



Shri Vile Parle Kelavani Mandal's

**DWARKADAS J. SANGHVI COLLEGE OF ENGINEERING**

(Autonomous College Affiliated to the University of Mumbai)

NAAC Accredited with "A" Grade (CGPA : 3.18)



## Department of Information Technology

**COURSE CODE: DJS22ITL601**

**DATE:**

**COURSE NAME: Software Engineering Laboratory**

**CLASS: T.Y.BTech**

### EXPERIMENT NO.8

**CO/LO** Analyze real world problem using software engineering principles.

**AIM / OBJECTIVE:** Design test cases for testing the system

#### DESCRIPTION OF EXPERIMENT:

1. Identifying features to be tested
2. Identifying features not to be tested
3. Defining test strategy/ies for their project
4. Preparation test cases table.

**OUTPUT:** Test Case Table

#### QUESTIONS:

1. What are the differences between positive and negative test cases, and why is it important to include both types in a test suite?
2. What are some typical challenges or pitfalls that teams encounter when developing and executing test cases, and what strategies can be employed to overcome these obstacles and enhance the effectiveness of the testing process?

#### REFERENCES

1. [www.techtarget.com](http://www.techtarget.com)



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### User Profile Testing

Test ID	Test Description	Test Data	Expected Result	Actual Result	Status
UP-01	Verify user profile loads correctly with valid username	Username: "tourist"	Profile displays with correct name, country, rating, rank		
UP-02	Verify handling of non-existent username	Username: "nonexistentuser12345"	Appropriate error message displayed		
UP-03	Verify handling of invalid username format	Username: "user@123"	Validation error message displayed		
UP-04	Verify display of user avatar	Username: "tourist"	User avatar loads properly		
UP-05	Verify handling when Codeforces API is down	Simulate API failure	Graceful error handling with retry option		



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**Department of Information Technology****Contest Performance Visualization Testing**

Test ID	Test Description	Test Data	Expected Result	Actual Result	Status
CV-01	Verify contest history graph displays correctly	Username: "tourist"	Graph shows rating changes over time		
CV-02	Verify contest filtering by date range	Date range: last 12 months	Only contests within specified range displayed		
CV-03	Verify handling of user with no contest history	Username: new user	Message indicating no contest history		
CV-04	Verify tooltip information on graph points	Hover over contest point	Tooltip shows contest name, date, rank, rating change		
CV-05	Verify graph responsiveness on different screen sizes	Various device dimensions	Graph resizes appropriately		



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**Department of Information Technology****Problem Statistics Testing**

Test ID	Test Description	Test Data	Expected Result	Actual Result	Status
PS-01	Verify problem tag distribution chart	Username: "tourist"	Chart shows distribution of solved problems by tag		
PS-02	Verify problem difficulty distribution	Username: "tourist"	Chart shows distribution of solved problems by difficulty		
PS-03	Verify unsolved problems listing	Username: "tourist"	List of attempted but unsolved problems		
PS-04	Verify solved problem count accuracy	Username: "tourist"	Count matches Codeforces API data		
PS-05	Verify problem statistics sorting functionality	Sort by difficulty	Problems sorted in correct order		



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**Department of Information Technology****User Comparison Features Testing**

Test ID	Test Description	Test Data	Expected Result	Actual Result	Status
UC-01	Verify comparison of two valid users	Username: "tourist", "Petr"	Side-by-side comparison with correct stats		
UC-02	Verify comparison with one invalid user	Username: "tourist", "invaliduser123"	Error for invalid user, valid data for valid user		
UC-03	Verify max number of users for comparison	Add 6 users for comparison	System should limit or handle appropriately		
UC-04	Verify comparative strengths highlighting	Compare users with different skill distributions	Strengths/weaknesses highlighted correctly		
UC-05	Verify comparison data export	Export comparison data	Data exports in correct format with accurate information		



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**Department of Information Technology****Integration Testing**

Test ID	Test Description	Test Data	Expected Result	Actual Result	Status
IT-01	Verify integration with Codeforces API	Various API endpoints	All required endpoints accessible and data parsed correctly		
IT-02	Verify browser extension integration if applicable	Install extension	Extension communicates properly with visualizer		
IT-03	Verify data export to external tools	Export data to CSV/JSON	Data exports in correct format and is importable		
IT-04	Verify links to Codeforces problems/contests	Click on problem links	Correct Codeforces page opens		
IT-05	Verify social sharing functionality	Share user profile	Correct data and links in shared content		