

University Of Westminster

Object Oriented Programming

5COSC00019C

Test Case Report (OOP)

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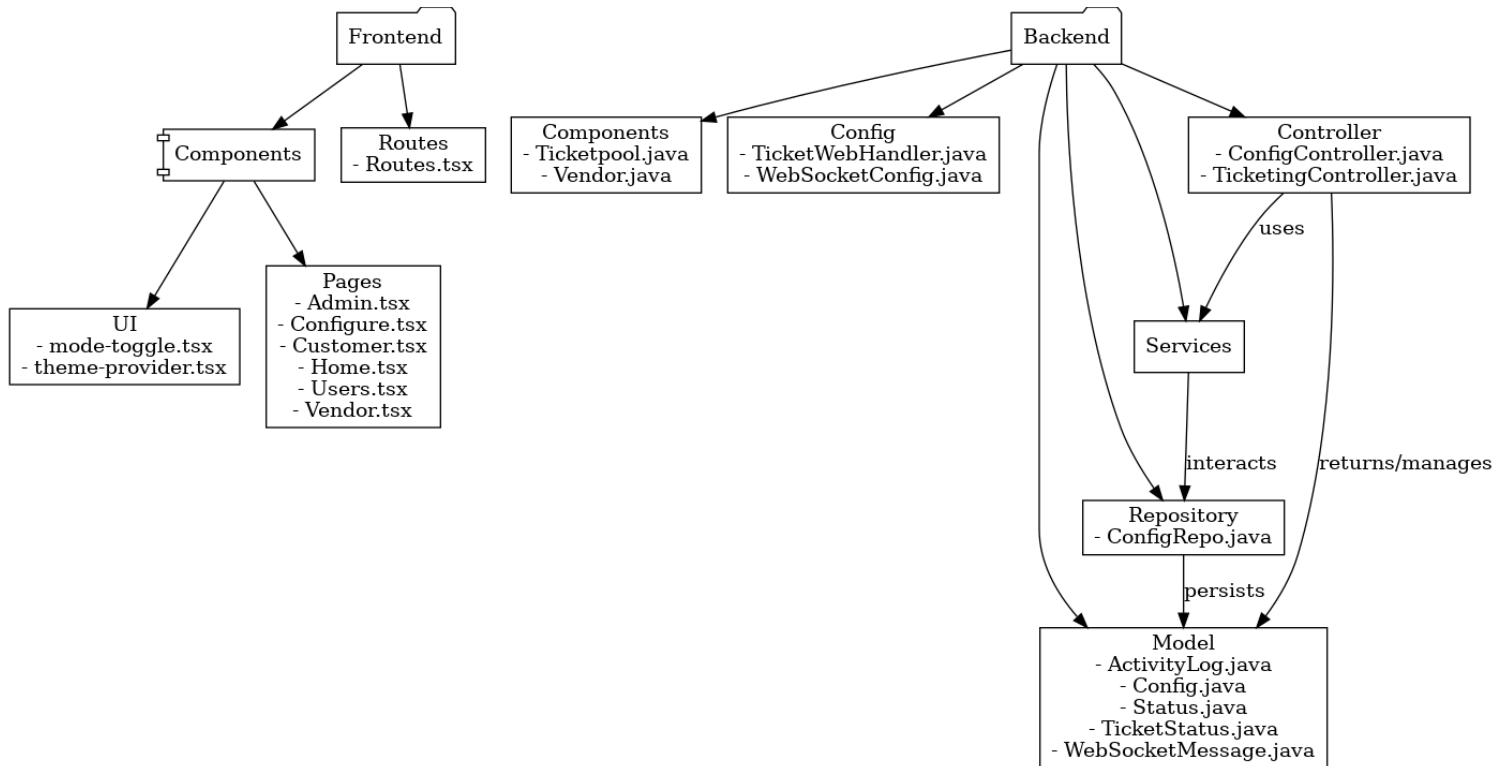
Test Cases for the Realtime Ticketing System

Test Case ID	Test Description	Expected Result	Actual Result	Pass/Fail
TC001	Load system with no configuration file	System should create new default configuration	System creates new configuration file with default values	Pass
TC002	Enter negative total tickets (-100)	System should reject and prompt for valid input	System displays error and requests new input	Pass
TC003	Enter max capacity is higher than total tickets (1500 for 1000 tickets)	System should reject and display error message	System shows "Invalid max capacity" message	Pass
TC004	Start system with valid configuration	All vendors and customer threads should initialize	System starts with configured threads	Pass
TC005	Attempt to start already running system	System should reject second start attempt	System displays "already running" message	Pass
TC006	Stop running system	All threads should terminate gracefully	System stops and releases resources	Pass
TC007	Configure release rate of 10 tickets/second	Vendors should release exactly 10 tickets per second	Vendors release tickets at configured rate	Pass
TC008	Set max capacity to 50 with high release rate	Ticket pool should never exceed 50 tickets	Pool maintains maximum limit of 50 tickets	Pass
TC009	Run system until all tickets are sold	System should stop ticket sales gracefully	System terminates sales when tickets depleted	Pass
TC010	Configure customer retrieval rate of 5/second	Customers should retrieve exactly 5 tickets per second	Customers retrieve at specified rate	Pass
TC011	Set slow-release rate with high customer demand	Customers should wait without errors when pool empty	Customers wait properly for new tickets	Pass
TC012	Run multiple customers concurrently	No duplicate tickets should be issued	Each ticket assigned uniquely	Pass
TC013	Configure multiple vendors	Tickets should be distributed evenly among vendors	Even distribution observed	Pass

TC014	Stop system during active vendor operations	Vendors should stop cleanly without corruption	Vendors terminate properly	Pass
TC015	Enter invalid menu option (e.g., '9')	System should show error and request valid input	System displays appropriate error message	Pass
TC016	Enter non-numeric values in configuration	System should reject and request valid input	System handles invalid input properly	Pass
TC017	Run system at maximum configured load	System should maintain stability and performance	System operates stably under load	Pass
TC018	Run extended duration test (24 hours)	No performance degradation or memory leaks	System maintains consistent performance	Pass
TC019	Force terminate and restart system	System should recover with consistent state	Clean recovery achieved	Pass
TC020	Rapid start/stop system operations	No deadlocks or race conditions should occur	System maintains thread safety	Pass
TC021	Configure zero vendors	System should reject configuration	System displays error message	Pass
TC022	Configure zero customers	System should reject configuration	System displays error message	Pass
TC023	Set release rate to zero	System should reject configuration	System requests valid rate	Pass
TC024	Set retrieval rate to zero	System should reject configuration	System requests valid rate	Pass
TC025	Enter maximum integer value for total tickets	System should handle large numbers properly	System accepts and manages large value	Pass

System Designs

Classes Diagram



Sequence Diagram

