

Function	#	Description	Sample Input Data	Expected Output	Actual Output	P/F
main_menu	1	User selects login	1	Redirects to login page	Redirects to login page	P
	2	User selects admin module	2	Redirects to administrator module	Redirects to administrator module	P
	3	User enters invalid choice	6	Invalid choice. Please try again.	Invalid choice. Please try again.	P
Function	#	Description	Sample Input Data	Expected Output	Actual Output	P/F
Clean	1	Removes newline from input	"Diana\n"	Variable becomes "Diana"	Variable becomes "Diana"	P
	2	Removes newline from input	"Dustine\n"	Variable becomes "Dustine"	Variable becomes "Dustine"	P
	3	Removes newline from input	"user\nname"	Variable becomes "username"	Variable becomes "username"	P
Function	#	Description	Sample Input Data	Expected Output	Actual Output	P/F
Search	1	User exists in the system	"Diana"	Returns the index of the user, indicating user exists	Returns the index of the user, indicating user exists	P
	2	Another valid user	"Dustine"	Returns the index of the user, indicating user exists	Returns the index of the user, indicating user exists	P
	3	User does not exist	"Bob"	Returns -1	Returns -1	P

Function	#	Description	Sample Input Data	Expected Output	Actual Output	P/F
updateUser nameInFiles	1	Successful update	Old username = "Dustine"  New username = "Gian"	Username updated in the files	Username updated in the files	P
	2	Another successful update	Old username = "Diana"  New username = "Angela"	Username updated in the files	Username updated in the files	P
	3	Username not found	Old username = "Bob"  New username = "Mark"	Username not updated because the username is not found	Username not updated because the username is not found	P
Function	#	Description	Sample Input Data	Expected Output	Actual Output	P/F
save_accounts	1	Saves user accounts	An array of users	Accounts saved in "accounts.txt"	Accounts saved in "accounts.txt"	P
	2	Saves user connections	Personal connections of the users in an array	Personal connections saved in "personal_connections.txt"	Personal connections saved in "personal_connections.txt"	P
	3	Handles file error	Null "personal_connections.txt" file	Error opening file(s)!	Error opening file(s)!	P
Function	#	Description	Sample Input Data	Expected Output	Actual Output	P/F

compose_message	1	Sends a personal message	Type: Personal message user.sender = "Diana" user.recipient = "Dustine" Subject = "Hello" Body = "Whats up"	Message sent	Message sent	P
	2	Sends an announcement	Type: Announcement user.sender = "Diana" user.recipient = "all" Subject = "Hi everyone" Body = "Hello guys"	Message sent	Message sent	P
	3	Fails to send group message	Type: Group message user.sender = "Dusine" user.recipients = null	No personal connections found	No personal connections found	P
<b>Function</b>	<b>#</b>	<b>Description</b>	<b>Sample Input Data</b>	<b>Expected Output</b>	<b>Actual Output</b>	<b>P/F</b>
reply	1	Sends a personal reply	user.sender = "Diana" user.recipient = "Dustine" Body = "I'm good!"	Reply sent	Reply sent	P
	2	Fails to send a group reply due to reading error	user.sender = "Diana" user.recipients = personal	Error reading messages for group reply.	Error reading messages for group reply.	P

			connections Body = 1500- word message			
	3	Fails to save reply due to excessive length	user.sender = "Diana" user.recipient = "Dustine" Body = 2000-word message	Error saving reply. The reply was not stored.	Error saving reply. The reply was not stored.	P
<b>Function</b>	<b>#</b>	<b>Description</b>	<b>Sample Input Data</b>	<b>Expected Output</b>	<b>Actual Output</b>	<b>P/F</b>
view_anno uncements	1	Displays an announcement	Diana all Meet ing Reminder Tea m meeting at 3 PM.	From: Diana (@Diana) Subject: Meeting Reminder Message: Team meeting at 3 PM.	From: Diana (@Diana) Subject: Meeting Reminder Message: Team meeting at 3 PM.	P
	2	No announcements available	User has no announcemen ts	No announcement s found.	No announcement s found.	P
	3	Displays a reply announcement	Dustine Diana  User "Dustine" replied to Subject "Meeting Reminder" No ted	From:Dustine (@Dustine) Subject: User "Dustine" replied to Subject "Meeting Reminder" Message: Noted	From:Dustine (@Dustine) Subject: User "Dustine" replied to Subject "Meeting Reminder" Message: Noted	P
<b>Function</b>	<b>#</b>	<b>Description</b>	<b>Sample Input Data</b>	<b>Expected Output</b>	<b>Actual Output</b>	<b>P/F</b>
view_inbox	1	Displays a personal	Diana Dustine  Hello What's	From: Diana (@Diana)	From: Diana (@Diana)	P

		message	up?	Subject: Hello Message: What's up? From: Diana (@Diana) Subject: Hello Message: What's up?	Subject: Hello Message: What's up? From: Diana (@Diana) Subject: Hello Message: What's up?	
	2	No messages available	The user has no messages in the inbox	No messages found.	No messages found.	P
	3	Displays a group message	Diana Dustine , Project Update Meeti ng at 5 PM. Diana John, P roject Update Meeti ng at 5 PM. Diana Marry Pr oject Update Meeti ng at 5 PM.	From: Diana (@Diana) Subject: Project Update Message: Meeting at 5 PM. Other Recipients: John, Mary	From: Diana (@Diana) Subject: Project Update Message: Meeting at 5 PM. Other Recipients: John, Mary	P
<b>Function</b>	<b>#</b>	<b>Description</b>	<b>Sample Input Data</b>	<b>Expected Output</b>	<b>Actual Output</b>	<b>P/F</b>
modify_per sonal_info	1	Changes name	Current name: Diana New Name: "Angela"	Changes Saved!	Changes Saved!	P
	2	Changes description	User = Diana Old description: DEFAULT New Description: "Data Scientist"	Changes Saved!	Changes Saved!	P
	3	Password confirmation fails	Password = 123 Enter password to	Please enter password again	Please enter password again	P

			confirm: 124			
<b>Function</b>	<b>#</b>	<b>Description</b>	<b>Sample Input Data</b>	<b>Expected Output</b>	<b>Actual Output</b>	<b>P/F</b>
modify_account_security	1	Confirming current password	Choice = 1	Enter your current password:	Enter your current password:	P
	2	Updating security answer	Enter new answer to your security question: pizza Re-enter new answer: pizza	Security answer updated successfully!	Security answer updated successfully!	P
	3	Password mismatch	Enter new password: 124 Re-enter new password:123	Passwords do not match. Please try again.	Passwords do not match. Please try again.	P
<b>Function</b>	<b>#</b>	<b>Description</b>	<b>Sample Input Data</b>	<b>Expected Output</b>	<b>Actual Output</b>	<b>P/F</b>
view_sent_messages	1	Sent a personal message	Diana Dustine , Hello What's up?	To: Dustine (@Dustine) Subject: Hello Message: What's up?	To: Dustine (@Dustine) Subject: Hello Message: What's up?	P
	2	No messages sent	The user has no messages sent	No messages found.	No messages found.	P
	3	Sent an announcement	Diana all Meeting Reminder Team meeting at 3 PM.	To: all Subject: Meeting Reminder Message: Team meeting at 3 PM.	To: all Subject: Meeting Reminder Message: Team meeting at 3 PM.	P

Function	#	Description	Sample Input Data	Expected Output	Actual Output	P/F
modify_personal_connections	1	Adding a new connection	User: Diana New Connection: John	Personal connection added successfully.	Personal connection added successfully.	P
	2	Adding an existing connection	User: Diana New Connection: Dustine (already in the list)	User already in your personal connections.	User already in your personal connections.	P
	3	Removing an existing connection	User: Diana Connection to remove: Dustine	User removed from personal connections.	User removed from personal connections.	P
Function	#	Description	Sample Input Data	Expected Output	Actual Output	P/F
browse_users	1	Displaying all users	Enter your choice: 1	All Users: 1. Diana (@Diana) 2. Dustine (@Dustine) 3. John (@John)	All Users: 1. Diana (@Diana) 2. Dustine (@Dustine) 3. John (@John)	P
	2	Adding a user	Selected Option: 1 (Add as Personal Connection)	User added to personal connections successfully.	User added to personal connections successfully.	P
	3	Sending a private message	Selected Option: 2 (Private message)	Enter subject: Enter body:	Enter subject: Enter body:	P
Function	#	Description	Sample Input Data	Expected Output	Actual Output	P/F

user_module	1	Selecting Compose Message	Choice = 1	Calls the compose message function	Callls the compose message function	P
	2	Selecting Modify Personal Info	Choice = 5	Calls the modify personal info function	Calls the modify personal info function	P
	3	Selecting an Invalid Option	Choice = 10	Invalid choice. Please enter a number between 1 and 9.	Invalid choice. Please enter a number between 1 and 9.	P
<b>Function</b>	<b>#</b>	<b>Description</b>	<b>Sample Input Data</b>	<b>Expected Output</b>	<b>Actual Output</b>	<b>P/F</b>
create_new_acc	1	Successful Account Creation	Name: Diana Username: Diana123 Password: SecurePass123 Re-enter Password: SecurePass123 Security Question: "What is your favorite color?" Answer: Blue	Account created!	Account created!	P
	2	Password Mismatch	Name: Diana Username: Diana123 Password: SecurePass123 Re-enter Password: WrongPass456	Passwords do not match. Please enter again.	Passwords do not match. Please enter again.	P



	3	Successful Account Creation	Name: Diana Username: DIANA123 Password: SecurePass123 Re-enter Password: SecurePass123 Security Question: "What is your favorite animal?" Answer: Cat	Account created!	Account created!	P
<b>Function</b>	<b>#</b>	<b>Description</b>	<b>Sample Input Data</b>	<b>Expected Output</b>	<b>Actual Output</b>	<b>P/F</b>
admin_users_module	1	View Users	Choice =1	Redirects to the view users function	Redirects to the view users function	P
	2	Return to Previous Menu	Choice = 2	Back	Back	P
	3	Invalid Option	Choice 3	Invalid choice. Please try again.	Invalid choice. Please try again.	P
<b>Function</b>	<b>#</b>	<b>Description</b>	<b>Sample Input Data</b>	<b>Expected Output</b>	<b>Actual Output</b>	<b>P/F</b>
messages_module	1	Verify the module can display all messages in the system	1	Name of the Sender: Dustine Recipient: All Subject: a Message: a	Name of the Sender: Dustine Recipient: All Subject: a Message: a	P
	2	Test filtering functionality by recipient	2	Filter by: 1. Sender 2. Recipient 3. Go Back Enter choice:	Filter by: 1. Sender 2. Recipient 3. Go Back Enter choice:	P

	3	Verify message deletion functionality	3	Enter subject of message to delete:	Enter subject of message to delete:	P
<b>Function</b>	<b>#</b>	<b>Description</b>	<b>Sample Input Data</b>	<b>Expected Output</b>	<b>Actual Output</b>	<b>P/F</b>
change_admin_password	1	Verify password updates correctly with valid current password and matching new passwords	Enter current admin password: d.cute	Enter new admin password: d.cute  Confirm new password: d.cute  Admin password updated successfully!	Enter new admin password: d.cute  Confirm new password: d.cute  Admin password updated successfully!	P
	2	Prevent changes when current password is wrong	Enter current admin password: d_not_cute	Incorrect password. Password change failed.	Incorrect password. Password change failed.	P
	3	Reject mismatched new password confirmations	Enter new admin password: d.cute  Confirm new password: d.super.cute	Passwords do not match. Try again.	Passwords do not match. Try again.	P
<b>Function</b>	<b>#</b>	<b>Description</b>	<b>Sample Input Data</b>	<b>Expected Output</b>	<b>Actual Output</b>	<b>P/F</b>
modify_user	1	Change Username	"2", "NewUser123"	"Username updated in files"	"Username updated in files"	P
	2	Add Personal Connection	"4", "1", "John"	"Personal connection added successfully."	"Personal connection added successfully."	P

	3	Remove Personal Connection	"4", "2", "Bob"	"User not found."	"User not found."	P
<b>Function</b>	<b>#</b>	<b>Description</b>	<b>Sample Input Data</b>	<b>Expected Output</b>	<b>Actual Output</b>	<b>P/F</b>
refresh_password	1	Resets the user's password to "default".	User: Diana	Password has been reset to 'default'.	Password has been reset to 'default'.	P
	2	Updates password request status to "no".	User: Dustine	Password reset, request status set to 'no'.	Password reset, request status set to 'no'.	P
	3	Saves changes to the accounts file.	User: John	Accounts updated in file.	Accounts updated in file.	P
<b>Function</b>	<b>#</b>	<b>Description</b>	<b>Sample Input Data</b>	<b>Expected Output</b>	<b>Actual Output</b>	<b>P/F</b>
delete_user	1	Delete an existing user	user[2] (index 2), user_counter = 5	User data replaced with "DELETED USER"	User data replaced with "DELETED USER"	P
	2	Delete first user (index 0)	user[0], user_counter = 5	User data replaced with "DELETED USER"	User data replaced with "DELETED USER"	P
	3	Delete last user	user[4] (index 4), user_counter = 5	User data replaced with "DELETED USER"	User data replaced with "DELETED USER"	P
<b>Function</b>	<b>#</b>	<b>Description</b>	<b>Sample Input Data</b>	<b>Expected Output</b>	<b>Actual Output</b>	<b>P/F</b>
login	1	Verify proper handling of wrong passwords	Username: Dustine Password: Doost	Incorrect password. Attempts left: 2	Incorrect password. Attempts left: 2	P
	2	Test automatic	Username:	Incorrect	Incorrect	P

		account locking	Dustine Password: Doost	password. Attempts left: 0 Account locked due to multiple failed login attempts.	password. Attempts left: 0 Account locked due to multiple failed login attempts.	
	3	Verify login with valid username/passw ord	Username: Diana Password: Diana!	===== USER MODULE ===== 1. Compose Message 2. View Inbox 3. View Sent Messages 4. View Announcement s 5. Modify Personal Info 6. Modify Account Security 7. Modify Personal Connections 8. Browse Users 9. Logout =====	===== USER MODULE ===== 1. Compose Message 2. View Inbox 3. View Sent Messages 4. View Announcement s 5. Modify Personal Info 6. Modify Account Security 7. Modify Personal Connections 8. Browse Users 9. Logout =====	P
<b>Function</b>	<b>#</b>	<b>Description</b>	<b>Sample Input Data</b>	<b>Expected Output</b>	<b>Actual Output</b>	<b>P/F</b>
view_users	1	Modify user	choice = 3	modify_user function is called	modify_user function is called	P
	2	Refresh user password	choice = 4	refresh_passw ord function is called	refresh_passw ord function is called	P
	3	Exit function	choice = 7	Exits the function	Exits the function	P

Function	#	Description	Sample Input Data	Expected Output	Actual Output	P/F
view_messages	1	Handle case when no messages exist.	messages.txt is empty	No messages found.	No messages found.	P
	2	View a system-wide announcement.	Compose message is an Announcement (recipient All)	Name of the Sender: Dustine Recipient: All Subject: a Message: a	Name of the Sender: Dustine Recipient: All Subject: a Message: a	P
	3	View a single message in the system.	Compose message is Personal Message	Name of the Sender: Dustine Recipient: Diana Other Recipients: None Subject: Meeting Message: Let's meet at 3pm	Name of the Sender: Dustine Recipient: Diana Other Recipients: None Subject: Meeting Message: Let's meet at 3pm	P
Function	#	Description	Sample Input Data	Expected Output	Actual Output	P/F
view_messages_by_filter	1	Verify messages are filtered correctly when searching by sender.	Filter by Sender:Dustine	From: Dustine To: Diana Subject: Hello Message: Hi there ----- --	From: Dustine To: Diana Subject: Hello Message: Hi there ----- --	P
	2	Verify proper handling when filtering by a username that doesn't exist.	Filter by Sender:Doostain	No messages found for the specified filter.	No messages found for the specified filter.	P

	3	Verify behavior when no messages exist.	Empty messages.txt file.	No messages found.	No messages found.	P
<b>Function</b>	<b>#</b>	<b>Description</b>	<b>Sample Input Data</b>	<b>Expected Output</b>	<b>Actual Output</b>	<b>P/F</b>
delete_message	1	Successfully delete a message when subject and body match exactly.	Enter subject: "Hello"  Enter body: "Hi there"	Message(s) deleted successfully.	Message(s) deleted successfully.	P
	2	No deletion when only the subject matches but body differs.	Enter subject: "Hello"  Enter body: "different body text"	Message(s) not found.	Message(s) not found.	P
	3	Verify behavior when no messages exist.	Empty messages.txt file.	No messages to delete.	No messages to delete.	P
<b>Function</b>	<b>#</b>	<b>Description</b>	<b>Sample Input Data</b>	<b>Expected Output</b>	<b>Actual Output</b>	<b>P/F</b>
administrator_module	1	Verify access with correct admin password	Enter Administrator Password:delete	===== ADMINISTRATOR MODULE ===== 1. Users Module 2. Messages Module 3. Change Admin Password 4. Back to Main Menu ===== ===== ===== Enter choice:	===== ADMINISTRATOR MODULE ===== 1. Users Module 2. Messages Module 3. Change Admin Password 4. Back to Main Menu ===== ===== ===== Enter choice:	P

	2	Verify rejection of incorrect password	Enter Administrator Password:d_not_cute	Enter Administrator Password:d_not_cute Incorrect password. Access denied.	Enter Administrator Password:d_not_cute Incorrect password. Access denied.	P
	3	Verify navigation to user management	Enter choice:4	===== MAIN PAGE ===== 1. Log in Menu 2. Administrator module 3. Exit =====	===== MAIN PAGE ===== 1. Log in Menu 2. Administrator module 3. Exit =====	P
Function	#	Description	Sample Input Data	Expected Output	Actual Output	P/F
forgot_password	1	Valid user requests password reset with correct security answer	Enter your username: Dustine Security Question: What is your favorite song? Answer: Happy Birthday	Password change requested!	Password change requested!	P
	2	Prevent reset with wrong security answer	Enter your username: Dustine Security Question: What is your favorite song? Answer: Happy Happy Birthday	Incorrect answer. Request failed.	Incorrect answer. Request failed.	P
	3	Handling users that don't exist	Enter your username:Do	Username not found Please	Username not found Please	P

			ostain	try again.	try again.	
Function	#	Description	Sample Input Data	Expected Output	Actual Output	P/F
login_page	1	Verify valid user can log in	User input = 1	Username: Diana Password: Diana!	Username: Diana Password: Diana!	P
	2	Prevent new accounts at limit	User input = 2	Maximum users reached	Maximum users reached	P
	3	Verify back option	User input = 4	Returning to Main Menu...  ===== MAIN PAGE ===== 1. Log in Menu 2. Administrator module 3. Exit =====	Returning to Main Menu...  ===== MAIN PAGE ===== 1. Log in Menu 2. Administrator module 3. Exit =====	P