

SSR 海大全興書院座位預約系統

測試文件

專案名稱	SSR 海大全興書院座位預約系統
撰寫日期	2023/12/26
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版次變更記錄

版次	變更項目	變更日期
0.1	初版	2023/12/26
0.2	單元測試案例	2023/12/31
0.3	單元測試補齊, 系統測試補齊, 追溯表補齊, 測試結果與分析補齊。	2024/01/05

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1. 測試目的與接受準則(Objectives and Acceptance Criteria)

1.1 系統範圍(System Scope)

- 網頁端: 前端 => 90% , 後端 =>100%
- CLI: 前端 => 90% , 後端 =>100%

1.2 測試接受準則(Test Acceptance Criteria)

本測試計劃需要滿足下面的測試接受準則:

測試程序需要依照本測試計劃所訂定的程序進行, 所有測試結果需要能符合預期測試結果方能接受。

- 當測試案例未通過時, 相關模組開發之負責人需要進程式修改(修復bug或改動功能), 以能讓此案例重新通過測試。
- 重新進行測試時, 測試人員需確認其他可能受影響的案例仍可正確執行。

2. 測試環境(Testing Environment)

1.3 硬體需求(Hardware Specification and Configuration)

項次	名 稱	數量	規 格	備 註
1	TUF Gaming F15	1	16G RAM, 1TB SSD	Windows系統
2	ROG Zephyrus G14	1	32G RAM	Windows系統

1.4 軟體需求(Software Specification and Configuration)

項次	名 稱	數量	規 格	備 註
1	chrome	1	版本120.0.6099.111 (正式版本)	Client端 伺服器
2	postman	1	version 10.21	

1.5 測試資料來源(Test Data Sources)

自行開發測試資料

1.6 測試工具與設備(Tools and Equipment)

單元測試使用Postman、Jmeter。系統測試我們採用使用者直接操作的方式，將事先設計好的案例來對我們的系統進行操作，再將結果打上。

3. 測試案例(Test Cases)

3.1 單元測試(Unit Test)

3.1.1 帳號後端模組

Test Case 1	
Test Case ID	STC-001
Test Function Name	test_register_request()
Test Proposal	嘗試輸入註冊正確的使用者資訊
Input	user_name: "testuser" password: "testpassword" email: "test@email.ntou.edu.tw"
Expected Output	註冊成功,回傳OK
Real Output	OK
Test Result	True

Test Case 2	
Test Case ID	STC-002
Test Function Name	test_register_request()
Test Proposal	嘗試輸入註冊包含非法字符的使用者名稱
Input	user_name: "!testuser" password: "testpassword" email: "test@email.ntou.edu.tw"
Expected Output	註冊失敗,回傳Err
Real Output	Err
Test Result	True

Test Case 3	
Test Case ID	STC-003
Test Function Name	test_register_request()
Test Proposal	嘗試輸入註冊太短的密碼
Input	user_name: "testuser" password: "short" email: "test@email.ntou.edu.tw"

Expected Output	註冊失敗,回傳Err
Real Output	Err
Test Result	True

Test Case 4	
Test Case ID	STC-004
Test Function Name	test_register_request()
Test Proposal	嘗試輸入註冊格式無效的電子郵件
Input	user_name: "testuser" password: "testpassword" email: "invalid_email"
Expected Output	註冊失敗,回傳Err
Real Output	Err
Test Result	True

Test Case 5	
Test Case ID	STC-005
Test Function Name	test_user_role_from_str()
Test Proposal	嘗試測試角色字串為Admin
Input	let admin_str = "Admin"
Expected Output	Admin為預設之角色,回傳OK
Real Output	OK
Test Result	True

Test Case 6	
Test Case ID	STC-006
Test Function Name	test_user_role_from_str()
Test Proposal	嘗試測試角色字串為RegularUser
Input	regular_user_str = "RegularUser"
Expected Output	Admin為預設之角色,回傳OK
Real Output	OK
Test Result	True

Test Case 7	
Test Case ID	STC-007
Test Function Name	test_user_role_from_str()
Test Proposal	嘗試測試角色字串為Notuserrole
Input	let invalid_str = "Notuserrole"
Expected Output	Notuserrole預設之角色,回傳Err
Real Output	Err
Test Result	True

Test Case 8	
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Test Case ID	STC-008
Test Function Name	test_validate_username()
Test Proposal	嘗試測試使用者名稱符合格式
Input	User_name="testuser"
Expected Output	符合格式,回傳OK
Real Output	OK
Test Result	True

Test Case 9	
Test Case ID	STC-009
Test Function Name	test_validate_username()
Test Proposal	嘗試測試使用者名稱不符合格式
Input	User_name="test user"
Expected Output	不符合格式,回傳Err
Real Output	Err
Test Result	True

Test Case 10	
Test Case ID	STC-010
Test Function Name	test_number_of_seats
Test Proposal	嘗試測試座位數量與預設值同為217
Input	NUMBER_OF_SEATS = 217
Expected Output	符合, 回傳OK
Real Output	OK
Test Result	True

Test Case 11	
Test Case ID	STC-011
Test Function Name	test_number_of_seats
Test Proposal	嘗試測試座位數量不為預設值217
Input	NUMBER_OF_SEATS = 218 && NUMBER_OF_SEATS = 216
Expected Output	不符合, 回傳OK
Real Output	OK
Test Result	True

Test Case 12	
Test Case ID	STC-012
Test Function Name	test_validate_reservation_request()
Test Proposal	嘗試測試預約結束時間晚於開始時間
Input	Start_time = i64(現在), end_time = i64(一小時後)
Expected Output	符合時間要求,回傳OK
Real Output	OK

Test Result	True
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Test Case 13	
Test Case ID	STC-013
Test Function Name	test_validate_reservation_request ()
Test Proposal	嘗試測試預約結束時間早於開始時間
Input	Start_time = i64(現在), end_time = i64(一小時前)
Expected Output	不符合時間要求,回傳Err
Real Output	Err
Test Result	True

Test Case 14	
Test Case ID	STC-014
Test Function Name	test_validate_update_reservation_request ()
Test Proposal	嘗試測試更改後的預約時間跟更改前在同一天
Input	Start_time = 現在, end_time = 一小時後 new_start_time = 兩小時後,new_end_time = 三小時後
Expected Output	符合要求, 回傳OK
Real Output	OK
Test Result	True

Test Case 15	
Test Case ID	STC-015
Test Function Name	test_validate_update_reservation_request ()
Test Proposal	嘗試測試更改後的預約時間跟更改前不在同一天
Input	start_time = naive_date_to_timestamp(now.date(), now.hour(), now.minute(), now.second()) end_time = naive_date_to_timestamp(now.date(), now.hour() + 1, now.minute(), now.second()) new_start_time = naive_date_to_timestamp(tomorrow, now.hour(), now.minute(), now.second()), new_end_time = naive_date_to_timestamp(tomorrow, now.hour() + 1, now.minute(), now.second())
Expected Output	不符合要求, 回傳Err
Real Output	Err
Test Result	True

Test Case 16	
Test Case ID	STC-016
Test Function Name	test_validate_delete_reservation_request ()
Test Proposal	嘗試測試刪除預約時間為正確時間
Input	start_time = naive_date_to_timestamp(now.date(),

	<code>now.hour(), now.minute(), now.second())</code> <code>end_time = naive_date_to_timestamp(now.date(),</code> <code>now.hour() + 1, now.minute(), now.second())</code>
Expected Output	正確, 回傳OK
Real Output	OK
Test Result	True

Test Case 17	
Test Case ID	STC-017
Test Function Name	<code>test_validate_delete_reservation_request ()</code>
Test Proposal	嘗試測試刪除預約時間為錯誤時間
Input	<code>start_time = naive_date_to_timestamp(now.date(),</code> <code>now.hour(), now.minute(), now.second())</code> <code>end_time = naive_date_to_timestamp(now.date(),</code> <code>now.hour() - 1, now.minute(), now.second())</code>
Expected Output	正確, 回傳Err
Real Output	Err
Test Result	True

Test Case 18	
Test Case ID	STC-018
Test Function Name	<code>test_validate_timeslot()</code>
Test Proposal	嘗試測試預約結束時間晚於開始時間
Input	<code>start_time = 1658401200, end_time = 1658424000</code>
Expected Output	正確, 回傳OK
Real Output	OK
Test Result	True

Test Case 19	
Test Case ID	STC-019
Test Function Name	<code>test_validate_reservation()</code>
Test Proposal	嘗試測試預約結束時間早於開始時間
Input	<code>start_time = 165842400, end_time = 1658401200</code>
Expected Output	正確, 回傳Err
Real Output	Err
Test Result	True

Test Case 20	
Test Case ID	STC-020
Test Function Name	<code>test_verify_jwt_user_info_claim ()</code>
Test Proposal	嘗試建立正確的測試用戶token編碼驗證JWT
Input	<code>let token = jsonwebtoken::encode(</code> <code>&jsonwebtoken::Header::default(),</code>

	<pre> &user_info_claim, &jsonwebtoken::EncodingKey::from_secret("your_secret_key") user_info_claim = UserInfoClaim { user: "testuser", role: UserRole::RegularUser, exp: 1234567890, } </pre>
Expected Output	正確, 回傳OK
Real Output	OK
Test Result	True

Test Case 21	
Test Case ID	STC-021
Test Function Name	test_seat_availability()
Test Proposal	嘗試建立錯誤的測試使用者token編碼驗證JWT
Input	invalid_token = "invalid_token";
Expected Output	正確. 回傳Err
Real Output	Err
Test Result	True

Test Case 22	
Test Case ID	STC-022
Test Function Name	test_verify_jwt_resend_verification_claim()
Test Proposal	嘗試建立正確的ResendVerificationClaim 類型的token驗證JWT編碼
Input	<pre> resend_verification_claim = ResendVerificationClaim { email: "test@email.ntou.edu.tw", verification_token: "verificationtoken", expiration: 1234567890, exp: 1234567890, } token = jsonwebtoken::encode(&jsonwebtoken::Header::default(), &resend_verification_claim, &jsonwebtoken::EncodingKey::from_secret("your_secret_key"), </pre>
Expected Output	正確, 回傳OK
Real Output	OK

Test Result	True
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Test Case 23	
Test Case ID	STC-023
Test Function Name	test_verify_jwt_resend_verification_claim()
Test Proposal	嘗試建立錯誤的ResendVerificationClaim 類型的token驗證JWT編碼
Input	invalid_token = "invalid_token"
Expected Output	正確, 回傳Err
Real Output	Err
Test Result	True

Test Case 24	
Test Case ID	STC-024
Test Function Name	test_from_request_user_info_claim()
Test Proposal	嘗試建立UserInfoClaim類型的token驗證包含 "Authorization" 標頭JWT
Input	<pre>token = jsonwebtoken::encode(&jsonwebtoken::Header::default(), &user_info_claim, &jsonwebtoken::EncodingKey::from_secret("your_secret_key")) user_info_claim = UserInfoClaim { user: "testuser", role: UserRole::RegularUser, exp: 1234567890, }</pre>
Expected Output	正確, 回傳OK
Real Output	OK
Test Result	True

Test Case 25	
Test Case ID	STC-025
Test Function Name	test_from_request_user_info_claim()
Test Proposal	嘗試建立ResendVerificationClaim類型的token驗證包含 "Authorization" 標頭JWT
Input	<pre>token = jsonwebtoken::encode(&jsonwebtoken::Header::default(), &resend_verification_claim, &jsonwebtoken::EncodingKey::from_secret("your_secret_key")) resend_verification_claim = ResendVerificationClaim {</pre>

	email: "test@email.ntou.edu.tw", verification_token: "verificationtoken", expiration: 1234567890, exp: 1234567890, }
Expected Output	正確, 回傳OK
Real Output	OK
Test Result	True

Test Case 26	
Test Case ID	STC-026
Test Function Name	test_validate_datetime()
Test Proposal	嘗試測試結束時間晚於開始時間
Input	start_time = naive_date_to_timestamp(now.date(), now.hour(), now.minute(), now.second()) end_time = naive_date_to_timestamp(now.date(), now.hour() + 1, now.minute(), now.second())
Expected Output	正確, 回傳OK
Real Output	OK
Test Result	True

Test Case 27	
Test Case ID	STC-027
Test Function Name	test_validate_datetime()
Test Proposal	嘗試測試結束時間早於開始時間
Input	start_time = naive_date_to_timestamp(now.date(), now.hour(), now.minute(), now.second()) end_time = naive_date_to_timestamp(now.date(), now.hour() - 1, now.minute(), now.second())
Expected Output	正確, 回傳Err
Real Output	Err
Test Result	True

Test Case 28	
Test Case ID	STC-028
Test Function Name	test_validate_datetime()
Test Proposal	嘗試測試結束時間在開始時間的隔天
Input	start_time = naive_date_to_timestamp(now.date(), now.hour(), now.minute(), now.second()) end_time = naive_date_to_timestamp(tomorrow, now.hour(), now.minute(), now.second())
Expected Output	正確, 回傳Err

Real Output	Err
Test Result	True

Test Case 29	
Test Case ID	STC-029
Test Function Name	test_on_the_same_day()
Test Proposal	嘗試測試開始與結束時間皆為今天
Input	<pre> start_time = naive_date_to_timestamp(now.date(), now.hour(), now.minute(), now.second()); end_time = naive_date_to_timestamp(now.date(), now.hour() + 1, now.minute(), now.second()) </pre>
Expected Output	正確, 回傳OK
Real Output	OK
Test Result	True

Test Case 30	
Test Case ID	STC-030
Test Function Name	test_on_the_same_day()
Test Proposal	嘗試測試開始時間為今天 結束時間為明天
Input	<pre> start_time = naive_date_to_timestamp(now.date(), now.hour(), now.minute(), now.second()) end_time = naive_date_to_timestamp(tomorrow, now.hour(), now.minute(), now.second()) </pre>
Expected Output	正確, 回傳Err
Real Output	Err
Test Result	True

Test Case 31	
Test Case ID	STC-031
Test Function Name	test_on_the_same_day()
Test Proposal	嘗試測試開始時間為今天 結束時間為昨天
Input	<pre> start_time = naive_date_to_timestamp(now.date(), now.hour(), now.minute(), now.second()) end_time = naive_date_to_timestamp(yesterday, now.hour(), now.minute(), now.second()) </pre>
Expected Output	正確, 回傳Err
Real Output	Err

Test Result	True
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Test Case 32	
Test Case ID	STC-032
Test Function Name	test_validate_seat_id()
Test Proposal	嘗試測試座位ID為正確的
Input	seat_id = 109
Expected Output	正確, 回傳OK
Real Output	OK
Test Result	True

Test Case 33	
Test Case ID	STC-033
Test Function Name	test_validate_seat_id()
Test Proposal	嘗試測試座位ID為錯誤的
Input	seat_id = 0 && seat_id = 218
Expected Output	正確, 回傳Err
Real Output	Err
Test Result	True

Test Case 34	
Test Case ID	STC-034
Test Function Name	test_insert_new_user_info()
Test Proposal	嘗試插入新的使用者資訊,檢查資料庫內是否有其資訊
Input	user_name: "testuser", password_hash: "testpassword", email: "test@email.ntou.edu.tw", user_role: user::UserRole::RegularUser, verified: false, verification_token: "randomtoken"
Expected Output	在資料庫內有資訊, 回傳OK
Real Output	OK
Test Result	True

Test Case 35	
Test Case ID	STC-035
Test Function Name	test_update_user_verified_by_token()
Test Proposal	嘗試測試提供token讓使用者通過驗證
Input	Pool, token = "testtoken"
Expected Output	驗證通過, 回傳True
Real Output	True
Test Result	True

Test Case 36	
Test Case ID	STC-036
Test Function Name	test_insert_user_to_blacklist()
Test Proposal	嘗試測試將使用者加入黑名單,檢查是否在黑名單內
Input	user_name = "testuser", start_time = 1600000000, end_time = 1700000000
Expected Output	正確, 回傳OK
Real Output	OK
Test Result	True

Test Case 37	
Test Case ID	STC-037
Test Function Name	test_delete_user_from_blacklist()
Test Proposal	嘗試測試將使用者移出黑名單,檢查是否還在黑名單內
Input	Pool, user_name = "testuser"
Expected Output	不正確, 回傳Err
Real Output	Err
Test Result	True

Test Case 38	
Test Case ID	STC-038
Test Function Name	test_is_user_in_blacklist()
Test Proposal	嘗試測試使用者在黑名單內
Input	Pool, user_name = "testuser"
Expected Output	正確, 回傳true
Real Output	true
Test Result	OK

Test Case 39	
Test Case ID	STC-039
Test Function Name	test_is_overlapping_with_unavailable_timeslot()
Test Proposal	嘗試測試檢查給定的時間範圍不與數據庫中的 "UnavailableTimeSlots"表格中的不可用時段重疊
Input	Pool, start_time = 1672531200, end_time = 1672540800
Expected Output	不重疊, 回傳OK
Real Output	OK
Test Result	True

Test Case 40	
Test Case ID	STC-040
Test Function Name	test_show_seats_status_by_time ()

Test Proposal	嘗試測試檢查給定的時間點在數據庫中的 "UnavailableTimeSlots"表格的不可用時段內
Input	Pool, time = 1640995200
Expected Output	正確, 回傳OK
Real Output	OK
Test Result	True

Test Case 41	
Test Case ID	STC-041
Test Function Name	test_is_within_unavailable_timeslot()
Test Proposal	嘗試測試檢查給定的時間點不在database中的 "UnavailableTimeSlots"表格的不可用時段內
Input	Pool, time = 1640995200
Expected Output	正確, 回傳OK
Real Output	OK
Test Result	True

Test Case 42	
Test Case ID	STC-042
Test Function Name	test_insert_unavailable_timeslot()
Test Proposal	嘗試加入不可用時段,判斷已被加入到database
Input	Pool, start_time = 1672531200, end_time = 1672540800
Expected Output	正確, 回傳OK
Real Output	OK
Test Result	True

Test Case 43	
Test Case ID	STC-043
Test Function Name	test_get_all_seats_status()
Test Proposal	嘗試驗證Seat表格中所有座位狀態
Input	Pool,time = get_now()
Expected Output	正確, 回傳OK
Real Output	OK
Test Result	True

Test Case 44	
Test Case ID	STC-044
Test Function Name	test_get_seats_status_in_specific_timeslots()
Test Proposal	嘗試驗證特定時段的Seat表格中所有座位狀態
Input	Pool,start_time = UNIX_EPOCH.elapsed().unwrap().as_secs() end_time = start_time + 3600

Expected Output	正確, 回傳OK
Real Output	OK
Test Result	True

Test Case 45	
Test Case ID	STC-045
Test Function Name	test_get_seat_reservations()
Test Proposal	嘗試驗證給定座位在指定時間範圍內的預約情況
Input	Pool,start_time = UNIX_EPOCH.elapsed().unwrap().as_secs() end_time = start_time + 3600 seat_id = 1
Expected Output	正確, 回傳OK
Real Output	OK
Test Result	True

Test Case 46	
Test Case ID	STC-046
Test Function Name	test_is_seat_available()
Test Proposal	驗證給定座位ID對應的座位可以用
Input	Pool,seat_id = 1
Expected Output	正確, 回傳True
Real Output	True
Test Result	True

Test Case 47	
Test Case ID	STC-047
Test Function Name	test_is_seat_available()
Test Proposal	驗證給定座位ID對應的座位不能用
Input	Pool,seat_id = 2
Expected Output	正確, 回傳False
Real Output	False
Test Result	True

Test Case 48	
Test Case ID	STC-048
Test Function Name	test_update_seat_availability()
Test Proposal	驗證正確更新給定座位ID對應的座位的可用性
Input	Pool, seat_id = 1, available = false
Expected Output	正確, 回傳True
Real Output	True
Test Result	True

Test Case 49	
Test Case ID	STC-049
Test Function Name	test_reserve_seat()
Test Proposal	嘗試測試成功預約座位
Input	user_name = "user1", seat_id = 1, start_time = 1641257600, end_time = 1641259200
Expected Output	正確, 回傳OK
Real Output	OK
Test Result	True

Test Case 50	
Test Case ID	STC-050
Test Function Name	test_reserve_seat()
Test Proposal	嘗試測試預約座位失敗
Input	user_name = "user1", seat_id = 0, start_time = 1641257600, end_time = 1641259200
Expected Output	錯誤, 回傳Err(Status::UnprocessableEntity)
Real Output	Err
Test Result	True

Test Case 51	
Test Case ID	STC-051
Test Function Name	test_reserve_seat()
Test Proposal	嘗試測試預約座位失敗
Input	user_name = "user1", seat_id = 1, start_time = 1641259200, end_time = 1641257600
Expected Output	錯誤, 回傳Err(Status::UnprocessableEntity)
Real Output	Err
Test Result	True

Test Case 52	
Test Case ID	STC-052
Test Function Name	test_reserve_seat()
Test Proposal	嘗試測試預約座位失敗
Input	user_name = "user1", seat_id = 1, start_time = 1641257400, end_time = 1641257800
Expected Output	錯誤, 回傳Err(Status::Conflict)
Real Output	Err
Test Result	True

Test Case 53	
Test Case ID	STC-053
Test Function Name	test_init_db()

Test Proposal	嘗試測試正確創建相應的表格並添加預設管理員帳號
Input	Pool, sqlx::query
Expected Output	正確, 回傳OK
Real Output	OK
Test Result	True

Test Case 54	
Test Case ID	STC-054
Test Function Name	test_insert_admin()
Test Proposal	嘗試測試加入管理員資訊
Input	admin_user = sqlx::query{user_name = "admin", password = "", user_role = "Admin", verified: true}
Expected Output	正確, 回傳OK
Real Output	OK
Test Result	True

Test Case 55	
Test Case ID	STC-055
Test Function Name	test_clear_table()
Test Proposal	嘗試測試清空資料庫的資料表
Input	count = sqlx::query
Expected Output	Count = 0, 回傳True
Real Output	True
Test Result	True

Test Case 56	
Test Case ID	STC-056
Test Function Name	test_init_unavailable_timeslots()
Test Proposal	嘗試測試正確初始化 UnavailableTimeSlots 表格, 將預設的不可用時段添加進database
Input	Pool, sqlx::query, start_time, end_time
Expected Output	正確, 回傳True
Real Output	True
Test Result	True

Test Case 57	
Test Case ID	STC-057
Test Function Name	test_init_seat_info()
Test Proposal	嘗試測試正確初始化座位資訊並檢查初始化後的座位數量和狀態
Input	Pool, sqlx::query, available: Vec<bool> = sqlx::query, NUMBER_OF_SEATS = 217
Expected Output	正確, 回傳True

Real Output	True
Test Result	True

Test Case 58	
Test Case ID	STC-058
Test Function Name	test_register()
Test Proposal	嘗試測試註冊有效的使用者資訊
Input	<pre> user_data = { "user_name": "istestuser", "password": "istestpassword123", "email": "istest@email.ntou.edu.tw } response = client .post(format!("{}/api/register", base_url)) .header(rocket::http::ContentType::JSON) .body(user_data) </pre>
Expected Output	正確, 回傳OK
Real Output	OK
Test Result	True

Test Case 59	
Test Case ID	STC-059
Test Function Name	test_register()
Test Proposal	嘗試測試註冊無效的使用者資訊, HTTP狀態碼為 Status::InternalServerError
Input	<pre> user_data = { "user_name": "istestuser", "password": "istestpassword123", "email": "istest@email.ntou.edu.tw } response = client .post(format!("{}/api/register", base_url)) .header(rocket::http::ContentType::JSON) .body(user_data) </pre>
Expected Output	正確, 回傳OK
Real Output	OK
Test Result	True

Test Case 60	
Test Case ID	STC-060
Test Function Name	test_register()
Test Proposal	嘗試測試註冊無效的使用者資訊, HTTP狀態碼為 HttpStatus::UnprocessableEntity
Input	<pre> user_data = { "user_name": "istestuser", "password": "istestpassword123", </pre>

	<pre>"email": "istest@email.ntou.edu.tw } response = client .post(format!("{}", api/register", base_url)) .header(rocket::http::ContentType::JSON) .body(user_data)</pre>
Expected Output	正確, 回傳OK
Real Output	OK
Test Result	True

Test Case 61	
Test Case ID	STC-061
Test Function Name	test_email_verify()
Test Proposal	嘗試測試email驗證成功
Input	<pre>verification_token = "248959e3-04be-4f97-bae0-95c7aeb5279d", client = Client::tracked(rocket::build()), base_url = get_base_url()</pre>
Expected Output	正確, 回傳OK
Real Output	OK
Test Result	True

Test Case 62	
Test Case ID	STC-062
Test Function Name	test_email_verify()
Test Proposal	嘗試測試email驗證缺少token
Input	<pre>client = Client::tracked(rocket::build()), base_url = get_base_url()</pre>
Expected Output	錯誤, 回傳Status::BadRequest
Real Output	Status::BadRequest
Test Result	True

Test Case 63	
Test Case ID	STC-063
Test Function Name	test_email_verify()
Test Proposal	嘗試測試email驗證失敗
Input	<pre>client = Client::tracked(rocket::build()) base_url = get_base_url(); invalid_token = "invalid-token"</pre>
Expected Output	錯誤, 回傳Status::NotFound
Real Output	Status::NotFound
Test Result	True

Test Case 64	
Test Case ID	STC-064
Test Function Name	test_login()
Test Proposal	嘗試測試正確登入
Input	<pre>user =({ "user_name": "testuser", "password": "password123" }); response = client.post("/api/login") .header(ContentType::JSON) .json(&user)</pre>
Expected Output	正確, 回傳OK
Real Output	OK
Test Result	True

Test Case 65	
Test Case ID	STC-065
Test Function Name	test_login()
Test Proposal	嘗試測試登入錯誤密碼
Input	<pre>user =({ "user_name": "testuser", "password": " wrongpassword"}); response = client.post("/api/login") .header(ContentType::JSON) .json(&user)</pre>
Expected Output	錯誤, 回傳Status::Unauthorized
Real Output	Status::Unauthorized
Test Result	True

Test Case 66	
Test Case ID	STC-066
Test Function Name	test_login()
Test Proposal	嘗試測試登入未驗證使用者
Input	<pre>user =({ "user_name": " unverified", "password": " password123"}); response = client.post("/api/login") .header(ContentType::JSON) .json(&user)</pre>
Expected Output	錯誤, 回傳Status::BadRequest
Real Output	Status::BadRequest
Test Result	True

Test Case 67	
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Test Case ID	STC-067
Test Function Name	test_login()
Test Proposal	嘗試測試登入未輸入使用者密碼
Input	<pre>user =({ "user_name": " testuser", "password": ""}); response = client.post("/api/login") .header(ContentType::JSON) .json(&user)</pre>
Expected Output	錯誤, 回傳Status:: UnprocessableEntity
Real Output	Status:: UnprocessableEntity
Test Result	True

Test Case 68	
Test Case ID	STC-068
Test Function Name	test_create_resend_verification_token ()
Test Proposal	嘗試測試登入未輸入使用者帳號
Input	<pre>user =({ "user_name": "", "password": " password"}); response = client.post("/api/login") .header(ContentType::JSON) .json(&user)</pre>
Expected Output	錯誤, 回傳Status:: UnprocessableEntity
Real Output	Status:: UnprocessableEntity
Test Result	True

Test Case 69	
Test Case ID	STC-069
Test Function Name	test_show_current_seats_status()
Test Proposal	嘗試測試API能正確回傳目前座位的狀態
Input	<pre>rocket = rocket::build() client = Client::tracked(rocket) response = client.get("/api/show_status") seat::AllSeatsStatus = serde_json::from_str(&response)</pre>
Expected Output	正確, 回傳True
Real Output	True
Test Result	True

Test Case 70	
Test Case ID	STC-070
Test Function Name	test_update_reservation()

Test Proposal	嘗試測試API正確處理並更新資料庫中的預約數據
Input	<pre>Pool, response = client .post("/api/update_reservation") .header(ContentType::JSON) .json(&update_reservation) user_name = "testuser"; user_role = user::UserRole::RegularUser; exp = 1234567890; start_time = 1234567890; end_time = 1234567899; new_start_time = 1234567901; new_end_time = 1234567999;</pre>
Expected Output	正確, 回傳OK
Real Output	OK
Test Result	True

Test Case 71	
Test Case ID	STC-071
Test Function Name	test_delete_reservation_time()
Test Proposal	嘗試測試刪除預約時間
Input	<pre>user_name = "test_user", user_role = UserRole::RegularUser, exp = 1234567890, start_time = 1234567890, end_time = 1234567899, sqlx::query</pre>
Expected Output	正確,回傳OK
Real Output	OK
Test Result	True

Test Case 72	
Test Case ID	STC-072
Test Function Name	test_init_logger()
Test Proposal	嘗試測試初始化logger,測試完後清理臨時目錄
Input	<pre>temp_dir = TempDir::new("logfiles") temp_path = temp_dir.path()</pre>
Expected Output	正確,回傳OK
Real Output	OK
Test Result	True

Test Case 73	
Test Case ID	STC-073

Test Function Name	test_remove_ansi_escape_codes()
Test Proposal	嘗試測試正確將輸入字串中的 ANSI 轉義碼去除
Input	input = "\x1B[31mtest\x1B[0m", expected = "test"
Expected Output	正確,回傳OK
Real Output	OK
Test Result	True

Test Case 74	
Test Case ID	STC-074
Test Function Name	test_info()
Test Proposal	嘗試測試其類型為 Kind::Response,檢查名稱符合預期
Input	cors = CORS;
Expected Output	正確, 回傳True
Real Output	True
Test Result	True

Test Case 75	
Test Case ID	STC-075
Test Function Name	test_delete_logfile()
Test Proposal	嘗試測試建立測試logfile,確認其存在,接著刪除該檔案,確認檔案被成功刪除
Input	pool = create_pool().await; root = get_root(); logfiles_path = format!("{}/logfiles", root); test_logfile_path = format!("{}/test_logfile.txt", logfiles_path);
Expected Output	正確,回傳OK
Real Output	OK
Test Result	True

Test Case 76	
Test Case ID	STC-076
Test Function Name	test_set_unavailable_timeslots()
Test Proposal	嘗試測試將未來某些時段設置為不可用的時間,檢查不可用時間與資料庫中的不可用時間重疊
Input	today = get_today(); future_date = today + chrono::Duration::days(3) start_time, end_time
Expected Output	有重疊, 回傳OK
Real Output	OK
Test Result	True

Test Case 77	
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Test Case ID	STC-077
Test Function Name	test_date_from_string()
Test Proposal	嘗試測試時間為正確字串
Input	valid_date = "2023-12-30"
Expected Output	日期正確,回傳OK
Real Output	OK
Test Result	True

Test Case 78	
Test Case ID	STC-078
Test Function Name	test_date_from_string()
Test Proposal	嘗試測試時間為錯誤字串
Input	invalid_date = "testdate"
Expected Output	日期錯誤,回傳Err
Real Output	Err
Test Result	True

Test Case 79	
Test Case ID	STC-079
Test Function Name	test_handle_error()
Test Proposal	嘗試測試Status::NotFound錯誤情況
Input	result = Err::<i32, IoError>(IoError::new(ErrorKind::NotFound, "Not found")); prefix = "Test"
Expected Output	錯誤, 回傳Status::NotFound
Real Output	Status::NotFound
Test Result	True

Test Case 80	
Test Case ID	STC-080
Test Function Name	test_handle_error()
Test Proposal	嘗試測試Status::Forbidden錯誤情況
Input	result = Err::<i32, IoError>(IoError::new(ErrorKind::PermissionDenied)); prefix = "Test"
Expected Output	錯誤, 回傳Status::Forbidden
Real Output	Status::Forbidden
Test Result	True

Test Case 81	
Test Case ID	STC-081

Test Function Name	test_handle_error()
Test Proposal	嘗試測試Status::ServiceUnavailable錯誤情況
Input	result = Err::<i32, IoError>(IoError::new(ErrorKind::ConnectionRefused)); prefix = "Test"
Expected Output	錯誤, 回傳Status::ServiceUnavailable
Real Output	Status::ServiceUnavailable
Test Result	True

Test Case 82	
Test Case ID	STC-082
Test Function Name	test_handle_error()
Test Proposal	嘗試測試Status::InternalServerError錯誤情況
Input	result = Err::<i32, IoError>(IoError::new(ErrorKind::Other)); prefix = "Test"
Expected Output	錯誤, 回傳Status::InternalServerError
Real Output	Status::InternalServerError
Test Result	True

Test Case 83	
Test Case ID	STC-083
Test Function Name	test_get_root()
Test Proposal	嘗試測試輸入正確的環境變數
Input	env::set_var("ROOT", "/app")
Expected Output	正確, 回傳OK
Real Output	OK
Test Result	True

Test Case 84	
Test Case ID	STC-084
Test Function Name	test_get_root_miss()
Test Proposal	嘗試測試不輸入環境變數
Input	env::remove_var("ROOT");
Expected Output	錯誤, 回傳Err
Real Output	Err
Test Result	True

Test Case 85	
Test Case ID	STC-085
Test Function Name	test_get_base_url()
Test Proposal	嘗試測試正確提取base url
Input	set_var("BASE_URL", "https://api.email.ntou.edu.tw")

Expected Output	正確, 回傳OK
Real Output	OK
Test Result	True

Test Case 86	
Test Case ID	STC-086
Test Function Name	test_get_base_url_miss()
Test Proposal	嘗試測試不提取base url
Input	remove_var("BASE_URL")
Expected Output	錯誤, 回傳Err
Real Output	Err
Test Result	True

Test Case 87	
Test Case ID	STC-087
Test Function Name	test_send_verification_email()
Test Proposal	嘗試測試成功發送email
Input	<pre> user_email = "test@email.ntou.edu.tw"; verification_token = "token123" set_var("EMAIL_ADDRESS", "mybot@example.com"); set_var("EMAIL_PASSWORD", "123456"); set_var("EMAIL_DOMAIN", "example.com") </pre>
Expected Output	正確, 回傳OK
Real Output	OK
Test Result	True

Test Case 88	
Test Case ID	STC-088
Test Function Name	test_send_verification_email()
Test Proposal	嘗試測試發送email失敗
Input	<pre> user_email = "test@email.ntou.edu.tw"; verification_token = "token123" remove_var("EMAIL_ADDRESS") </pre>
Expected Output	錯誤, 回傳Err
Real Output	Err
Test Result	True

Test Case 89	
Test Case ID	STC-089
Test Function Name	test_create_userinfo_token()
Test Proposal	嘗試測試成功生成JWT
Input	user_name = "testuser";

	<code>user_role = user::UserRole::RegularUser;</code> <code>set_var("SECRET_KEY", "mysecretkey")</code>
Expected Output	不為空, 回傳OK
Real Output	OK
Test Result	True

Test Case 90	
Test Case ID	STC-090
Test Function Name	<code>test_create_userinfo_token()</code>
Test Proposal	嘗試測試生成JWT失敗
Input	<code>user_name = "testuser";</code> <code>user_role = user::UserRole::RegularUser;</code>
Expected Output	錯誤, 回傳Err
Real Output	Err
Test Result	True

Test Case 91	
Test Case ID	STC-091
Test Function Name	<code>test_create_resend_verification_token()</code>
Test Proposal	嘗試測試建立正確環境變數,生成重發驗證信的token
Input	<code>email = "test@email.ntou.edu.tw";</code> <code>let verification_token = "token123";</code> <code>env::set_var("SECRET_KEY", "mysecretkey")</code> <code>claims = verify_jwt(&token)</code>
Expected Output	正確, 回傳OK
Real Output	OK
Test Result	True

Test Case 92	
Test Case ID	STC-092
Test Function Name	<code>test_create_resend_verification_token()</code>
Test Proposal	嘗試測試不建立環境變數,生成重發驗證信的token
Input	<code>email = "test@email.ntou.edu.tw";</code> <code>let verification_token = "token123";</code>
Expected Output	錯誤, 回傳Err
Real Output	Err
Test Result	True

Test Case 93	
Test Case ID	STC-093
Test Function Name	<code>test_check_unfinished_reservations ()</code>
Test Proposal	

Input	
Expected Output	
Real Output	
Test Result	Failed

Test Case 94	
Test Case ID	STC-094
Test Function Name	test_get_user_reservations ()
Test Proposal	
Input	
Expected Output	
Real Output	
Test Result	Failed

Test Case 95	
Test Case ID	STC-095
Test Function Name	test_delete_reservation_time ()
Test Proposal	
Input	
Expected Output	
Real Output	
Test Result	Failed

Test Case 96	
Test Case ID	STC-096
Test Function Name	test_update_reservation_time ()
Test Proposal	
Input	
Expected Output	
Real Output	
Test Result	Failed

Test Case 97	
Test Case ID	STC-097
Test Function Name	test_get_user_info ()
Test Proposal	
Input	
Expected Output	
Real Output	
Test Result	Failed

Test Case 98	
Test Case ID	STC-098
Test Function Name	test_test_from_row()
Test Proposal	
Input	
Expected Output	
Real Output	
Test Result	Failed

Test Case 99	
Test Case ID	STC-099
Test Function Name	test_validate_ban_request ()
Test Proposal	
Input	
Expected Output	
Real Output	
Test Result	Failed

Test Case 100	
Test Case ID	STC-100
Test Function Name	test_show_seats_status_in_specific_timeslots()
Test Proposal	
Input	
Expected Output	
Real Output	
Test Result	Failed

Test Case 101	
Test Case ID	STC-101
Test Function Name	test_show_seats_status_in_specific_timeslots()
Test Proposal	
Input	
Expected Output	
Real Output	
Test Result	Failed

Test Case 102	
Test Case ID	STC-102
Test Function Name	test_show_seat_reservations()
Test Proposal	
Input	

Expected Output	
Real Output	
Test Result	Failed

Test Case 103	
Test Case ID	STC-103
Test Function Name	test_show_seat_reservations()
Test Proposal	
Input	
Expected Output	
Real Output	
Test Result	Failed

Test Case 104	
Test Case ID	STC-104
Test Function Name	test_reserve_seat()
Test Proposal	
Input	
Expected Output	
Real Output	
Test Result	Failed

Test Case 105	
Test Case ID	STC-105
Test Function Name	test_display_user_reservations()
Test Proposal	
Input	
Expected Output	
Real Output	
Test Result	Failed

Test Case 106	
Test Case ID	STC-106
Test Function Name	test_display_user_reservations()
Test Proposal	
Input	
Expected Output	
Real Output	
Test Result	Failed

Test Case 107	
Test Case ID	STC-107
Test Function Name	test_set_unavailable_timeslots()
Test Proposal	
Input	
Expected Output	
Real Output	
Test Result	Failed

Test Case 108	
Test Case ID	STC-108
Test Function Name	test_set_seat_availability()
Test Proposal	
Input	
Expected Output	
Real Output	
Test Result	Failed

Test Case 109	
Test Case ID	STC-109
Test Function Name	test_start()
Test Proposal	
Input	
Expected Output	
Real Output	
Test Result	Failed

Test Case 110	
Test Case ID	STC-110
Test Function Name	test_handle_validator ()
Test Proposal	
Input	
Expected Output	
Real Output	
Test Result	Failed

3.2系統測試

3.2.A 註冊頁面

Identification	STC-001
Name	使用者註冊功能
Reference	SSR-US-04

Severity	高
Instructions	1. 進入註冊頁面 2. 填寫信箱、使用者名稱、密碼、確認密碼 3. 按下註冊按鈕
Expected result	畫面顯示「註冊成功, 請到mail做驗證」
Cleanup	無

Identification	STC-002
Name	使用者驗證信箱
Reference	SSR-US-04
Severity	高
Instructions	1. 進入信箱頁面 2. 按下驗證網址 3. 顯示已驗證信箱
Expected result	畫面顯示「Your email has been successfully verified.」
Cleanup	無

Identification	STC-003
Name	使用者重發Email驗證信測試
Reference	SSR-US-04
Severity	中
Instructions	1. 在登入頁面, 點選註冊進入註冊頁面 2. 輸入完使用者註冊資訊並按下註冊按鈕 3. 進入Email查看並未發現驗證通知 4. 回到註冊介面點擊重發驗證信
Expected result	系統顯示已重發驗證信, 請進入Email信箱取得驗證碼
Cleanup	無

3.2.B 登入頁面

Identification	STC-004
Name	使用者登入功能
Reference	SSR-US-04
Severity	高
Instructions	1. 進入登入頁面 2. 輸入使用者名稱、密碼 3. 點擊登入按鈕
Expected result	成功登入系統, 回到進入登入頁面的上一頁。
Cleanup	無

3.2.C 即時座位資訊頁面

Identification	STC-005
Name	使用者查看即時座位資訊
Reference	SSR-US-01
Severity	高
Instructions	進入即時座位資訊頁面
Expected result	顯示即時座位資訊
Cleanup	無

Identification	STC-006
Name	位置數量測試
Reference	SSR-US-01
Severity	高
Instructions	查看座位預約系統的位置數量是否為預設的數量
Expected result	顯示座位預約系統的位置數量
Cleanup	無

3.2.D 查詢預約狀況頁面

Identification	STC-007
Name	使用者查看特定時間座位資訊
Reference	SSR-US-02
Severity	中
Instructions	1. 進入查詢預約狀況頁面 2. 選擇日期、開始時間、結束時間 3. 點擊查詢
Expected result	顯示查詢時間的座位資訊
Cleanup	無

3.2.E 單一座位及預約座位頁面

Identification	STC-008
Name	使用者如何進入單一座位及預約座位頁面
Reference	SSR-US-02,SSR-GUS-06
Severity	高
Instructions	1. 進入即時座位或查詢預約狀況頁面 2. 點擊某一位置 3. 進入該位置預約狀況
Expected result	進入單一座位及預約座位頁面
Cleanup	無

Identification	STC-009
Name	使用者預約座位
Reference	SSR-US-02,SSR-GUS-06
Severity	高
Instructions	1. 進入單一座位頁面 2. 選擇日期、開始時間、結束時間。 3. 點擊預約
Expected result	畫面顯示預約成功

Cleanup	無
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3.2.F 個人預約資訊頁面

Identification	STC-010
Name	使用者可以查看自己的預約資訊
Reference	SSR-US-03
Severity	高
Instructions	進入個人預約資訊頁面
Expected result	顯示個人預約資訊
Cleanup	無

Identification	STC-011
Name	使用者可以刪除自己預約的座位
Reference	SSR-US-03
Severity	中
Instructions	進入個人預約資訊頁面 點擊刪除按鈕
Expected result	刪除該預約，並重新整理頁面
Cleanup	無

3.2.G 語言

Identification	STC-012
Name	切換語言測試
Reference	SSR-US-05
Severity	中
Instructions	點擊主頁面右上方的English按鈕
Expected result	畫面顯示成功切換成英文版本
Cleanup	無

3.2.G 管理者

Identification	STC-013
Name	管理者登入功能
Reference	SSR-US-06
Severity	中
Instructions	1. 輸入網址進入SSR系統 2. 輸入管理者之Email帳號和密碼 3. 點擊登入
Expected result	系統進入管理者之管理介面
Cleanup	無

Identification	STC-014
Name	管理員可以更改可預約的時段
Reference	SSR-US-06
Severity	中
Instructions	1.進入管理者之管理介面 2.點擊開放時段管理並進入時段管理之介面 3.選擇欲更改可預約之時段的開始和結束時間
Expected result	系統進入管理者之管理介面
Cleanup	無

3.2 H 黑名單

Identification	STC-015
Name	修改預約測試功能
Reference	SSR-US-06
Severity	中
Instructions	1.進入管理者之管理介面 2.點擊黑名單 3.輸入欲加入黑名單之使用者之名稱與開始和結束時間
Expected result	系統顯示已將此使用者加入黑名單
Cleanup	無

3.2 I 外部連結

Identification	STC-016
Name	使用說明測試
Reference	
Severity	低
Instructions	點擊畫面右上方的使用說明
Expected result	畫面移轉使用說明
Cleanup	無

Identification	STC-017
Name	使用海大圖資處首頁
Reference	
Severity	低
Instructions	點擊畫面右上方的海大圖資處首頁
Expected result	畫面移轉海大圖資處首頁網站
Cleanup	無

2. 測試工作指派與時程(Personnel and Schedule)

2.1 測試成員(Personnel)

姓名	職責
胡化熏	測試規劃 測試案例撰寫 執行測試 測試報告彙整
蔡維軒	測試規劃
溫柏閔	測試規劃 執行測試 測試案例撰寫
吳哲寬	測試案例撰寫

3. 測試結果與分析(Test Results and Analysis)

3.1 測試結果(Test Results)

測試案例編號	測試結果 (Pass/Fail)	註解
STC-001	pass	
STC-002	pass	
STC-003	fail	前端未完成
STC-004	pass	
STC-005	pass	
STC-006	pass	
STC-007	pass	
STC-008	pass	
STC-009	pass	
STC-010	pass	
STC-011	pass	
STC-012	fail	前端完成部分
STC-013	fail	頁面完成, 尚未與後端連結
STC-014	fail	頁面完成, 尚未與後端連結
STC-015	fail	頁面完成, 尚未與後端連結
STC-016	fail	未完成使用說明
STC-017	pass	
STC-018	pass	
STC-019	pass	
STC-020	pass	
STC-021	pass	
STC-022	pass	
STC-023	pass	
STC-024	pass	
STC-025	pass	
STC-026	pass	
STC-027	pass	
STC-028	pass	
STC-029	pass	
STC-030	pass	
STC-031	pass	
STC-032	pass	
STC-033	pass	
STC-034	pass	
STC-035	pass	
STC-036	pass	
STC-037	pass	
STC-038	pass	
STC-039	pass	
STC-040	pass	
STC-041	pass	
STC-042	pass	
STC-043	pass	

STC-044	pass	
STC-045	pass	
STC-046	pass	
STC-047	pass	
STC-048	pass	
STC-049	pass	
STC-050	pass	
STC-051	pass	
STC-052	pass	
STC-053	pass	
STC-054	pass	
STC-055	pass	
STC-056	pass	
STC-057	pass	
STC-058	pass	
STC-060	pass	
STC-061	pass	
STC-062	pass	
STC-063	pass	
STC-064	pass	
STC-065	pass	
STC-066	pass	
STC-067	pass	
STC-068	pass	
STC-069	pass	
STC-070	pass	
STC-071	pass	
STC-072	pass	
STC-073	pass	
STC-074	pass	
STC-075	pass	
STC-076	pass	
STC-077	pass	
STC-078	pass	
STC-079	pass	
STC-080	pass	
STC-081	pass	
STC-082	pass	
STC-083	pass	
STC-084	pass	
STC-085	pass	
STC-086	pass	
STC-087	pass	
STC-088	pass	
STC-089	pass	
STC-090	pass	
STC-091	pass	

STC-092	pass	
STC-093	failed	未完成
STC-094	failed	未完成
STC-095	failed	未完成
STC-096	failed	未完成
STC-097	failed	未完成
STC-098	failed	未完成
STC-099	failed	未完成
STC-100	failed	未完成
STC-101	failed	未完成
STC-102	failed	未完成
STC-103	failed	未完成
STC-104	failed	未完成
STC-105	failed	未完成
STC-106	failed	未完成
STC-107	failed	未完成
STC-108	failed	未完成
STC-109	failed	未完成
STC-110	failed	未完成
RATE STC-017	94%	

3.2 缺失報告(Defect Tracking)

(缺失嚴重性可分為High、Medium、Low)

(修復狀態可分為Open、Ongoing、Closed)

缺失 標號	缺失 嚴重性	缺失說明	測試 案例 編號	缺失 負責人	修復狀態	修復說明
001	LOW		STC-093	溫柏閔	Open	代研究中
002	Medium		STC-094	溫柏閔	Open	代研究中
003	LOW		STC-095	溫柏閔	Open	代研究中
004	LOW		STC-096	溫柏閔	Open	代研究中
005	LOW		STC-097	溫柏閔	Open	代研究中
006	LOW		STC-098	溫柏閔	Open	代研究中
007	Medium		STC-099	溫柏閔	Open	代研究中
008	LOW		STC-	溫柏閔	Open	代研究中

			100			
009	LOW		STC-101	溫柏閔	Open	代研究中
010	Medium		STC-102	溫柏閔	Open	代研究中
011	Medium		STC-103	溫柏閔	Open	代研究中
012	Medium		STC-104	溫柏閔	Open	代研究中
013	LOW		STC-105	溫柏閔	Open	代研究中
014	LOW		STC-106	溫柏閔	Open	代研究中
015	LOW		STC-107	溫柏閔	Open	代研究中
016	LOW		STC-108	溫柏閔	Open	代研究中
017	LOW		STC-108	溫柏閔	Open	代研究中
018	Medium		STC-110	溫柏閔	Open	代研究中

018	Medium		STC-110	溫柏閔	Open	代研究中
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019	Medium	超過自習室開放時間未顯示未開方	STC-005	胡化熏	Ongoing	伺服器時差問題。
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020	LOW	登入後未回到上個頁面，只能回到即時座位資訊	STC-004	胡化熏	Ongoing	導向的頁面應回到上一頁。
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追溯表(Traceability Matrix)

(請確保所有功能與效能需求皆有合適的Test Case, 且都經過驗證)

(表格中請填寫功能需求編號與測試案例編號, 且在Verification欄位填寫Verified)

Req. No.	Test Case #	Verification
SSR-GUS-04	STC-001	Verified
SSR-GUS-04	STC-002	Verified
SSR-GUS-04	STC-003	Verified

SSR-GUS-04	STC-004	Verified
SSR-GUS-04	STC-005	Verified
SSR-GUS-04	STC-006	Verified
SSR-GUS-04	STC-007	Verified
SSR-GUS-04,SSR-GUS-06	STC-008	Verified
SSR-GUS-04,SSR-GUS-06	STC-009	Verified
SSR-GUS-01	STC-010	Verified
SSR-GUS-02	STC-011	Verified
SSR-GUS-02	STC-012	Verified
SSR-GUS-03	STC-013	Verified
SSR-GUS-03	STC-014	Verified
SSR-GUS-03	STC-015	Verified
SSR-GUS-03	STC-016	Verified
SSR-GUS-03	STC-017	Verified
SSR-GUS-02 SSR-GUS-03	STC-018	Verified
SSR-GUS-02	STC-019	Verified
SSR-GUS-04	STC-020	Verified
SSR-GUS-04	STC-021	Verified
SSR-GUS-04	STC-022	Verified
SSR-GUS-04	STC-023	Verified
SSR-GUS-04	STC-024	Verified
SSR-GUS-04	STC-025	Verified
SSR-GUS-02 SSR-GUS-03	STC-026	Verified
SSR-GUS-02 SSR-GUS-03	STC-027	Verified
SSR-GUS-02 SSR-GUS-03	STC-028	Verified
SSR-GUS-02 SSR-GUS-03	STC-029	Verified
SSR-GUS-02	STC-030	Verified

SSR-GUS-03		
SSR-GUS-02	STC-031	
SSR-GUS-03		Verified
SSR-GUS-01	STC-032	Verified
SSR-GUS-01	STC-033	Verified
SSR-GUS-04	STC-034	Verified
SSR-GUS-04	STC-035	Verified
SSR-AS-02	STC-036	Verified
SSR-AS-02	STC-037	Verified
SSR-AS-02	STC-038	Verified
SSR-AS-01	STC-039	Verified
SSR-AS-01	STC-040	Verified
SSR-AS-01	STC-041	Verified
SSR-AS-02	STC-042	Verified
SSR-GUS-01	STC-043	
SSR-GUS-02		Verified
SSR-GUS-01	STC-044	
SSR-GUS-02		Verified
SSR-GUS-01	STC-045	
SSR-GUS-02		Verified
SSR-GUS-01	STC-046	
SSR-GUS-02		Verified
SSR-GUS-01	STC-047	
SSR-GUS-02		Verified
SSR-GUS-01	STC-048	
SSR-GUS-02		Verified
SSR-GUS-02	STC-049	Verified
SSR-GUS-02	STC-050	Verified
SSR-GUS-02	STC-051	Verified
SSR-GUS-02	STC-052	Verified
SSR-GUS-04	STC-053	Verified
SSR-GUS-04	STC-054	Verified
SSR-AS-01	STC-055	Verified
SSR-AS-01	STC-056	Verified

SSR-GUS-01	STC-057	Verified
SSR-GUS-04	STC-058	Verified
SSR-GUS-04	STC-059	Verified
SSR-GUS-04	STC-060	Verified
SSR-GUS-04 SSR-AF-01	STC-061	Verified
SSR-GUS-04 SSR-AF-01	STC-062	Verified
SSR-GUS-04 SSR-AF-01	STC-063	Verified
SSR-GUS-04	STC-064	Verified
SSR-GUS-04	STC-065	Verified
SSR-GUS-04	STC-066	Verified
SSR-GUS-04	STC-067	Verified
SSR-GUS-04	STC-068	Verified
SSR-GUS-01 SSR-GUS-02	STC-069	Verified
SSR-GUS-02	STC-070	Verified
SSR-GUS-04	STC-071	Verified
SSR-AS-01	STC-072	Verified
SSR-AS-01	STC-073	Verified
SSR-AS-01	STC-074	Verified
SSR-AS-01	STC-075	Verified
SSR-AS-01	STC-076	Verified
SSR-GUS-02 SSR-AS-01	STC-077	Verified
SSR-GUS-02 SSR-AS-01	STC-078	Verified
SSR-AS-01	STC-079	Verified
SSR-AS-01	STC-080	Verified
SSR-AS-01	STC-081	Verified
SSR-AS-01	STC-082	Verified
SSR-AS-01	STC-083	Verified
SSR-AS-01	STC-084	Verified

SSR-AS-01	STC-085	Verified
SSR-AS-01	STC-086	Verified
SSR-AF-02	STC-087	Verified
SSR-AF-02	STC-088	Verified
SSR-GUS-04 SSR-AF-02	STC-089	Verified
SSR-GUS-04 SSR-AF-02	STC-090	Verified
SSR-AF-02	STC-091	Verified
SSR-AF-02	STC-092	Verified
SSR-GUS-02	STC-093	Verified
SSR-GUS-02	STC-094	Verified
SSR-GUS-03	STC-095	Verified
SSR-GUS-03	STC-096	Verified
SSR-AS-01	STC-097	Verified
SSR-AS-01	STC-098	Verified
SSR-AS-02	STC-099	Verified
SSR-GUS-01	STC-100	Verified
SSR-GUS-01 SSR-GUS-02	STC-101	Verified
SSR-GUS-01 SSR-GUS-02	STC-102	Verified
SSR-GUS-01	STC-103	Verified
SSR-GUS-02	STC-104	Verified
SSR-AF-03	STC-105	Verified
SSR-AF-03	STC-106	Verified
SSR-AS-01	STC-107	Verified
SSR-AS-01	STC-108	Verified
SSR-AS-01	STC-109	Verified
SSR-AS-01	STC-110	Verified