Test Plan for communication protocol “Talk to the Martians”

Introduction:

A communication protocol with two feature speaker and listener.The function that the speaker needs to implement as broadcast with right timing. The timing depends on the speed of the sentences. The listeners are able to receive and translate specific words in English.

Test Environment & tool: nodejs

TestCase:

Feature: Speaker

Background:

Given Setup:Speaker setups socket server io
And Server io can listen to port 3000

Connection

Scenario: 1.Only one listener/user connect to the server/speaker

When Listener connect to the server/speaker
Then Speaker receives message on the speaker side

Scenario: 2.Two or more listeners/users connect to the server/speaker

a.Two or more listeners/users connect to the server/speaker at the same time
When Listeners connect to the server/speaker at the same time
Then Correct amount listeners display on the speaker side

b.Two or more listeners/users connect to the server/speaker in the different time
When Listener connects to the server/speaker
And Another listener connects to the server/speaker
Then Listeners amount increase correctly display on the speaker side

Scenario: 3.Listener/user disconnects to the speaker

When Listener disconnects to the server/speaker
Then Speaker receives appropriate message on the speaker side

Broadcast

Scenario: 1.Speaker can send message to one listener

When One Listener connects to the server/speaker
And Speaker starts to broadcast
Then Listener received message on the listener side

Scenario: 2.Speaker broadcast one message per time.

When Listeners connect to the server/speaker
And Speaker starts to broadcast a message
Then Listeners receive a message per time on the listener side

Scenario: 3.Speaker broadcast two or more messages per time.

When Listeners connect to the server/speaker
And Speaker starts to broadcast two or more messages per time.
Then Listeners receive two or more message per time on the listener side

Scenario: 4.Speaker broadcast message to limited listener/user connects to the server
a. Speaker broadcasts message to all connected listener/user (speaker include)
When Listeners connect to the server/speaker
And Speaker starts to broadcast message
Then Speaker and all listeners receive same message on both side.

b. Speaker broadcasts message to all connected listener/user (speaker except)
When Listeners connect to the server/speaker
And Speaker starts to broadcast message
Then All listeners receive message on listener side.

c. Speaker broadcasts message to specific individual listener
When Listeners connect to the server
And Speaker starts to broadcast message to specific listener
Then Only listener with specific identification receive message on listener side.

d. Speaker broadcasts message to specific group listeners
When Listeners connect to the server
And Speaker starts to broadcast message to specific group listener
Then Only listener in specific group receive message on listener side.

Scenario: 5. Speaker broadcasts limited length message
a.Speaker broadcasts a default length message
When Listeners connect to the server/speaker
And Speaker starts to broadcast message in default length
Then listener can receive only syllables ['B','K','L','R','Z']

b.Speaker broadcasts a limited length message (ex.5/50/500/5000)
When Listeners connect to the server/speaker
And Speaker starts to broadcast message in limited length
Then listener can receive specific length message consists of syllables ['B','K','L','R','Z','-']

Feature: Listener

Connection

Scenario: 1.Listener/user connect to the server/speaker
When Listener connect to the server/speaker
Then The 'Listener Connect' message displays on the listener side
And Listener starts to receive broadcast message from speaker immediately

Scenario: 2.Listener loses connection from speaker
When Listener connect to the server
And Speaker disconnects to listener/speaker
Then Listener stop receive broadcast message from speaker immediately

Scenario: 3.Listener reconnect from speaker after being distracted
When Listener reconnect to the server
Then Listener starts receive broadcast message from speaker immediately

Time Speed Calculate
Scenario: 1.Listener receives a message in slow speed
When Listeners connect to the server/speaker
And listener can receive message
Then The result of translation or the appropriate error message displays on the screen

Scenario: 2.Listener receives a message in fast speed
When Listeners connect to the server/speaker
And listener can receive message
Then The result of translation or the appropriate error message displays on the screen

Scenario: 3. Speaker broadcasts message intermittent
When Listeners connect to the server/speaker
And listener can receive message
Then The result of translation or the appropriate error message displays on the screen

Translation & Analyst
Scenario: 1.Listener receives right broadcast from speaker
When Listener connects to the server/speaker
And Listener starts to receive broadcast message from speaker immediately
And Listener estimates the receiving message
Then The result of translation or the appropriate error message displays on the screen

Conclusion and review

1.Should have function to estimate the use condition of port before the connect to the listener.
2.Should optimized the word-base for translation.
3.Should avoid receiving messages indefinitely to wastes lots of memory and resources.
4.Should optimized voice speed control.