

Overview of User Acceptance Testing (UAT) for Business Analysts (BAs)

A 60-minute webinar

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Presented by:

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Housekeeping

- ➔ For best results, close other programs running on your desktop
- ➔ To ask a question during the session, use chat to send a message to the host
- ➔ You will be asked to interact throughout the session, using chat, polling, and status icons



Please tell us where you are located and what time is it there?



Today's Objectives

- **Part 1:** Describe the benefits of effective UAT
- **Part 2:** Describe the role, activities and deliverables of the BA during UAT
- **Part 3:** Transform a Use Case into UAT Test documents



Part 1

Benefits of User Acceptance Testing

Which software development lifecycle do you use on your projects?



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What is User Acceptance Testing (UAT)?



It's a form of testing to verify the system can support day-to-day business and user scenarios to validate rules, various workflows, data correctness, and overall fit for use and ensure the system is sufficient and correct for business usage

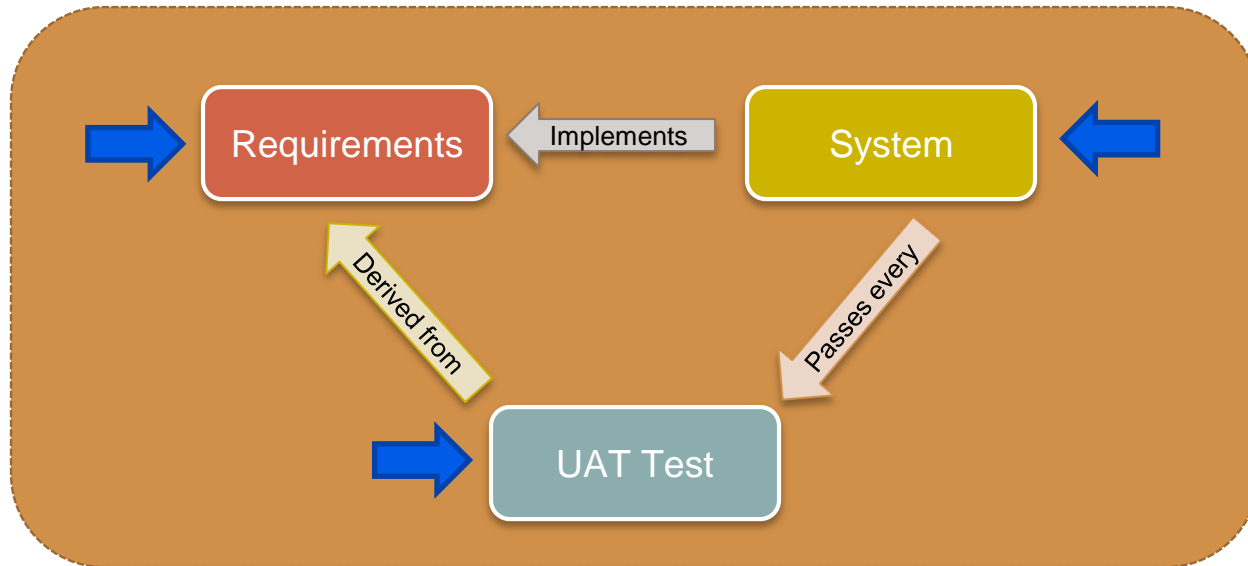


Source: WIKIPEDIA
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How much experience do you have with UAT?



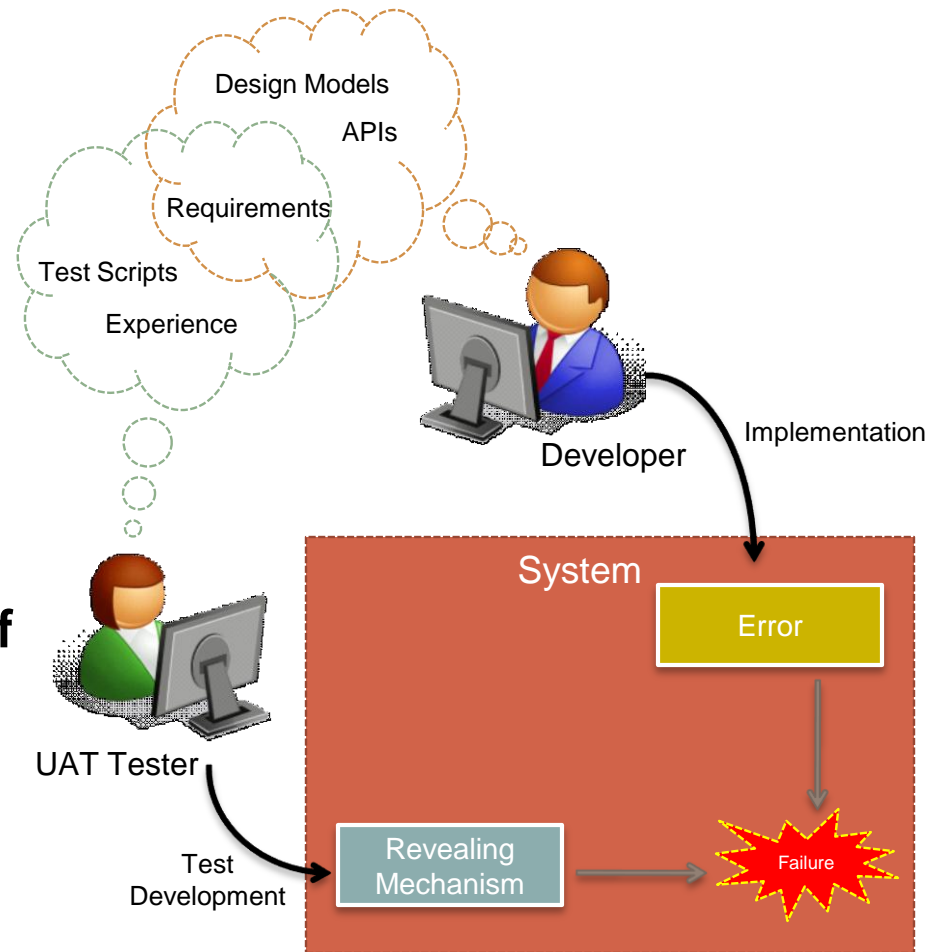
The Goal of User Acceptance Testing



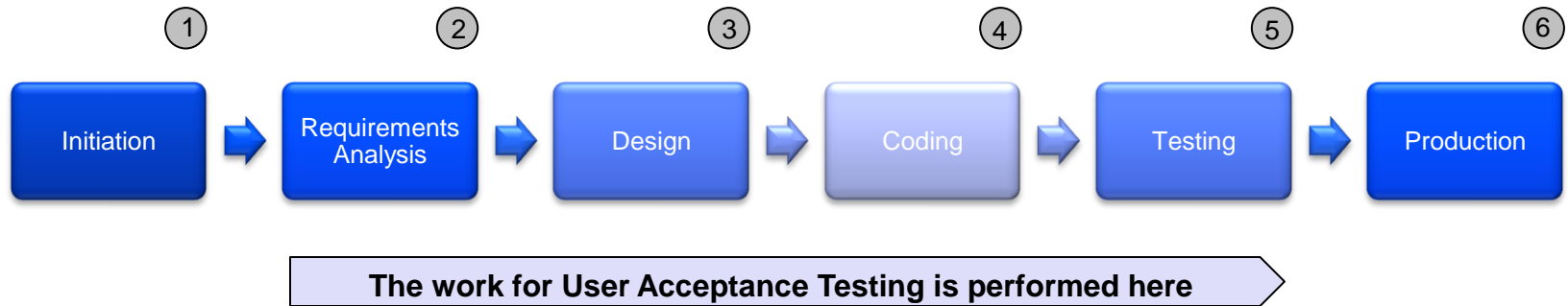
- **Given business requirements, we build systems that implement them**
- **UAT Tests are derived from these requirements**
- **UAT confirms we have confidence that the system satisfies the requirements**

The Defect Discovery Process

- ➔ **Developers create systems based on requirements**
- ➔ **Errors often occur in the development process**
- ➔ **UAT Testers create tests to verify the system's behavior is consistent with the requirements**
- ➔ **Testing is performed to detect defects and confirm usability of the system**



Where Does UAT Fit In?

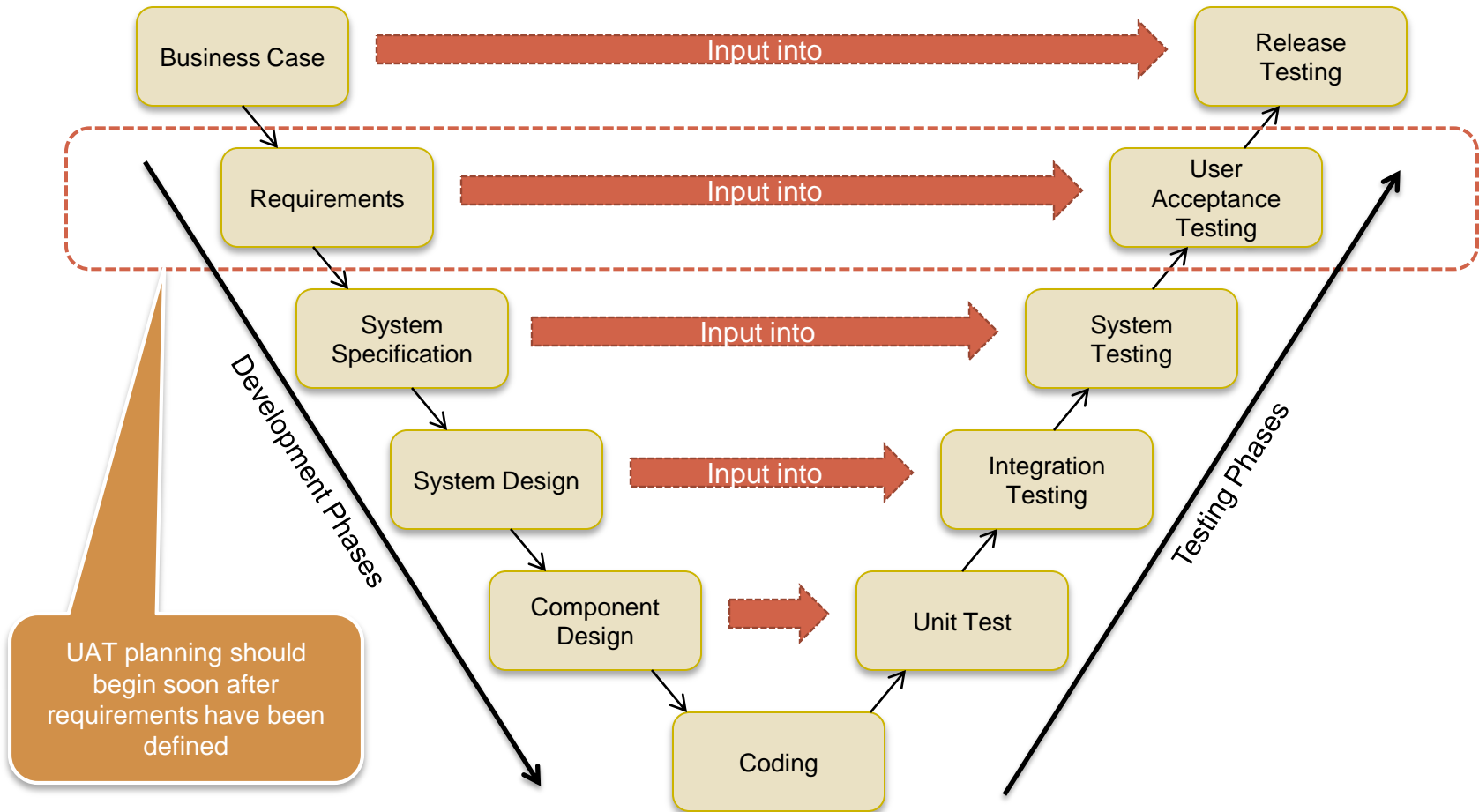


Where is the work for UAT performed in this Software Development Lifecycle?

- **The work associated with UAT begins while requirements are written and continues through the final stage of testing before the client/user accepts the new system**



The Testing “V” Model



Why is UAT Important?

- ➔ **Verifies the business/client gets what they paid for**
- ➔ **Confirms the system meets its requirements**
 - Error free
 - Support the business that depends on it
- ➔ **Find and fix problems as soon as possible**
 - Problems are more costly to fix the later they are discovered



Some Common Testing Problems



- **Poorly defined requirements**
- **Late testing activities**
- **Testing is not treated as an engineering activity**
- **Late defect identification**

How much more expensive would it be to fix a problem in production versus finding and fixing the same problem in the requirements phase?



The Cost Multiplier

If a defect is found in...	The cost to fix that defect is...
Requirements Analysis	\$1
Design	\$7
Implementation/Testing	\$40
Production	\$100

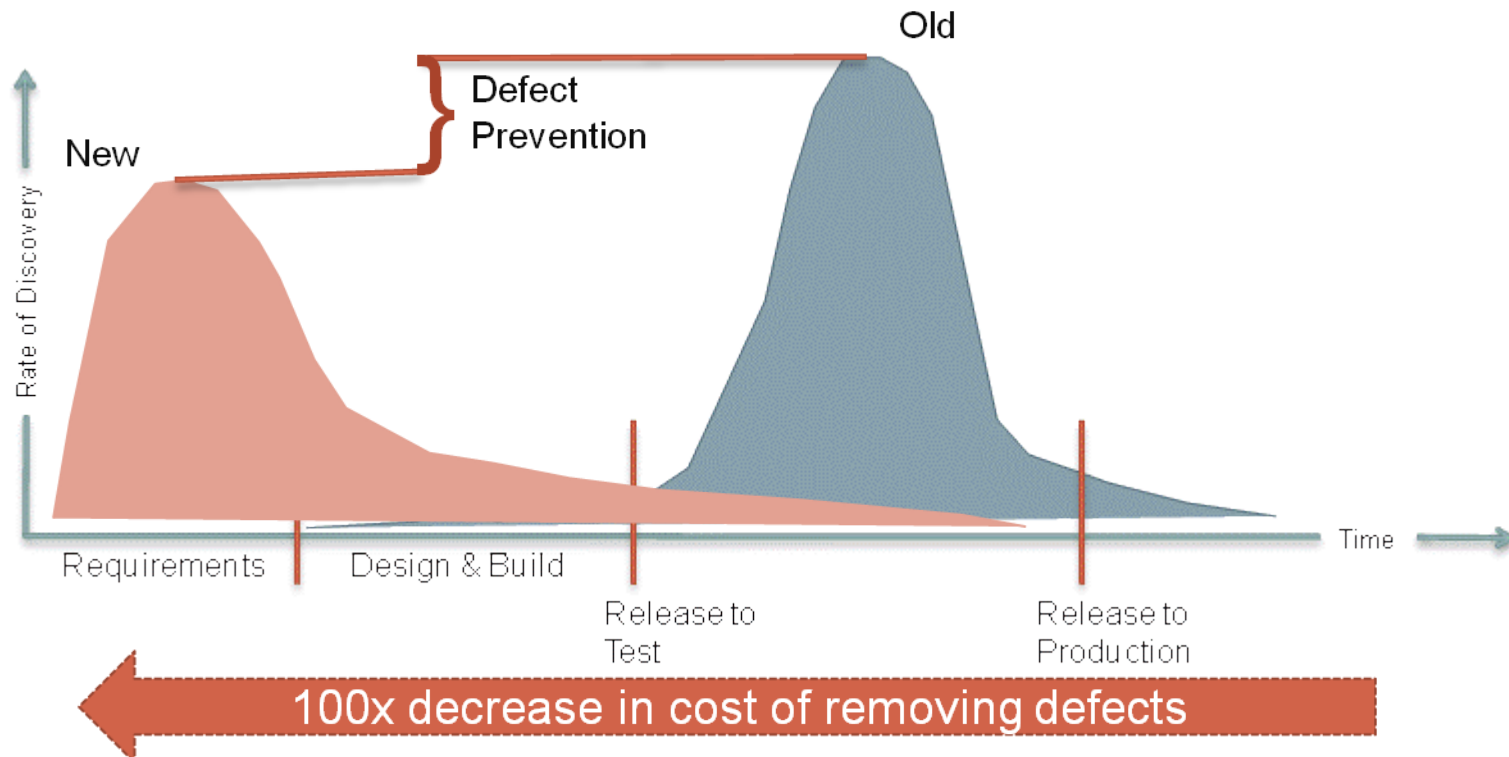


Pay a little now...or a lot later!



Late Defect Identification

- **Traditional testing approaches result in defect discovery too late in the process; resulting in significant rework**
- **Finding and fixing defects early produces cost savings**



Benefits of User Acceptance Testing

- **Confirms the system meets the needs of the business**
- **Provides the business with hands-on demonstration prior to acceptance**
- **Tests the system with “real-world” scenarios and data**
- **Find defects earlier, instead of later**



List one benefit of User Acceptance Testing?

Part 2

The Role, Activities, and Deliverables of the Business Analyst during UAT

What is the level of formality your company uses during UAT?



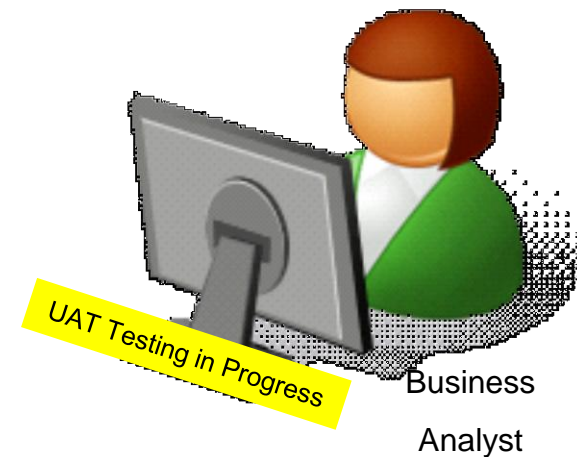
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The Business Analyst

- **Why do Business Analysts make good UAT testers?
Because they...**

- ➔ – are independent from the developers; therefore more objective
- ➔ – understand the business requirements, and can prepare tests and test data, which are realistic
- ➔ – better define the context in which the system will be used and better assess its fit for purpose
- ➔ – have a vested interest in ensuring the system is of high quality
- ➔ – are motivated to perform rigorous testing

Name one additional trait of a good UAT Tester?

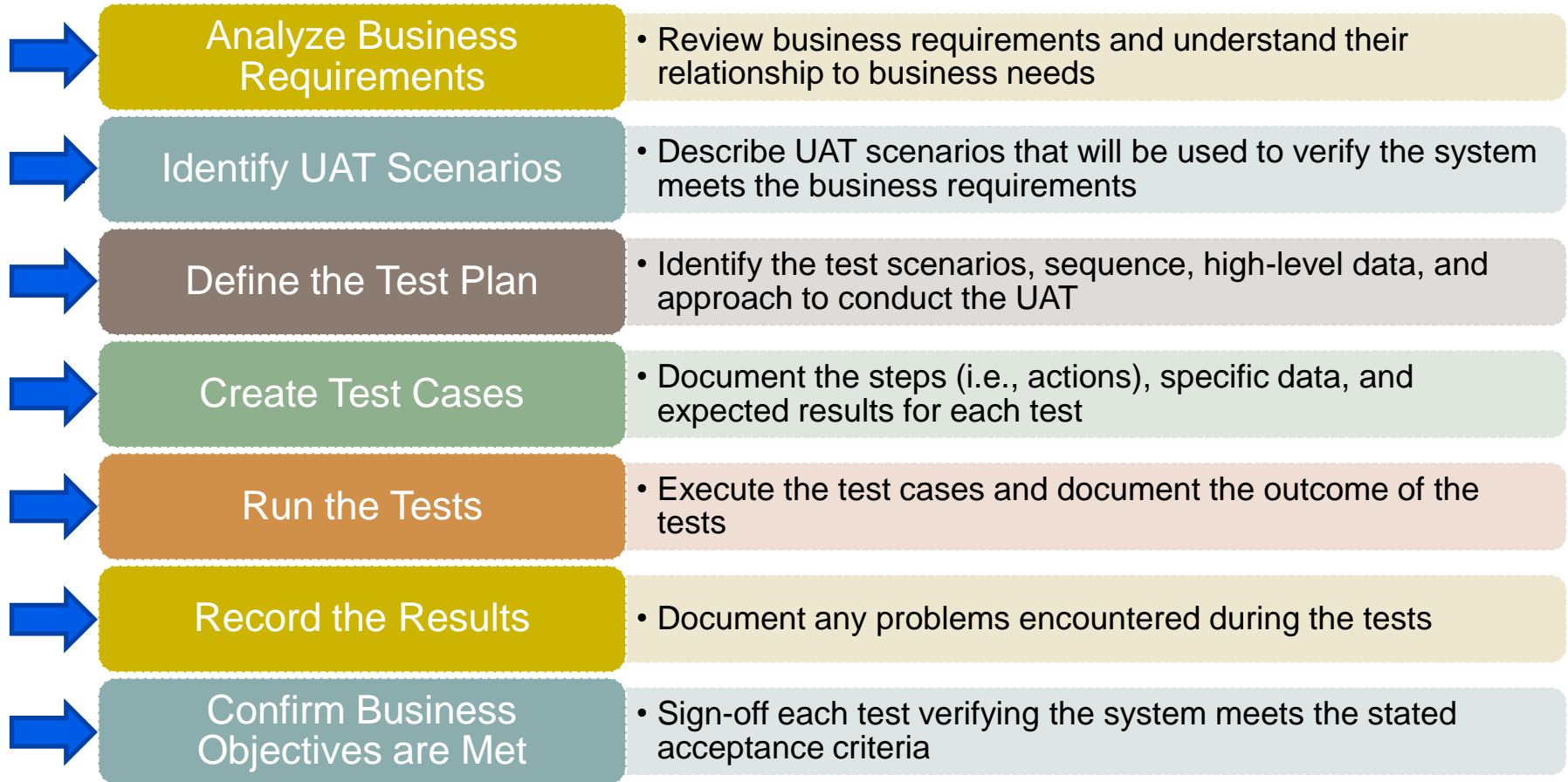


Traits of a Good UAT Tester

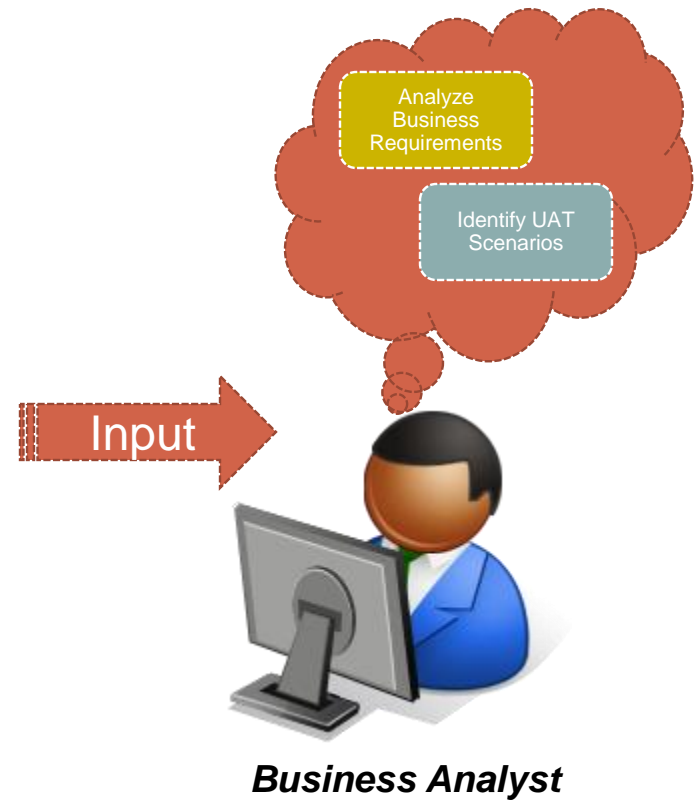
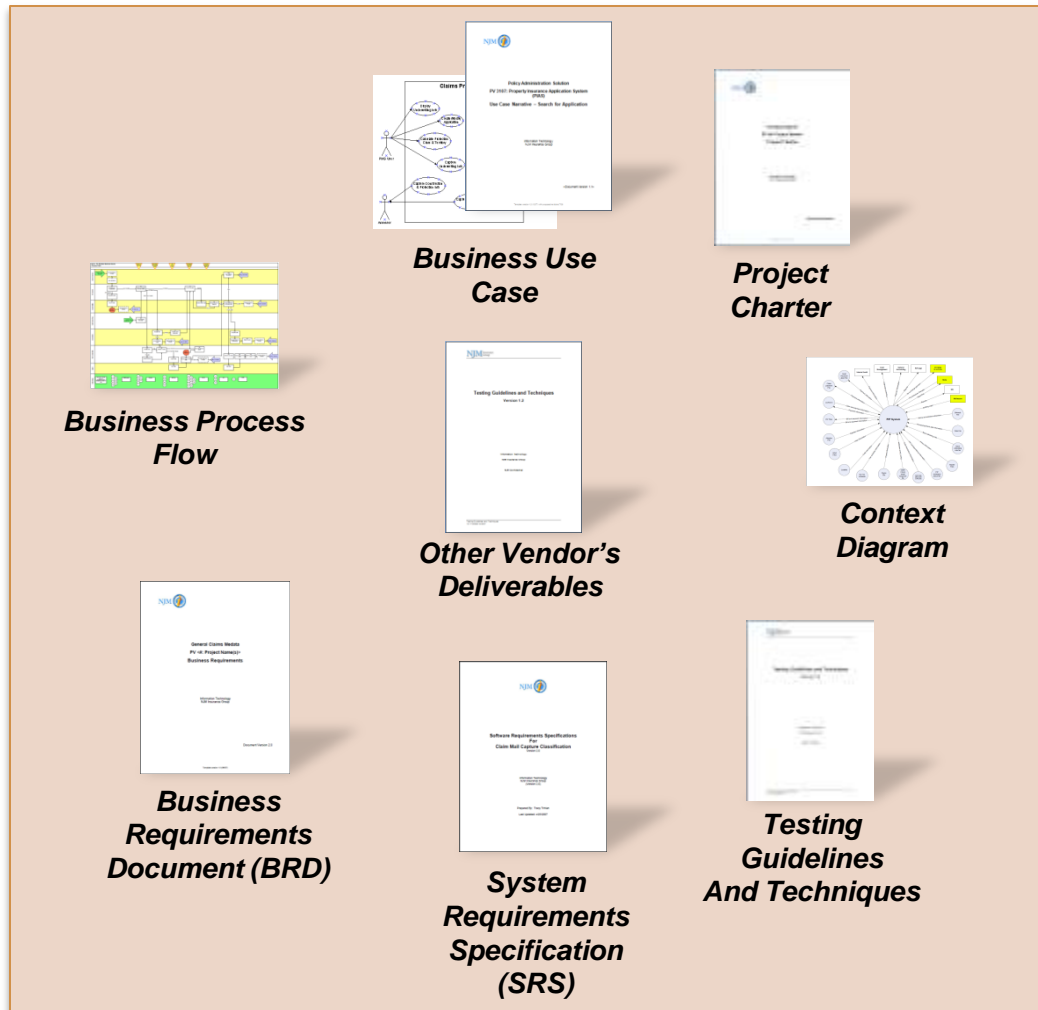
- **Background**
 - Experience of user operations
 - Not involved in the overall IT project
 - Experience in the use of IT facilities
 - Respected as an independent thinker
- **Skill**
 - Good communicator
 - Avoids politics
 - Fence sitter
 - Expects the system to fail
- **Independence**
 - Not involved in user specifications
 - Has an independent reporting structure
 - Self starter
- **Attitude**
 - Lateral thinker
 - Optimistic/pessimistic thinker
 - Tenacious
 - Analytical



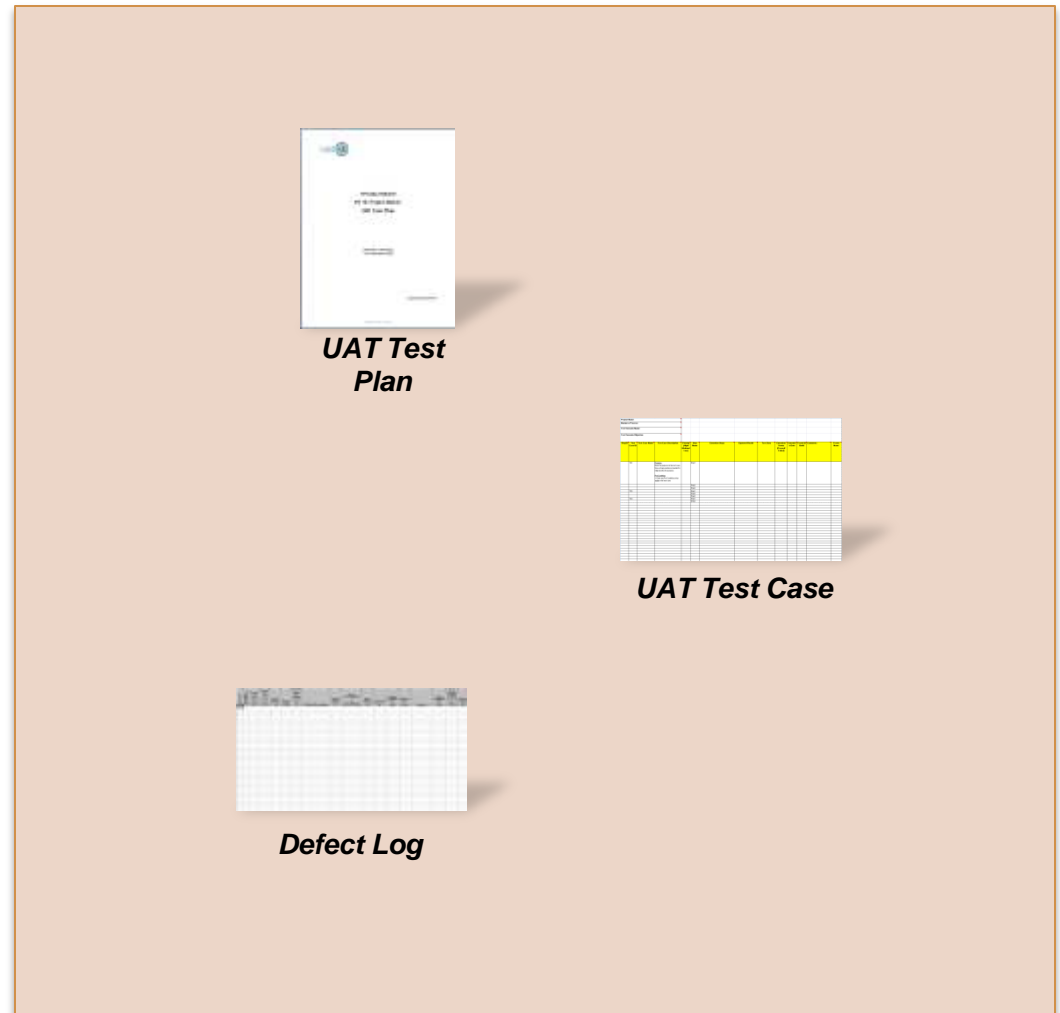
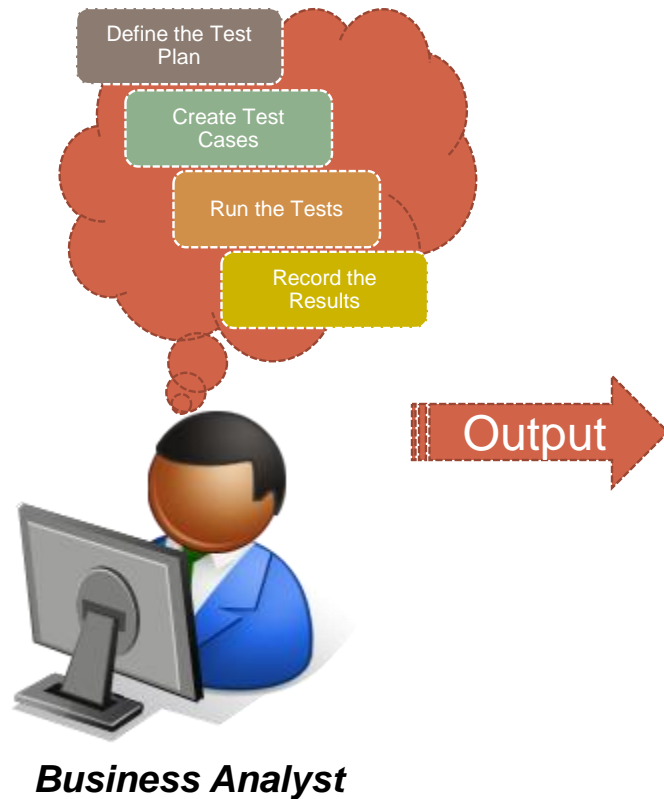
Tasks of a UAT Tester



Documents Used by the Business Analyst



Documents Created by the Business Analyst



What is a UAT Test Plan?



Documents the strategy that will be
used to verify and ensure an
application meets its requirements to
the business



Source: WIKIPEDIA
The Free Encyclopedia



Example - UAT Test Plan Template

Contains a summary of:

- Strategy
- Test scenarios
- Environment set-up
- Schedule and resources
- Defect tracking approach

Do you think a UAT Test Plan is useful?

UAT Test Plan		-<Product Name>	
Table of Contents			
1	INTRODUCTION		3
1.1	Assumptions and Constraints		3
1.2	Open Issues		3
1.3	Dependencies		3
1.4	References		3
2	TEST STRATEGY		3
2.1	Summary		3
2.2	Test Preparation		3
2.3	Order of Test Execution		3
2.4	Features to be Tested		3
2.4.1	<Enter Function Name Here>		3
2.5	Features Not To Be Tested		3
3	ENTRANCE/EXIT CRITERIA		3
3.1	Entrance Criteria		3
3.2	Exit Criteria		3
4	TEST ENVIRONMENT		3
4.1	Software		3
4.2	Hardware		3
4.3	Network Configuration		3
4.4	System Interface(s)		3
4.5	Security		3
4.6	Testing Tool(s)		3
5	DEFECT TRACKING AND REPORTING		3
6	DELIVERABLES		3
7	TESTING SCHEDULE		3
8	RESOURCES		3
9	RISKS		3
10	TEST SUSPENSION/RESUMPTION CRITERIA		3
10.1	Suspension Criteria		3
10.2	Resumption Criteria		3
	GLOSSARY		3
	APPENDIX A - DIAGRAMS		3
	A1 - Diagram Name		3
	A2 - Diagram Name		3
	APPENDIX B - OTHER ARTIFACTS		3

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Document



What is a UAT Test Case?



Identifies a sequence of steps to test the correct behavior of an application for a specific scenario objective.



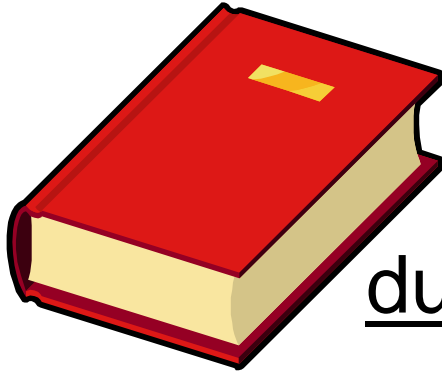
Source: WIKIPEDIA
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Additional information included in the test case are:

- Test Case Description
- Priority
- Execution steps and expected results
- Related requirement(s)
- Execution Status (pass or fail)
- Tester's Name



What is a UAT Defect Log?



A document for capturing and reporting defects identified during UAT



Source WIKIPEDIA
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Additional information included in the Defect Log are:

- Severity (eg., High, Med, Low)
- Status (eg., Open, Closed, Deferred)
- Date Reported/Fixed
- Problem Description



What are the deliverables used for UAT?

Used by the UAT Tester

- Project Charter
- Context Diagram
- Business Process Models
- Use Cases
- Business Requirements Document
- System Requirements Specification
- Testing Guidelines

Created by the UAT Tester

- UAT Test Plan
- UAT Test Cases
- UAT Defect Log

Write down one document used or created by the UAT tester?



Part 3

Transform a Use Case into UAT Test Documents

Do you use Use Cases on your project?



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What is a Use Case?



Defines a goal-oriented set of interactions between external actors and the system



Source: [WIKIPEDIA](#)
The Free Encyclopedia

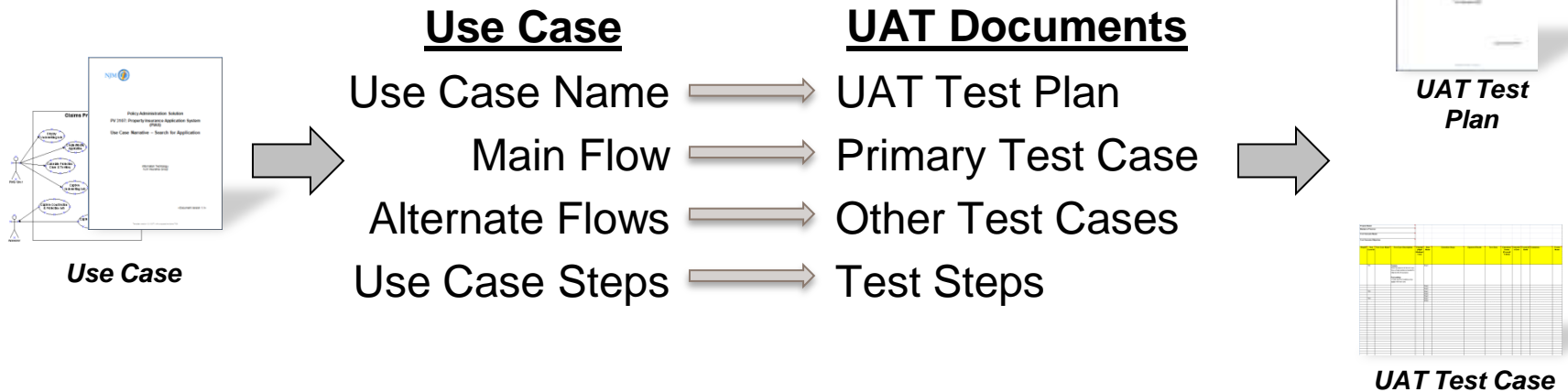
Information included in a Use Case Specification:

- Use Case Name
- Intent
- Actors
- Pre- and post-conditions
- Main success scenario
- Alternate and exceptions scenarios



Mapping a Use Case to UAT Documents

- Read each section of the Use Case (intent, pre & post conditions, and flow sequence)



- Use Cases (when properly written) are easily converted into UAT test documents

Example: Use Case to UAT Test Case Mapping

UAT Scenario: Search for Application

Primary Test Case: Search by Phone #

Secondary Test Case: Search by Ref. #

Note: Use Case narratives can transform easily into UAT Test cases, therefore they are the preferred method for writing “functional” business requirements

Use Case Narrative: PIAS – Search for Application

message 'A Reference Number cannot be created for the Phone Number entered' and continues execution without providing the Actor the ability to create a new Application.]
[Exception (Maximum Number of Phone Number Matches Found (maximum currently 5)): The system displays the message "You cannot create more than 5 records for one Phone Number. To create additional records, you will have to alter the last 7 digits of the Phone Number in some manner." and continues execution without providing the Actor the ability to create a new Application.]

10. The Actor selects one of the options still available (potentially ~~view~~ a returned record, create a new Application using the supplied Phone Number, or begin a completely new search).
11. The use case ends. (The including use case 'Create/Modify Application' will receive the selection made and continue execution.)

4 Alternate Flows

4.1 Alternate Flow - Reference Number Search Selected

4.1.1 Branch Conditions

1. The Actor has selected the Reference Number search and indicated he/she is done.

4.1.2 Post Conditions

1. A specific existing Application has been selected for viewing and potentially modifying.

4.1.3 Alternate Flow Steps

1. The system provides the ability to enter the Reference Number.
2. The Actor supplies the requested information and indicates he/she is done.
3. The system determines that the Reference Number value entered is valid based on the following:
 - a. Format must be '#####l#####' (where 'l' is a numeric value and '#' is an alphabetic value of 'N', 'P', 'R', 'D', or 'Q')[Exception (Invalid Reference Number): The system displays the error message "The Reference Number you have provided is incorrectly formatted. Please check the formatting and try again. A Reference Number begins with 5 numeric characters (0-9) followed by an alphabetic character (e-z, A-Z) followed by 7 numeric characters (0-9)." and allows the Actor to re-enter the requested information by returning to the previous step.]
[Exception (Required Field): The system displays the error message "This field is required, please select or enter a value." and allows the Actor to re-enter the requested information by returning to the previous step.]
4. The system sends the Reference Number entered along with a request to search for an exact match to the Mainframe Data Source.
5. The Mainframe Data Source indicates a match was found and returns the following existing Application information:
 - a. Reference Number
 - b. First Named Insured (source data is single string)
 - c. Second Named Insured (if one exists) (source data is single string)
 - d. Residence Location with an Indicator identifying whether it is a Primary or Secondary Residence (if one exists)
 - e. Application Status (if source data returns Reason Code or Reason Code description, display 'Declined'; otherwise, display 'Active')

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PIAS Use Case Narrative - Search_U1.1.doc



Convert Use Case Steps into Test Case Steps

Test Scenario Name: **Lookup New Applicant**

Objective: **To determine that the system processes a new applicant correctly**

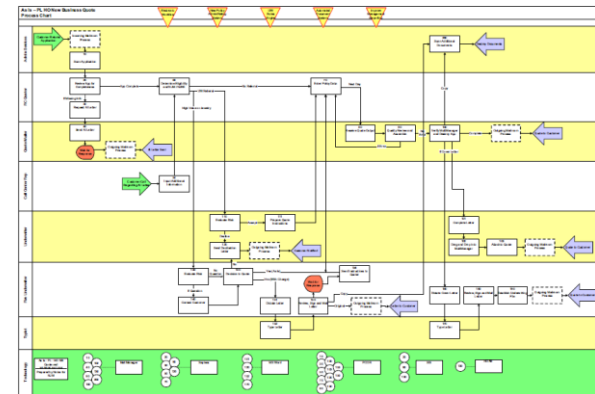
Test Case ID	Test Case Name	Test Description	Step #	Execution Steps	Expected Result	Test Data
TC1	New applicant applies for a new policy	To ensure the system responds correctly for a new customer <u>Preconditions:</u> User is logged in	1	Navigate to New Customer Application Form	System displays a blank application form showing only the customer name and SSN fields	Name = John W. Smith SSN = 111-22-3333
			2	Enter customer's last name, first name, and SSN	System searches for SSN, and not finding a match, displays empty address fields, and prompts for address information	
			3	Enter customer's address, phone, etc. and save information	System saves information and displays auto policy set-up form	Address = 123 E. Main Street, Anytown, CO Phone (609) 123-4567

What other BA deliverables can be used to create a UAT Test Case?



Business Process Models

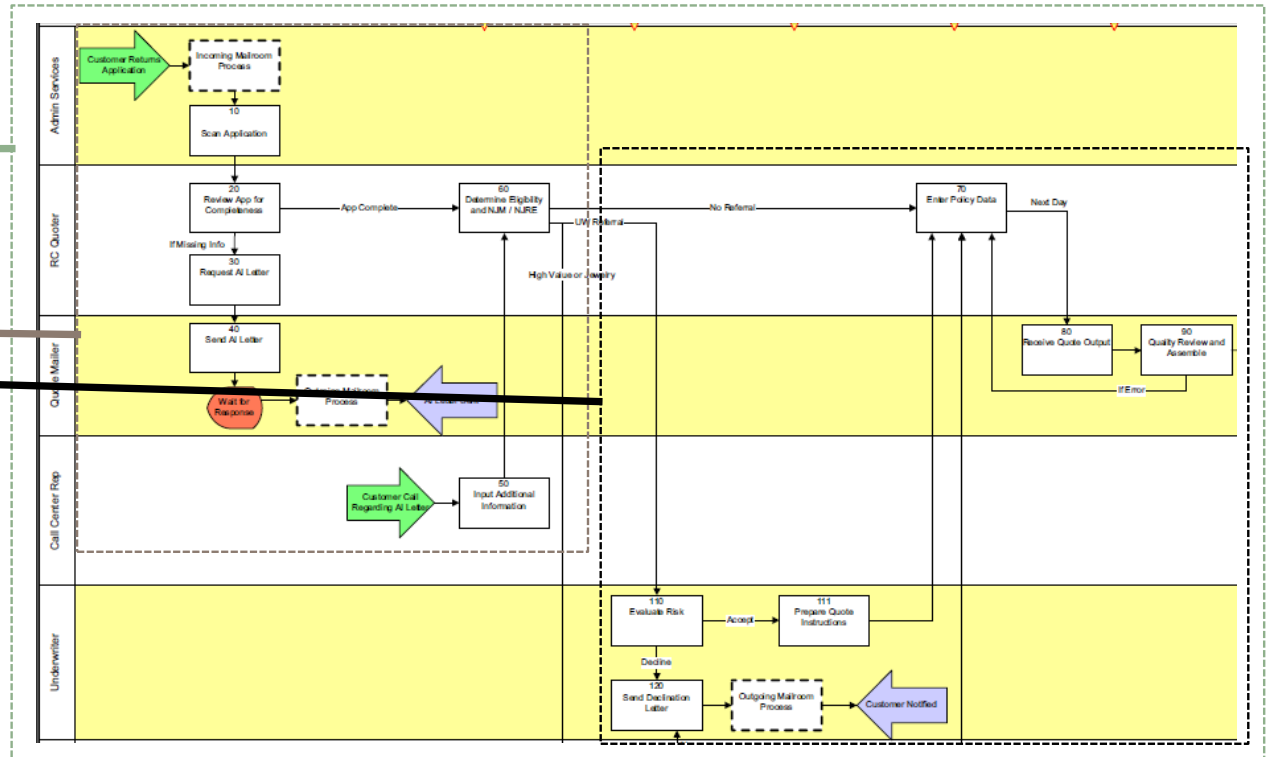
- Business Process Models can also be used to define one or more UAT test scenarios
 - Look for logical breakpoints
 - Consider the “happy” path as one scenario
 - Alternate flows will become other scenarios
- Business Process Models can also be partitioned into separate UAT scenarios (when appropriate)



BPM to UAT Test Case Mapping

UAT Test: Process a New Insurance Quote

Receive Quote
Determine Eligibility



Thank you for attending this Webinar!

Questions?



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