

# Connect-Sphere Black Box Testing Report

## Sign Up Screen

### Equivalence Class Partitioning

#### 1. Name

- Non-empty string
- Empty string

#### 2. Email

- Well-formed email addresses
- Missing "@"
- Domain not Specified

#### 3. Password

- Password with at least 8 characters
- Password with less than 8 characters

#### 4. Confirm Password

- Password with less than 8 characters
- Password with at least 8 characters

Name	Email	Password	Confirm Password	Expected Output	Actual Output	Sign Up Button	Reason
User	<a href="mailto:user@example.com">user@example.com</a>	User@123	User@123	Valid	Valid	Enabled	All fields are Valid
	<a href="mailto:user@example.com">user@example.com</a>	User@123	User@123	Invalid	Invalid	Disabled	Name is empty
User	userexample.com	User@123	User@123	Invalid	Invalid	Disabled	Missing '@'
User	user@example.	User@123	User@123	Invalid	Invalid	Disabled	Domain not Specified

Name	Email	Password	Confirm Password	Expected Output	Actual Output	Sign Up Button	Reason
User	<a href="mailto:user@example.com">user@example.com</a>	User@12	User@123	Invalid	Invalid	Disabled	Password is less than 8 characters and Confirm Password are not same
User	<a href="mailto:user@example.com">user@example.com</a>	User@12	User@12	Invalid	Invalid	Disabled	Password is less than 8 characters

## Boundary Value Analysis

### 1. Name

- Non-empty string
- Empty string

### 2. Email

- Empty
- Non-empty

### 3. Password

- Password is Valid (eg. User@123)
- Password is Invalid

### 4. Confirm Password

- Confirm Password is Valid
- Confirm Password is Invalid

Name	Email	Password	Confirm Password	Expected Output	Actual Output	Sign Up Button	Reason
User	<a href="mailto:user@example.com">user@example.com</a>	User@123	User@123	Valid	Valid	Enabled	All fields are Valid

Name	Email	Password	Confirm Password	Expected Output	Actual Output	Sign Up Button	Reason
	<a href="mailto:user@example.com">user@example.com</a>	User@123	User@123	Invalid	Invalid	Disabled	Name is empty
User		User@123	User@123	Invalid	Invalid	Disabled	Invalid Email address
User	<a href="mailto:user@example.com">user@example.com</a>	User@123		Invalid	Invalid	Disabled	Confirm Password is invalid
User	<a href="mailto:user@example.com">user@example.com</a>		User@123	Invalid	Invalid	Disabled	Password is invalid
				Invalid	Invalid	Disabled	All Fields are empty

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## Login Screen

### Equivalence Class Partitioning

#### 1. Email

- Email Address is Registered (eg. [user@example.com](mailto:user@example.com))
- Email Address is not Registered

#### 2. Password

- Password is Valid (eg. User@123)
- Password is not Valid

Email	Password	Expected Output	Actual Output	Reason
<a href="mailto:user@example.com">user@example.com</a>	User@123	Valid	Valid	Valid Email address and Valid Password
<a href="mailto:user@example.com">user@example.com</a>	User1234	Invalid	Invalid	Invalid Password
userexample.com	User@123	Invalid	Invalid	Invalid Email address

Email	Password	Expected Output	Actual Output	Reason
userexample.com	User1234	Invalid	Invalid	Invalid Email address and Invalid Password

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## Boundary Value Analysis

### 1. Email

- Email Address is Empty
- Email Address is not Empty

### 2. Password

- Password is Valid (eg. User@123)
- Password is not Valid

Email	Password	Expected Output	Actual Output	Reason
<a href="mailto:user@example.com">user@example.com</a>	User@123	Valid	Valid	Valid Email address and Valid Password
<a href="mailto:user@example.com">user@example.com</a>	User1234	Invalid	Invalid	Invalid Password
	User@123	Invalid	Invalid	Invalid Email address
		Invalid	Invalid	Invalid Email address and Invalid Password

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## Forget Password Screen

### Equivalence Class Partitioning Constraints

#### 1. Email Input (email)

- Well-formed email addresses
- Emails with uncommon but valid domains
- Emails with valid but uncommon formats
- Missing "@"
- Domain not Specified

## 2. Reset Password Button Interaction

- Button enabled when email input is valid
- Clicking the button triggers `resetPassword` successfully and shows an alert
- Button disabled when email input is invalid

Email Input	Reset Password Button	Expected Output	Actual Output	Reason
<a href="mailto:user@example.com">user@example.com</a>	Enabled	Valid	Valid	Valid Email address
<a href="mailto:user@sub.example.co.uk">user@sub.example.co.uk</a>	Enabled	Valid	Valid	Valid Email address
userexample.com	Disabled	Invalid	Invalid	Missing '@'
user@example.	Disabled	Invalid	Invalid	Domain not Specified

## Boundary Value Analysis Constraints

### 1. Email Input (`email`)

- Boundary Values:
  - Minimum Length:
    - Empty email: ""
    - Single character: "a"
  - Just Above Minimum:
    - "a@b" (invalid domain)
    - "[a@b.c](mailto:a@b.c)" (valid)

### 2. Button Interaction

- Boundary Values:
  - Button is disabled when email input length is 0
  - Button remains enabled for valid emails (e.g., "[user@example.com](mailto:user@example.com)")

Email Input	Reset Password Button	Expected Output	Actual Output	Reason
	Disabled	Invalid	Invalid	Empty Email
a	Disabled	Invalid	Invalid	Invalid Email

Email Input	Reset Password Button	Expected Output	Actual Output	Reason
<a href="mailto:a@b.c">a@b.c</a>	Enabled	Invalid	Invalid	Valid but uncommon format
<a href="mailto:user@example.com">user@example.com</a>	Enabled	Valid	Valid	Valid email

## Create Post Screen

### Equivalence Class Partitioning

#### 1. Post Content

- Non-empty text content
- Empty text content
- Text with media attachment

#### 2. Media Upload

- Valid image formats (jpg, png, gif)
- Valid video formats (mp4)
- Invalid file formats
- File size within limit (<10MB)
- File size exceeds limit (>10MB)

#### 3. Visibility

- Public
- Followers only
- Private

Content	Media	Visibility	Expected Output	Actual Output	Post Button	Reason
"Hello World"	None	Public	Valid	Valid	Enabled	Valid text post
	image.jpg (2MB)	Public	Valid	Valid	Enabled	Valid media-only post
"Test post"	image.jpg (2MB)	Followers	Valid	Valid	Enabled	Valid post with media

Content	Media	Visibility	Expected Output	Actual Output	Post Button	Reason
		Public	Invalid	Invalid	Disabled	No content provided
"Test"	file.exe	Public	Invalid	Invalid	Disabled	Invalid file format
"Test"	video.mp4 (15MB)	Public	Invalid	Invalid	Disabled	File size exceeds limit

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## Boundary Value Analysis

### 1. Caption Length

- 0 characters (empty - invalid if no media)
- 1 character (minimum valid with media)
- 1000 characters (maximum valid)
- 1001 characters (exceeds limit)

### 2. Media Size

- 0 bytes (no file)
- 10MB (maximum allowed)
- 10.1MB (exceeds limit)

Caption Length	Media Size	Expected Output	Actual Output	Reason
0	2MB image	Valid	Valid	Media-only post allowed
500	None	Valid	Valid	Within character limit
1000	None	Valid	Valid	At maximum limit
1001	None	Invalid	Invalid	Exceeds character limit
100	10MB	Valid	Valid	At maximum file size
100	11MB	Invalid	Invalid	Exceeds file size limit

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## Post Interactions (Like, Comment, Share, Bookmark)

## Equivalence Class Partitioning

### 1. Like Action

- User not logged in
- User logged in, post not liked
- User logged in, post already liked

### 2. Comment Action

- Empty comment text
- Valid comment text
- Comment text exceeds limit

### 3. Bookmark Action

- Post not bookmarked
- Post already bookmarked

Action	User State	Current State	Input	Expected Output	Actual Output	Reason
Like	Logged In	Not Liked	Click	Like Added, Count +1	Like Added	Valid like action
Like	Logged In	Already Liked	Click	Like Removed, Count -1	Like Removed	Toggle unlike
Like	Not Logged In	N/A	Click	Error Toast	Error Toast	Authentication required
Comment	Logged In	N/A	"Great post!"	Comment Added	Comment Added	Valid comment
Comment	Logged In	N/A	""	No Action	No Action	Empty comment blocked
Bookmark	Logged In	Not Saved	Click	Bookmark Added	Bookmark Added	Valid bookmark
Bookmark	Logged In	Already Saved	Click	Bookmark Removed	Bookmark Removed	Toggle unbookmark

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## Stories Feature

## Equivalence Class Partitioning

### 1. Story Upload

- Valid image file (jpg, png)
- Valid video file (mp4, ≤60s)
- Invalid file format
- Video exceeds duration limit

### 2. Story Visibility

- User is story owner
- User follows story owner
- User does not follow story owner

### 3. Story Actions

- View own story
- Delete own story
- Attempt to delete others' story

Action	File Type	User Role	Expected Output	Actual Output	Reason
Upload	image.jpg (2MB)	Owner	Story Created	Story Created	Valid image upload
Upload	video.mp4 (30s)	Owner	Story Created	Story Created	Valid video upload
Upload	file.pdf	Owner	Error	Error	Invalid file format
Upload	video.mp4 (90s)	Owner	Error	Error	Video exceeds 60s limit
View	N/A	Follower	Story Displayed	Story Displayed	Follower can view
View	N/A	Non-Follower	Hidden	Hidden	Non-follower restricted
Delete	N/A	Owner	Story Deleted	Story Deleted	Owner can delete
Delete	N/A	Non-Owner	403 Forbidden	403 Forbidden	RLS policy blocks

## Boundary Value Analysis (Story Expiry)

## 1. Story Duration

- 0 hours after creation (active)
- 23 hours 59 minutes (still active)
- 24 hours exactly (expired)
- 24 hours 1 minute (expired)

Time Since Creation	Expected Status	Actual Status	Reason
0 hours	Active	Active	Just created
12 hours	Active	Active	Within 24h window
23h 59m	Active	Active	Just before expiry
24h 0m	Expired	Expired	Exactly at expiry
25 hours	Expired	Expired	Past expiry

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# Direct Messages

## Equivalence Class Partitioning

### 1. Message Content

- Text message (valid)
- Empty message
- Message with emoji only
- Message with media attachment

### 2. Recipient Status

- User is a follower
- User is blocked
- User has blocked sender

### 3. Attachment

- Valid image ( $\leq 5\text{MB}$ )
- Invalid file type
- File exceeds size limit

Message	Recipient Status	Attachment	Expected Output	Actual Output	Send Button	Reason
"Hello!"	Follower	None	Message Sent	Message Sent	Enabled	Valid text message
"😊"	Follower	None	Message Sent	Message Sent	Enabled	Emoji-only valid
	Follower	image.jpg (2MB)	Message Sent	Message Sent	Enabled	Media-only valid
"Hi"	Blocked	None	Error Banner	Error Banner	Disabled	Cannot message blocked user
"Hi"	Has Blocked Sender	None	Error Banner	Error Banner	Disabled	Sender is blocked
"Test"	Follower	file.exe	Error	Error	Disabled	Invalid file type
"Test"	Follower	image.jpg (8MB)	Error	Error	Disabled	File exceeds 5MB limit

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## Boundary Value Analysis

### 1. Message Length

- 0 characters (invalid without media)
- 1 character (minimum valid)
- 2000 characters (maximum)
- 2001 characters (exceeds limit)

Message Length	Media	Expected Output	Actual Output	Reason
0	None	Invalid	Invalid	Empty message blocked
0	image.jpg	Valid	Valid	Media-only allowed
1	None	Valid	Valid	Minimum text length
2000	None	Valid	Valid	At maximum limit
2001	None	Invalid	Invalid	Exceeds character limit

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# Community Management

## Equivalence Class Partitioning

### 1. Community Creation

- User is verified creator
- User is not verified

### 2. Membership Type

- Free community
- Paid community with valid price
- Paid community with price = 0
- Paid community without price

### 3. Community Name

- Valid name (3-50 characters)
- Name too short (<3 characters)
- Name too long (>50 characters)

User Status	Membership Type	Price	Name	Expected Output	Actual Output	Reason
Verified	Free	N/A	"Tech Enthusiasts"	Community Created	Community Created	Valid free community
Verified	Paid	₹99	"Premium Club"	Community Created	Community Created	Valid paid community
Verified	Paid	0	"Test"	Error	Error	Price must be > 0
Verified	Paid		"Test"	Error	Error	Price required for paid
Not Verified	Free	N/A	"My Community"	Error	Error	Only verified creators
Verified	Free	N/A	"AB"	Error	Error	Name too short

## Boundary Value Analysis

## 1. Community Name Length

- 2 characters (below minimum)
- 3 characters (minimum valid)
- 50 characters (maximum valid)
- 51 characters (exceeds limit)

## 2. Description Length

- 0 characters (valid - optional)
- 500 characters (maximum)
- 501 characters (exceeds limit)

Name Length	Description Length	Expected Output	Actual Output	Reason
2	0	Invalid	Invalid	Name below minimum (3)
3	0	Valid	Valid	Minimum name length
50	100	Valid	Valid	Maximum name length
51	100	Invalid	Invalid	Name exceeds limit
10	500	Valid	Valid	Maximum description
10	501	Invalid	Invalid	Description exceeds limit

# Moderation & Reporting

## Equivalence Class Partitioning

### 1. Report Submission

- Valid report with description
- Report without description
- Report with evidence URLs

### 2. Report Categories

- Spam
- Harassment
- Hate Speech
- Inappropriate Content

- Other

### 3. User Roles

- Regular user submitting report
- Moderator reviewing report
- Admin issuing ban

Action	User Role	Input	Expected Output	Actual Output	Reason
Submit Report	Regular User	Spam + Description	Report Created	Report Created	Valid report
Submit Report	Regular User	Category Only	Report Created	Report Created	Description optional
Review Report	Moderator	Change to Under Review	Status Updated	Status Updated	Valid status change
Dismiss Report	Moderator	Resolution Note	Report Dismissed	Report Dismissed	Valid dismissal
Issue Ban	Admin	7-day preset	Ban Active	Ban Active	Valid ban action
Lift Ban	Admin	Click Undo	Ban Lifted	Ban Lifted	Valid unban action

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## Ban Duration Boundary Value Analysis

### 1. Ban Presets

- 1 day
- 3 days
- 7 days
- 30 days
- 90 days
- Indefinite

### 2. Custom Date

- Date in the past (invalid)
- Current date (invalid)
- Future date (valid)

Ban Type	Duration/Date	Expected Output	Actual Output	Reason
Preset	1 day	Ban until tomorrow	Ban Active	Valid preset
Preset	7 days	Ban for 7 days	Ban Active	Valid preset
Preset	Indefinite	Permanent ban	Ban Active	No expiry date
Custom	Yesterday	Error	Error	Date must be future
Custom	Today	Error	Error	Date must be future
Custom	Next week	Ban Active	Ban Active	Valid future date

## Profile Management

### Equivalence Class Partitioning

#### 1. Display Name

- Valid name ( $\geq 3$  characters)
- Name too short ( $< 3$  characters)
- Empty name

#### 2. Username

- Valid username (lowercase, numbers, underscore)
- Username with special characters
- Username already taken

#### 3. Avatar Upload

- Valid image (jpg, png)
- Invalid file format
- File too large

#### 4. Bio

- Valid bio ( $\leq 500$  characters)
- Bio exceeds limit

Field	Input	Expected Output	Actual Output	Reason
Display Name	"John Doe"	Valid	Valid	Valid name

Field	Input	Expected Output	Actual Output	Reason
Display Name	"Jo"	Invalid	Invalid	Less than 3 characters
Display Name	""	Invalid	Invalid	Name required
Username	"john_doe123"	Valid	Valid	Valid format
Username	"John Doe!"	Invalid	Invalid	Special characters not allowed
Username	"existing_user"	Invalid	Invalid	Username taken
Avatar	profile.jpg (1MB)	Valid	Valid	Valid image
Avatar	document.pdf	Invalid	Invalid	Invalid format
Bio	"Hello..." (100 chars)	Valid	Valid	Within limit
Bio	(501 characters)	Invalid	Invalid	Exceeds 500 char limit

## Boundary Value Analysis

### 1. Display Name Length

- 2 characters (invalid)
- 3 characters (minimum valid)
- 50 characters (maximum valid)

### 2. Bio Length

- 0 characters (valid - optional)
- 500 characters (maximum)
- 501 characters (invalid)

Display Name Length	Bio Length	Expected Output	Actual Output	Reason
2	0	Invalid	Invalid	Name below minimum
3	0	Valid	Valid	Minimum name length
50	250	Valid	Valid	Within all limits
3	500	Valid	Valid	At maximum bio

Display Name Length	Bio Length	Expected Output	Actual Output	Reason
3	501	Invalid	Invalid	Bio exceeds limit

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## Search Functionality

### Equivalence Class Partitioning

#### 1. Query Length

- Empty query
- Single character
- Valid query ( $\geq 2$  characters)

#### 2. Search Results

- Users matching query
- Posts matching query
- No results found

#### 3. User Role Visibility

- Regular user searching
- Moderator searching (can see other moderators)

Query	User Role	Expected Output	Actual Output	Reason
""	Regular	No search triggered	No search	Empty query
"a"	Regular	No search triggered	No search	Below minimum length
"john"	Regular	Users & Posts shown	Results shown	Valid search
"mod_user"	Regular	User hidden	Hidden	Moderators hidden from regular users
"mod_user"	Moderator	User visible	Visible	Moderators can see each other
"xyz123abc"	Regular	No results	No results	No matching content

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## Boundary Value Analysis

### 1. Query Length

- 0 characters (no search)
- 1 character (no search)
- 2 characters (minimum for search)
- 100 characters (valid)

Query Length	Expected Behavior	Actual Behavior	Reason
0	Popover closed	Popover closed	No input
1	Popover closed	Popover closed	Below threshold
2	Search triggered	Search triggered	Minimum length met
50	Search triggered	Search triggered	Valid length

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## Follow/Unfollow Functionality

### Equivalence Class Partitioning

#### 1. Target Profile Type

- Public profile
- Private profile

#### 2. Current Follow Status

- Not following
- Following
- Request pending (private profile)

#### 3. User Authentication

- Logged in
- Not logged in

Profile Type	Current Status	Action	Expected Output	Actual Output	Reason
Public	Not Following	Follow	Following	Following	Instant follow

Profile Type	Current Status	Action	Expected Output	Actual Output	Reason
Public	Following	Unfollow	Not Following	Not Following	Unfollow success
Private	Not Following	Follow	Request Sent	Request Sent	Approval required
Private	Pending	Cancel	Request Cancelled	Request Cancelled	Cancel pending
Private	Following	Unfollow	Not Following	Not Following	Unfollow success
Any	N/A	Follow (not logged in)	Error Toast	Error Toast	Auth required

## Notifications

### Equivalence Class Partitioning

#### 1. Notification Types

- Like notification
- Comment notification
- Follow notification
- Mention notification
- Collaboration invite

#### 2. Notification State

- Unread
- Read

#### 3. Actions

- Click to navigate
- Mark as read
- Mark all as read

Notification Type	Action	Expected Output	Actual Output	Reason
Like	Click	Navigate to post	Navigated	Valid navigation

Notification Type	Action	Expected Output	Actual Output	Reason
Comment	Click	Navigate to comment	Navigated	Valid navigation
Follow	Click	Navigate to profile	Navigated	Valid navigation
Collab Invite	Click	Open invite modal	Modal opened	Valid action
Any (Unread)	Mark as read	Status updated	Updated	Valid action
All	Mark all as read	All marked read	All updated	Batch action

## Analytics Dashboard

### Equivalence Class Partitioning

#### 1. User Access

- Creator with posts
- Creator without posts
- Non-creator

#### 2. Date Range

- Last 7 days
- Last 30 days
- Custom range

#### 3. Metrics Display

- Followers count
- Impressions
- Engagement rate
- Total likes

User Type	Data Available	Expected Output	Actual Output	Reason
Creator	Has posts	Stats displayed	Stats displayed	Valid data
Creator	No posts	Empty state	Empty state	No data to show
Non-creator	N/A	Redirect to feed	Redirected	Access restricted

# Non-Functional Testing

## Performance Constraints

Metric	Target	Actual	Status
Feed Load Time	< 3 seconds	2.1 seconds	PASS
Time to Interactive	< 3 seconds	2.5 seconds	PASS
Cumulative Layout Shift	< 0.1	0.05	PASS
First Contentful Paint	< 1.5 seconds	1.2 seconds	PASS

## Accessibility Testing

Page	WCAG AA Issues	Target	Status
Login	2	≤5	PASS
Feed	4	≤5	PASS
Profile	3	≤5	PASS
Messages	5	≤5	PASS
Settings	2	≤5	PASS

## Security Testing

Test Case	Expected	Actual	Status
Unauthorized story delete	403 Forbidden	403 Forbidden	PASS
Unauthorized ban action	403 Forbidden	403 Forbidden	PASS
SQL injection in search	Sanitized	Sanitized	PASS
XSS in post content	Escaped	Escaped	PASS
Session persistence	Token valid	Token valid	PASS

## Test Execution Summary

Test Suite	Total Cases	Passed	Failed	Blocked	Pass Rate
Authentication	25	24	1	0	96%
Posts & Feed	35	33	2	0	94%
Stories	18	17	1	0	94%
Messaging	22	21	1	0	95%
Communities	20	19	1	0	95%
Moderation	15	15	0	0	100%
Profile	18	17	1	0	94%
Search	12	12	0	0	100%
Notifications	10	10	0	0	100%
Analytics	8	7	1	0	87%
<b>TOTAL</b>	<b>183</b>	<b>175</b>	<b>8</b>	<b>0</b>	<b>95.6%</b>