Test Plan

Happy Time – E-commerce Project

for Watch Shop in Colombo

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1. Introduction

This test plan describes the testing strategy for the Watch Shop application used in Colombo. The system allows two user roles:

- Retailers / Wholesalers
- Admins

The goal is to ensure the system is reliable, secure, and functions correctly for both roles.

2. Objectives

- Verify that all user roles can log in and perform their allowed actions
- Ensure business workflows (ordering, inventory, pricing) work correctly
- Validate data accuracy and security
- Identify defects before production deployment

3. Test Items

The following components of Happy Time will be tested:

- Web Application (Admin & Customer)
- Mobile Application (Android / iOS)
- Backend APIs
- Database
- Bulk Upload Modules (SKU, Pricing, Descriptions)
- Careers Page

4. Testing Approach

4.1 Test Levels

- Unit Testing
- Integration Testing
- System Testing

- User Acceptance Testing (UAT)
- Regression Testing

4.2 Test Types

- Functional Testing
- Performance Testing
- Security Testing
- Usability Testing
- Compatibility Testing (Web & Mobile)
- Regression Testing

5. Test strategy

1. Understanding Requirements:
   - Requirement specifications will be sent by client.
   - Understanding of requirements will be done by QA

2. Preparing Test Cases: QA will be preparing test cases based on the exploratory testing. This will cover all scenarios for requirements.
3. Preparing Test Matrix: QA will be preparing test matrix which maps test cases to respective requirement. This will ensure the coverage for requirements.

Reviewing test cases and matrix:

- Peer review will be conducted for test cases and test matrix.
- Any comments or suggestions on test cases and test coverage will be provided by reviewer respective Author of Test Case and Test Matrix
- Suggestions or improvements will be re-worked by author and will be send for approval
- Re-worked improvements will be reviewed and approved by reviewer

4. Test Plan - Creating Test Data: Test data will be created by respective QA on client's developments/test site based on scenarios and Test cases.

5. Executing Test Cases:

   - Test cases will be executed by respective QA on client's development/test site based on designed scenarios, test cases and Test data.

   - Test result (Actual Result, Pass/Fail) will updated in test case document Defect Logging.

   - Reporting: QA will be logging the defect/bugs, found during execution of test cases. After this, QA will inform respective developer about the defect/bugs.

6. Retesting and Regression Testing: Retesting for fixed bugs will be done by respective QA once it is resolved by respective developer and bug/defect status will be updated accordingly. In certain cases, regression testing will be done if required.

7. Deployment/Delivery:

   - Once all bugs/defect reported after complete testing is fixed and no other bugs are found, report will be deployed to client's test site by PM.

   - Once round of testing will be done by QA on client's test site if required Report will be delivered along with sample output by email.

   - QA will be submitting the filled hard copy of delivery slip to respective developer.

   - Once lead gets the hard copy of delivery slip filled by QA and developer, he will send the report delivery email to client.

6. Bug life cycle

All the issues found while testing will be logged. Bug life cycle for this project is as follows:
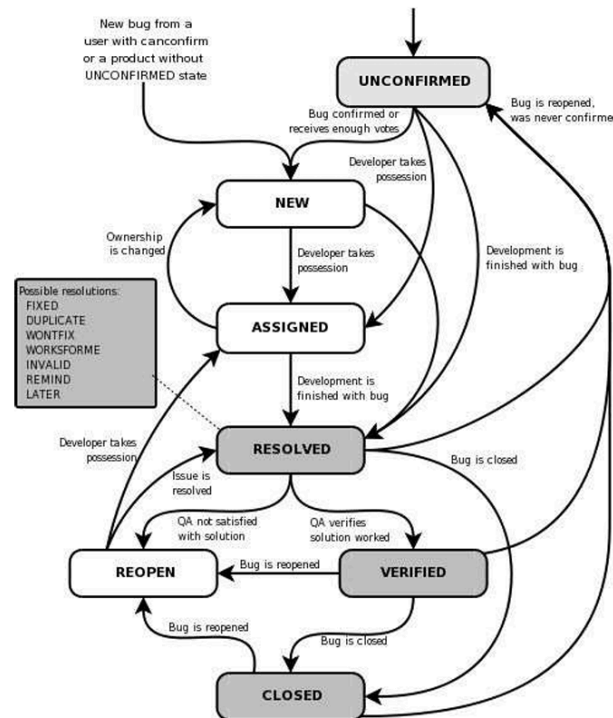
7. Testing types

- Black box testing: It is some time called behavioral testing or Partition testing. This kind of testing focuses on the functional requirements of the software. It enables one to derive sets of input conditions that will fully exercise all functional requirements for a program.

- GUI Testing: GUI testing will includes testing the UI part of report. It covers users Report format, look and feel, error messages, spelling mistakes, GUI guideline violations.

- Integration Testing: Integration testing is systematic technique for constructing the program structure while conducting test to uncover errors associated with interacting. In Report, integration testing includes the testing Report from respective location(s).
- Functional Testing: Functional testing is carried out in order to find out unexpected behavior of the report. The characteristic of functional testing are to provide correctness, reliability, testability and accuracy.

- System Testing: System testing of software is testing conducted on a complete, integrated system to evaluate the system's compliance with its specified requirements.

- Performance Testing: - Check the optimal time the page is loaded - Check the operation of the system under load.

- User acceptance testing: The purpose behind user acceptance testing is to ensure that system is developed according to the specified user requirements and is ready for operational use.

- Acceptance testing is carried out at two levels - Alpha and Beta Testing. User acceptance testing (UAT) will be done at the Client. Alpha testing: The alpha test is conducted at the developer's site by client.

8. Scope of Testing

8.1 Functional Testing

1. User Management & Authentication
- User registration (email / phone)
- Login / logout
- Guest checkout
- Password reset / forgot password
- *OTP / email verification*
- Social login (Google, Facebook, Apple)
- User profile management
- Address management (multiple addresses)
- Role-based access (Admin, Wholesaler, Retailer)

2. Product Management
- Add products
- Edit / update products

- Delete products

- Product categories & sub-categories

- Product variants (size, color, model)

- Product images & videos

- Product descriptions & specifications

- SKU management

- Pricing (MRP, discounts, wholesale price)

- Stock availability status

- Product tags & attributes

- Bulk product upload (CSV / Excel)

- Support 4 different pricing categories

- Example: Retail Price, Wholesaler Price, Distributor Price, Special Partner Price

- Prices should be:

    o Visible only to authorized users

    o Access provided manually by admin

- Users without permission must not see restricted price

3. Product Browsing & Search

- View product listings

- Product filters (price, brand, category, rating)

- Sorting (price, popularity, newest)

- Search with autocomplete

- Search by category

- Recently viewed products

- Wishlist / favorites

- System should support uploading 6000+ SKUs

4. Cart & Checkout

- Add to cart

- Update cart quantity

- Remove from cart

- Save for later

- Apply coupon / promo codes

- Tax calculation

- Shipping fee calculation

- Order summary

- Multiple payment methods

- One-page checkout

- Address selection during checkout

5. Order Management

- Place order

- Order confirmation (email / SMS / push)

- Order tracking

- Order status updates

- Order history

- Cancel order

- Return / refund request

- Invoice generation

- Download invoice / receipt

6. Payment Management

- Cash on Delivery (COD)

- Credit / debit cards

- Bank transfers

- Online payment gateways

- Payment success / failure handling

- Refund processing

- Payment history

7. Shipping & Delivery

- Shipping address management

- Delivery slot selection

- Order dispatch management

- Delivery tracking

- Proof of delivery

- Delivery charges by location

- International shipping (optional)

8. Admin Panel

- Admin login

- User management (enable/disable)

- Product approval

- Category & brand management

- Order management

- Payment & refund management

- Tax & shipping configuration

- CMS (banners, pages, offers)

- Reports & analytics

- System settings

- Uploading product descriptions via Excel

9. Offers, Discounts & Promotions

- Coupons & promo codes

- Flash sales

- Time-based discounts

- Bulk discounts

10. Reviews & Ratings

- Product ratings

- Product reviews

- Report abusive reviews (optional)

11. Notifications & Communication

- Email notifications
- SMS notifications
- Push notifications (mobile)
- Order status alerts
- Promotional notifications
- Customer support chat (AI)

12. Reports & Analytics

- Sales reports
- User activity reports
- Inventory reports
- Revenue reports
- Order reports

13. Security & Compliance

- Secure authentication
- Role-based authorization
- Data encryption
- PCI-DSS compliance (payments)
- Fraud detection
- CAPTCHA
- Session management
- GDPR / data privacy compliance

14. Performance & System Features

- Fast page loading
- Scalability
- Caching
- Error handling
- Logging & monitoring

- Backup & recovery

- API support

- Offline mode (mobile – limited)

15. Customer Support & Help

- Help center / FAQs / Contact Support

16. Careers Page

- Dedicated **Careers page** on the website

- Display:

  o Open job positions

  o Job descriptions

  o Location (e.g., Colombo)

- Apply button / form

- Resume (CV) upload option

- Admin view to manage applications

17. Fully Customizable Pages

- All pages should be **customizable** based on business needs

- Customization includes:

  o Category-based variables

  o Dynamic filters

  o Sorting options (price, brand, stock, popularity, etc.)

- Category-specific filters (e.g., brand, strap type, color, supplier)

18. Supplier-Based SKU Management

- Each SKU must be linked to a **supplier**

- Ability to:

  o View products supplier-wise

  o Filter SKUs by supplier

- Generate supplier-specific reorder lists

19. Advanced Product Page (Color & Stock Based Ordering)

● Product page must display:

● Separate image for each color variation

● Stock quantity shown in front of each image

● Quantity input field:

○ Empty by default

○ User can enter order quantity per color

● Prevent ordering more than available stock

20. Order Generation with Color Codes

● Each color variant must have a **unique color number/code**

● Color code is:

○ Assigned during backend image upload

○ Automatically included in order details

● Orders should clearly show:

○ Product name

○ Color image

○ Color number

○ Quantity ordered

21. Product Image Quality Tags

● Each product image should display **up to 3 quality tags**

● Example tags:

○ "Premium Quality"

○ "Original Brand"

○ "Water Resistant"

● Tags must be:

○ Customizable per product

○ Assigned during product upload

○ Visible on all product images (frontend)

8.2 Security Testing

- Password encryption validation
- Role-based access control
- Session timeout testing
- SQL Injection prevention
- Unauthorized URL access testing

8.3 Performance Testing

- Login with multiple users simultaneously
- Bulk order processing
- Product listing load time
- Report generation speed

9. Test Environment

- **Application Type:** Web-based Watch Shop System
- **Browser:** Chrome, Firefox, Edge, Safari
- **Server:** Test server
- **Database:** MySQL / PostgreSQL (as applicable)
- **OS:** Windows / MacOS / Android / IOS

10. Entry & Exit Criteria

Entry Criteria

- Requirements finalized
- Test environment ready
- Test data prepared

Exit Criteria

- All critical test cases passed

- No high-severity bugs open

- Test summary report completed

11. Item Pass / Fail Criteria

- Test case is marked **Pass** if actual result matches expected result

- Test case is marked **Fail** if deviation is observed

- Critical defects must be fixed before release

12. Test Deliverables

- Test Plan document

- Test Scenarios

- Detailed Test Cases

- Defect Reports

- Test Summary Report

13. Testing Tasks

- Test planning

- Test case design

- Test data preparation

- Test execution

- Defect logging and tracking

- Regression testing

14. Schedule

- Test Planning: TBD

- Test Case Design: TBD

- Test Execution: TBD

- UAT: TBD

15. Approvals

This Test Plan is approved by stakeholders and serves as the baseline for all testing activities related to Happy Time.