Solution Requirements (Functional & Non-functional)

Date	17 February 2026
Team ID	LTVIP2026TMIDS89357
Project Name	Explore with Ai: custom itineraries for your next journey
Maximum Marks	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form Registration through Gmail Registration through LinkedIn
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	User Login and Authentication	Login using Email and Password Login using Gmail / LinkedIn Password Reset via Email Secure Authentication using O Auth 2.0
FR-4	Travel Preference Input	User enters travel preferences (destination, duration, budget, interests)User provides input via Text Interface User provides input via Voice (Speech Input)Language selection for input
FR-5	AI-Based Itinerary Generation	Convert Speech to Text using Watson STT Understand user intent using Watson Assistant / NLU Generate personalized itinerary using AI Model Recommend destinations, activities, and schedule Store generated itinerary in Cloud Database
FR-6	Itinerary Management and Display	Display itinerary in Web / Mobile UI Allow user to edit itinerary preferences Allow user to save itinerary Allow user to download itinerary (PDF)Allow user to view itinerary history

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

NFR No.	Non-Functional Requirement	Description
NFR-1	Usability	The system shall provide a simple, user-friendly interface that allows users to easily register, enter travel preferences via text or voice, and view generated itineraries. The interface shall be responsive and accessible on Web and Mobile devices.
NFR-2	Security	The system shall ensure secure user authentication and data protection using HTTPS encryption, secure login (O Auth 2.0), password hashing, and Identity and Access Management (IAM). User data shall be protected from unauthorized access.
NFR-3	Reliability	The system shall provide consistent and accurate itinerary generation with minimal failures. Cloud-based services and database backup mechanisms shall ensure data integrity and system reliability.
NFR-4	Performance	The system shall process user requests and generate travel itineraries within a few seconds. It shall support multiple concurrent users using efficient backend processing, optimized database queries, and caching mechanisms.
NFR-5	Availability	The system shall be available 24/7 using cloud infrastructure with load balancing and distributed servers to ensure continuous service with minimal downtime.
NFR-6	Scalability	The system shall support increasing numbers of users and requests by using scalable cloud infrastructure, micro services architecture, and auto-scaling capabilities provided by IBM Cloud and Kubernetes.