PROJECT DEVELOPMENT PHASE

Model Performance Test

|  |  |
| --- | --- |
| Date | 10th, Feb 2025 |
| Team ID |  |
| Project Name | Convoconnect |
| Maximum Marks | 5 Marks |

|  |  |  |  |
| --- | --- | --- | --- |
| S.No. | Parameter | Values | Screenshot |
| 1. | Model Summary | WebRTC-based real-time communication system. Includes signaling server, peer-to-peer media transfer, authentication, and screen sharing. | – |
| 2. | Accuracy Training Accuracy Validation Accuracy | Not Applicable (Non-ML Project) |  |
| 3. | Fine Tuning Result (if Done) | Not Applicable |  |

Model Performance Testing:

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Test Scenarios & Results

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Case ID | Scenario (What to test) | Test Steps (How to test) | Expected Result | Actual Result | Pass/Fail |
| FT-01 | User Login Validation | Enter valid/invalid credentials | Valid logs in, invalid shows error | Valid users logged in, invalid inputs rejected with message | Pass |
| FT-02 | Video/Audio Permission Access | Allow or block media access on prompt | Access granted or proper error shown | Media access allowed and error handled properly on denial | Pass |
| FT-03 | Create/Join Meeting | Click on Create/Join with/without valid code | Meeting starts or shows error | Meeting started with valid code, error shown for invalid | Pass |
| FT-04 | Chat Messaging Functionality | Send text messages during call | Messages appear instantly for all users | Messages appeared in real-time with no delay | Pass |
| PT-01 | Connection Stability Test | Monitor app during 30-min call | No disconnection or lag | Call sustained for 30 minutes without drop or significant lag | Pass |
| PT-02 | Video Quality at Low Bandwidth | Throttle network and check stream | Video quality adjusts, call continues | Video quality dropped but call continued smoothly | Pass |
| PT-03 | Multiple User Load Test | Connect 10+ users in a call | App handles without crash or lag | Handled 12 users with minor latency under peak load | Pass |

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| --- | --- | --- | --- |
| S.No. | Parameter | Values | Screenshot |
| 1. | Metrics | Not Applicable - ConvoConnect is a WebRTC-based video conferencing system. No regression or classification model used. | – |
| 2. | Hyperparameter Tuning | Not Applicable |  |
| 3. | Validation Method | Not Applicable |  |

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Model Performance Testing:

|  |  |
| --- | --- |
| S.No. | Values |
| 1. | Real-time video, audio, and chat data rendered in browser using WebRTC protocols and dynamic frontend components. |
| 2. | No preprocessing needed as data is streamed live and not stored. Media streams are encoded for optimal delivery. |
| 3. | Filter functionality not required in real-time conferencing. UI filters applied for participant management and chat visibility. |
| 4. | Not Applicable - No use of Power BI or DAX queries in the system. |
| 5. | No of Visualizations / Graphs - 3 Includes: Active participants counter, call quality monitor, bandwidth usage chart. |
| 6. | No of Visualizations / Graphs - 2 Includes: Weekly meeting usage summary and peak time activity chart. |

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| --- | --- | --- | --- |
| S.No. | Parameter | Values | Screenshot |
| 1. | Model Summary | Web-based real-time video conferencing app using WebRTC technology. Features include authentication, peer-to-peer video/audio, screen sharing, chat, and meeting code generation. | – |
| 2. | Accuracy | Training Accuracy - Not Applicable Validation Accuracy - Not Applicable (Non-ML based system) |  |
| 3. | Confidence Score (Only Yolo Projects) | Not Applicable - No object detection or YOLO-based model used in ConvoConnect. System operates via media stream and signaling, not object classification. |  |

User Acceptance Testing (UAT)

|  |  |
| --- | --- |
| Date | 21st, Feb 2025 |
| Team ID |  |
| Project Name | Convoconnect |
| Maximum Marks | 5 Marks |

**Project Overview:**

Project Name: ConvoConnect

Project Description: A real-time video conferencing application built using WebRTC with features such as screen sharing, live chat, and secure meeting rooms.

Project Version: 1.0.0

Testing Period: 01 February 2025 to 10 February 2025

**Testing Scope:**  
- User authentication  
- Create/Join meeting functionality  
- Video and audio communication  
- Screen sharing  
- In-call chat  
  
Requirements to be Tested:  
- User Story 01: As a user, I can create a meeting.  
- User Story 02: As a user, I can join a meeting with a code.  
- User Story 03: As a user, I can share my screen.  
- User Story 04: As a user, I can send and receive chat messages.  
- User Story 05: As a user, I can leave the meeting securely.

**Testing Environment:**  
URL/Location: https://convoconnect.app  
Credentials (if required): testuser / Test@123

**Test Cases:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Case ID | Test Scenario | Test Steps | Expected Result | Actual Result | Pass/Fail |
| TC-001 | User can create and join a meeting successfully | 1. Login 2. Click "Create Meeting" 3. Share code with another user 4. Other user joins using the code | Meeting is created and both users can see/hear each other | Meeting created successfully and both users had a stable call session | Pass |
| TC-002 | User login with valid and invalid credentials | 1. Enter valid login 2. Enter invalid login 3. Click "Login" | Valid credentials log in successfully, invalid shows error | Worked as expected: success with valid, error with invalid | Pass |
| TC-003 | Screen sharing functionality during call | 1. Join call 2. Click "Share Screen" 3. Select screen to share | Screen is shared and visible to other participants | Screen shared successfully; all participants could view | Pass |
| TC-004 | Chat system during video call | 1. Join call 2. Send messages to participants | Messages are sent and received in real-time | Messages delivered with slight delay in 1 test | Pass |
| TC-005 | End/Leave meeting functionality | 1. Click "Leave" during a call 2. Confirm leave | User exits call and returns to dashboard | User left call and redirected properly | Pass |

**Bug Tracking:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Bug ID | Bug Description | Steps to reproduce | Severity | Status | Additional feedback |  |
| BG-001 | Chat messages occasionally delay under low network | 1. Join call 2. Send message on low bandwidth 3. Observe delay | Medium | Open | Needs further optimization for weak connections |  |
| BG-002 | Occasional video freeze for one participant in group call | 1. Join group call 2. Observe one participant 3. Video freezes after ~15 minutes | High | In Progress | May be linked to browser memory; needs profiling |  |

**Sign-off:**

Tester Name: QA Tester

Date: 10 February 2025

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_