing / Login Page}
\begin{itemize}
    \item Components: Logo, brief description, login form, register link.
    \item Actions: User can log in or navigate to registration.
\end{itemize}

\subsection{Registration Page}
\begin{itemize}
    \item Components: Inputs for name, email, password, confirm password.
    \item Actions: Create account and redirect to the chat dashboard.
\end{itemize}

\subsection{Chat Dashboard}
\begin{itemize}
    \item Components: List of existing chat sessions, button to create new session.
    \item Actions: Open existing sessions, delete sessions, or start a new one.
\end{itemize}

\subsection{Chat Screen}
\begin{itemize}
    \item Components: Message list, text input, send button, session title, export button.
    \item Actions: Send messages, receive AI responses, export conversation.


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\end{itemize}

\subsection{Settings Page}
\begin{itemize}
    \item Components: Theme toggle, language options, data retention settings.
\end{itemize}

\subsection{Admin Dashboard}
\begin{itemize}
    \item Components: Charts or tables summarizing total users, total sessions, total messages.
\end{itemize}

\section{Backend and API Design}

\subsection{Example Endpoints}
\begin{itemize}
    \item \texttt{POST /api/auth/register}
    \item \texttt{POST /api/auth/login}
    \item \texttt{GET /api/sessions}
    \item \texttt{POST /api/sessions}
    \item \texttt{POST /api/sessions/\{id\}/messages}
    \item \texttt{GET /api/admin/metrics}
\end{itemize}

\section{Dependencies and Libraries}

\subsection{Frontend (Example Stack)}
\begin{itemize}
    \item React or Vue.js for the UI.
    \item CSS framework such as Bootstrap or Material UI.
    \item Axios or Fetch API for HTTP requests.
\end{itemize}

\subsection{Backend (Example Stack)}
\begin{itemize}
    \item Node.js with Express.
    \item Libraries for authentication, validation, and logging.
\end{itemize}

\subsection{Database}
\begin{itemize}
    \item PostgreSQL as the primary relational database.
\end{itemize}

\subsection{Other Tools}
\begin{itemize}
    \item Docker and docker-compose for containerization.
    \item Jira for task management.

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\item TestRail for test case management and reporting.  
\end{itemize}  
  
\section{Docker Packaging Requirements}  
The Docker image for the backend would include:  
\begin{itemize}  
    \item Runtime Node.js.  
    \item Application code.  
    \item Configuration for connecting to the database.  
\end{itemize}  
The frontend image would include:  
\begin{itemize}  
    \item Compiled static assets served via NGINX.  
\end{itemize}  
  
\end{document}
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