Traceability Matrix

Requirement/Feature	Description	Test Case ID(s)
Functional Requirements		
FR1: Message Processing	The chatbot should recognize and process user messages.	TC1, TC2, TC3
FR2: Response Generation	The chatbot should generate contextually relevant responses.	TC4, TC5, TC6
FR3: Integration with WhatsApp	The chatbot should integrate with the WhatsApp API.	TC7, TC8, TC9
FR4: Integration with SMS	The chatbot should integrate with the SMS API.	TC10, TC11, TC12
FR5: Integration with LinkedIn	The chatbot should integrate with the LinkedIn API.	TC13, TC14, TC15
Non-Functional Requirements		
NFR1: Response Time	The chatbot should respond within 3 seconds.	TC16, TC17
NFR2: Data Security	User data should be securely handled and stored.	TC18, TC19
NFR3: Concurrent User Handling	The chatbot should handle up to 100 concurrent users.	TC20, TC21
NFR4: User-Friendly GUI	The GUI should be intuitive and user-friendly.	TC22, TC23
User Acceptance Testing (UAT)		

UAT1: Scenario 1	Simulate real user interactions on WhatsApp.	TC27, TC28, TC29
UAT2: Scenario 2	Simulate real user interactions via SMS.	TC30, TC31, TC32
UAT3: Scenario 3	Simulate real user interactions on LinkedIn.	TC33, TC34, TC35
UAT4: Real-World Usage	Engage real users for WhatsApp, SMS, and LinkedIn interactions.	TC36, TC37, TC38
Performance Testing		
PT1: Load Testing	Assess chatbot performance under heavy load.	TC40, TC41, TC42
PT2: Response Time	Measure chatbot response time under various loads.	TC43, TC44, TC45