

# TESTING OUTSIDE OF CANADA

## Welcome to Jamaica



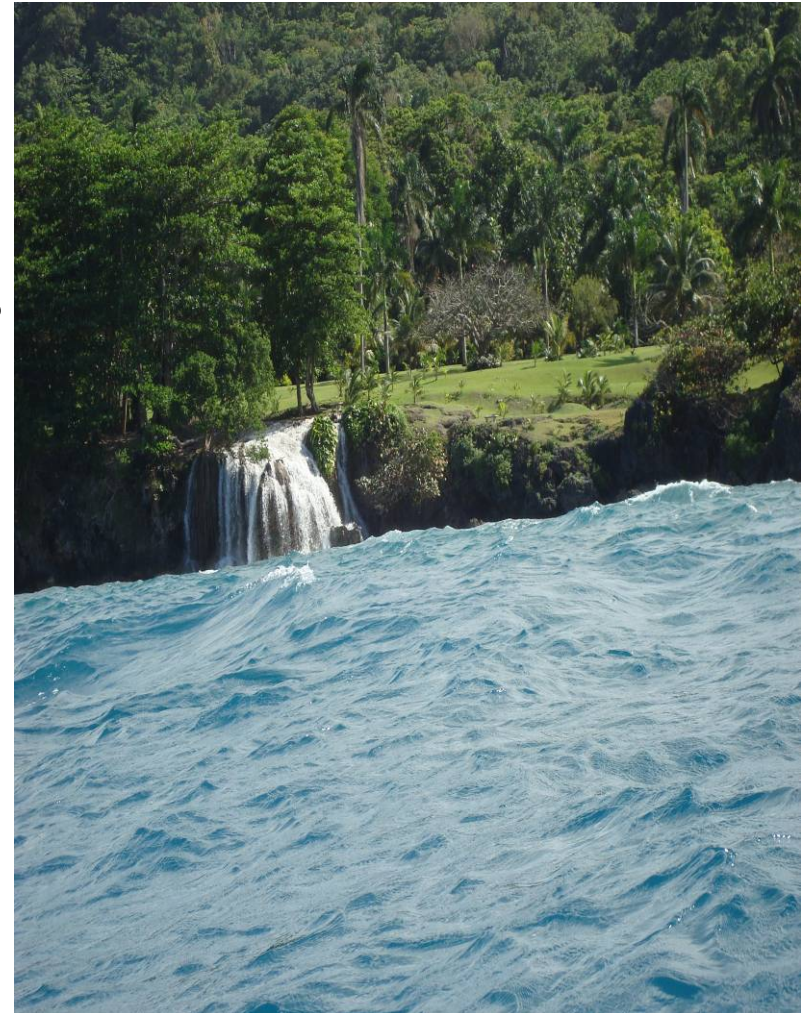
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# SCENIC IMAGES FROM JAMAICA



# SUNSHINE TOUR PACKAGE

- Tour Checklist
- Jamaican Players
- The Applications
- QA Activities across the Sectors
- Basic Testing Objective
- Jamaican Perspective:-  
Examining Testing Process
- Private & Public Sector  
Challenges
- Summary
- Q&A



# TOUR CHECKLIST

- Quality Views
  - Two Quality Gaps and the quality function
- Quality Assurance (QA) and Quality Control
- Plan, Do, Check Act (PDCA) cycle

# KEY QA PRINCIPLES

According to CBOK for CSQA (2002) the following three elements must be in place for quality to happen:-

- Management is responsible for quality
- Producers must use ***effective quality control***
- Quality is a journey not a destination



# THE MAJOR PLAYERS IN THE JAMAICAN QA ARENA

## PRIVATE SECTOR

- Banks
- Telecommunication Firms
- Small software development firms

## PUBLIC SECTOR

- Fiscal Services Limited  
(IT Division of the Government of Jamaica)



# THE APPLICATIONS

- Property Tax
- Land Valuation
- Revenue Collection (Eg. License)
- Govt. Bonds Application
- Continuous Monitoring Framework
- In-house Application etc.



# APPLICATION PLATFORMS

- Web Based Applications-Java
- Unix
- Legacy Systems
- Informix 4GL

# QUALITY ASSURANCE ACTIVITIES

## Public Sector

- Requirements gathering conducted by BA
- Feasibility Review
- Testing Preparation (eg. Create Test Plan)
- Manual & Automated Testing
- Defect Tracking system
- Organize and Conduct User Acceptance Testing (UAT) activities
  - Liaise with support services & developers to setup UAT environment
  - Conduct UAT training (dual role performed by QA & BA personnel)
  - Make Security & Lunch arrangements

## Private Sector

- Requirements gathering conducted by BA/QA
- QA professional functions and duties not uniformed across this sector
- Test Preparation less rigid (in most cases test plans & cases can be *formally* completed after qa testing)
- User acceptance testing activities not always performed *in* QA controlled environment
- Utilize some form of defect tracking process
- Manual Testing
  - Functional
  - Unit Testing & Code Reviews

# BASIC TESTING OBJECTIVE

- According to Roger S. Harrison Jr.(1997) the basic objective of testing is to *systematically uncover classes of data with thorough efficiency*
- Systematic testing implies the reuse of carefully prepared test cases
- Testing deadline is usually *the deadline...must* make testing as efficient as possible

# ACHEIVING TESTING OBJECTIVES

- Systematic Approach
  - Planning
  - Unit Testing performed by developers
  - Black Box Testing
  - System Testing
  - UAT
- Classes of Data
  - Planned
  - Boundaries
  - Data for positive & negative test cases
  - Specific to the business function
- Thorough Efficiency
  - Planning
  - Walkthroughs
  - Test Tools



# SYSTEMATIC APPROACH

## Public Sector

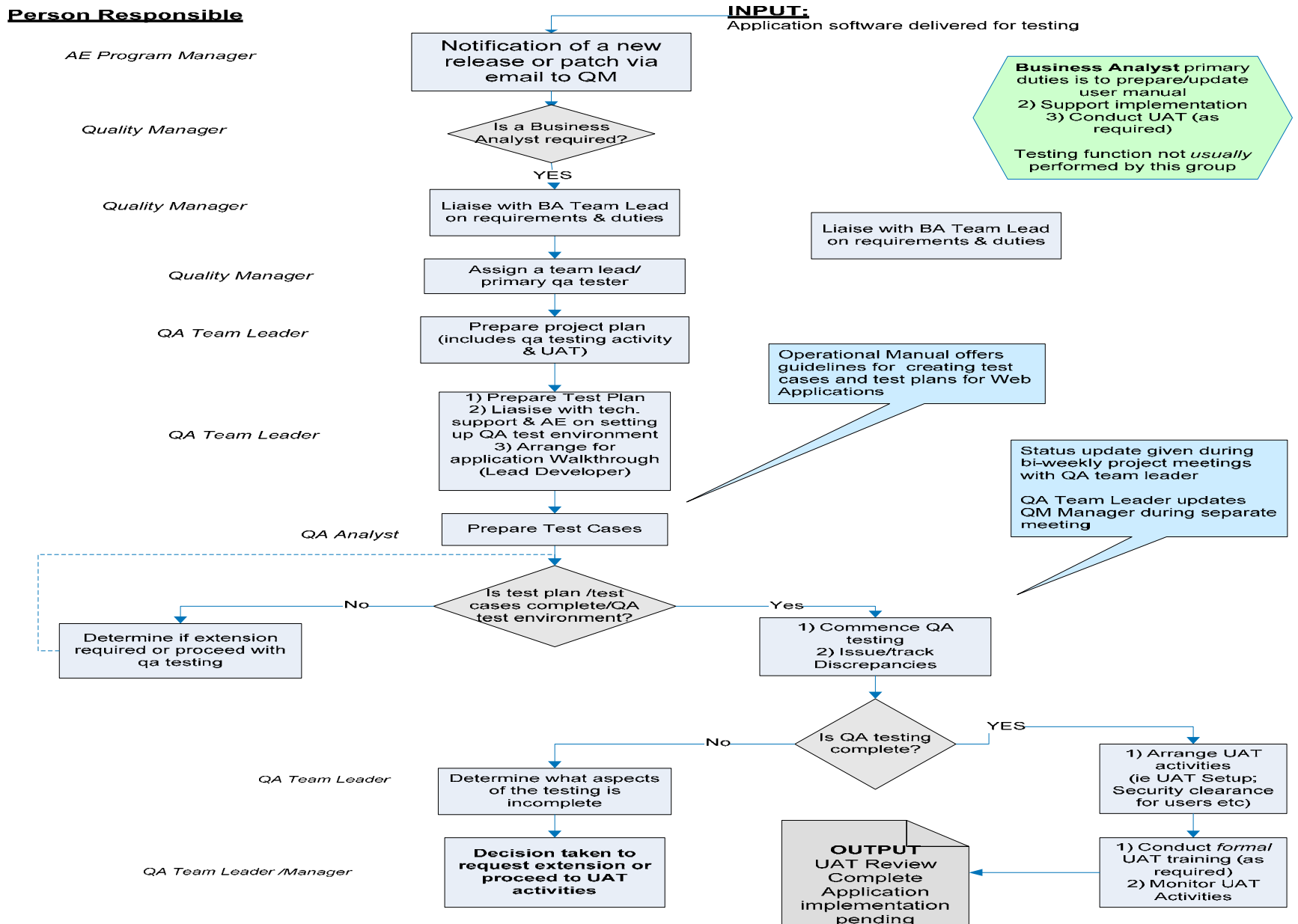
- Planning
  - Documented procedures Eg. Operations Manual; Test Plan
- Static Testing
  - Walkthroughs; Peer Review
  - Request invitation to the project development meetings
- Dynamic Testing
  - Unit Testing (developers)
  - User Acceptance Testing (UAT)
  - System Testing
    - Functionality
    - Stability under heavy use (Test Lab is setup to create mock user environment )
- Agile Testing\*\*

## Private Sector

- Planning
  - Test Plan /Test Cases Prep.
- Static Testing
  - Informal Review; Peer Reviews
  - Earlier QA involvement throughout the entire SDLC
- Dynamic Testing
  - Unit Testing (developers)
  - UAT
    - Unorthodox methods employed
- Usability Testing
  - JAD prototypes
- Agile Testing Culture/ Process\*\*

# THE TESTING PROCESS

## Person Responsible



# THE TEST TEAM

- Graduates from the University (min. Bachelor degree)
- Detail/Result-Oriented
- Dynamic
  - Acquire intimate knowledge of other process which allows them to be easily absorbed into other units
- Attractive candidates for private sector recruitment



# Class of Data

- Test Plan Preparation
  - Reusable in many cases
  - Tracking and Reporting system
    - Reporting defects to developers
    - Change Control System for source code (Eg. PVCS)
  - Requirement for each application/module test
  - Written as you go along (prominent in private sector)
- Test Cases
  - Data for positive & negative test cases
  - Assist in providing broad test coverage
- Web based application
  - Operation Manual available to provide uniformity to the test exercise (public sector)

# Achieving Efficiency

- Documentation and Procedures
- Lessons Learnt matrix
- Adopting an adaptive approach to testing. Eg Agile
- Team Structure & Dynamics
  - Private sector recruit QA professionals from the govt.
- Testing Tools

# AGILE MANIFESTO

- Manifesto for Agile Software Development states:

We are uncovering better ways of developing software by doing it and helping others do it. Through this work we have come to value:

- Individuals and interactions** over processes and tools
- Working software** over comprehensive documentation
- Customer collaboration** over contract negotiation
- Responding to change** over following a plan

That is, while there is value in the items on the right, we value the items on the left more.

# JAMAICAN AGILE ENVIORNMENT

- Used primarily in smaller firms
  - Small scale special project
- Ideal team size 4-6 persons
  - Key areas represented on team Eg. Tech. Support; BA; QA
- Customer Representative
  - Ideally individual to be consulted for application sign-off
- Developers provide weekly release
  - Highlighted the need for change control software
- Documentation sparing or non-existent
  - No official document outlining business rules
  - No User Manuals



# TEST AUTOMATION TOOLS

- Quality Center (formerly Test Director)
- WinRunner
- Rational SQA Suite (Functional Tester)
- Quick Test Pro



# Challenges Faced by Both Sectors

- Unrealistic project schedule
- Official adoption of an Agile Culture/Environment
- Active use of automated test tools
- Lack of emphasis on processes and measurement
- Understaffed project teams
- Employee Transfer Skill program
  - Trained employees moving on leaving a void

# SUMMARY

- QA personnel more *formally* involved in the various stages of the SDLC cycle (private sector)
- User acceptance testing not facilitated by the developers (private sector)
- Time limitations restrict the extent of test permutations and combinations of test sequences.
- Jamaican Agile Environment
- QA testers readily recruited into other departments
- Jamaican Govt. IT divisions boast a well defined quality department which supports QA/UAT testing activities

# Question & Answer

