Utilizing Process Models

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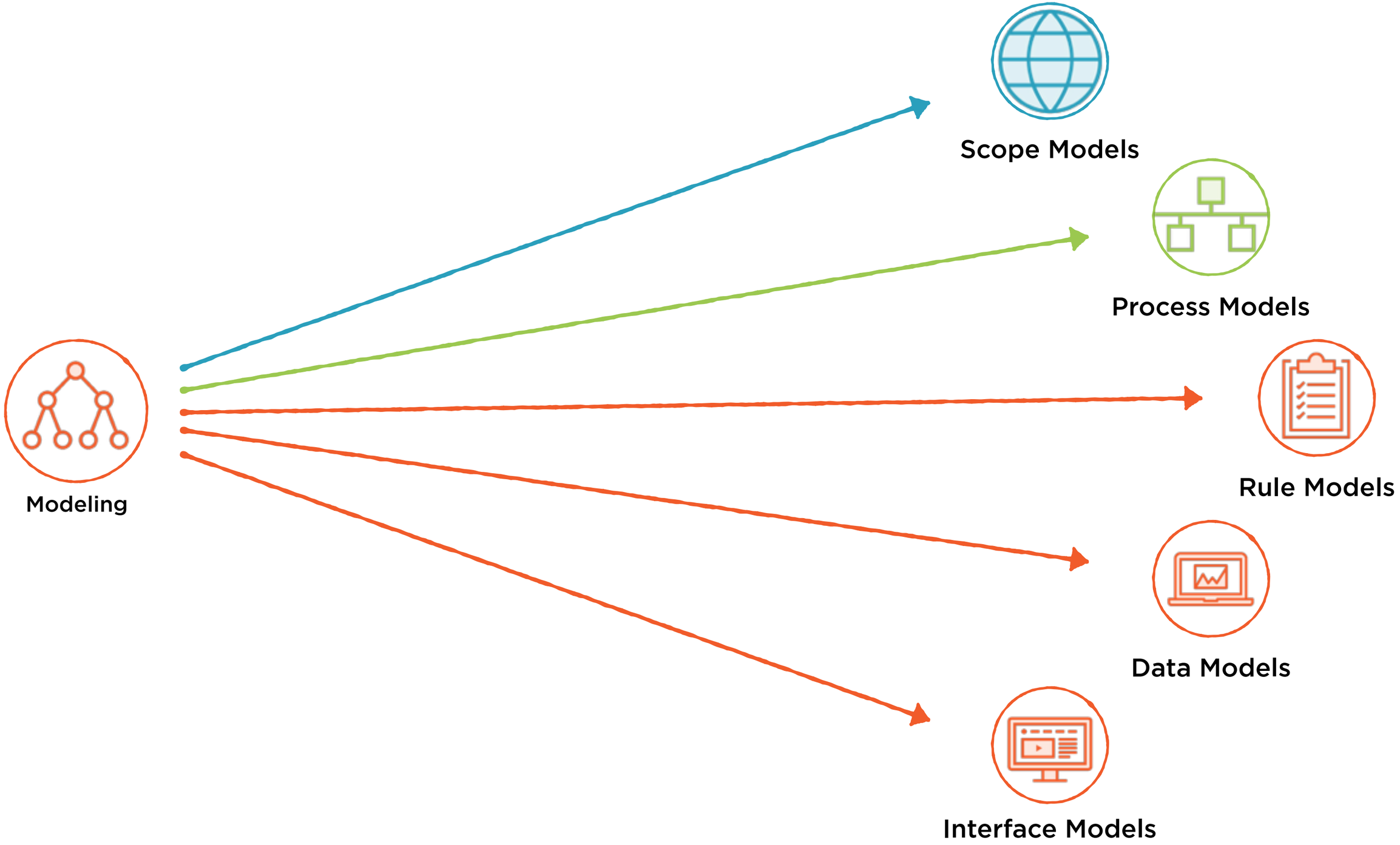

Scope Models
Process Models
Modeling
Rule Models
Data Models
Interface Models

Process Models

Spotlights and provides valuable context to the interaction of stakeholders with processes, solutions, and projects

What's Ahead

Process Flows

Use Cases

User Stories

Crafting Effective User Stories

Process Flows

Process Flows

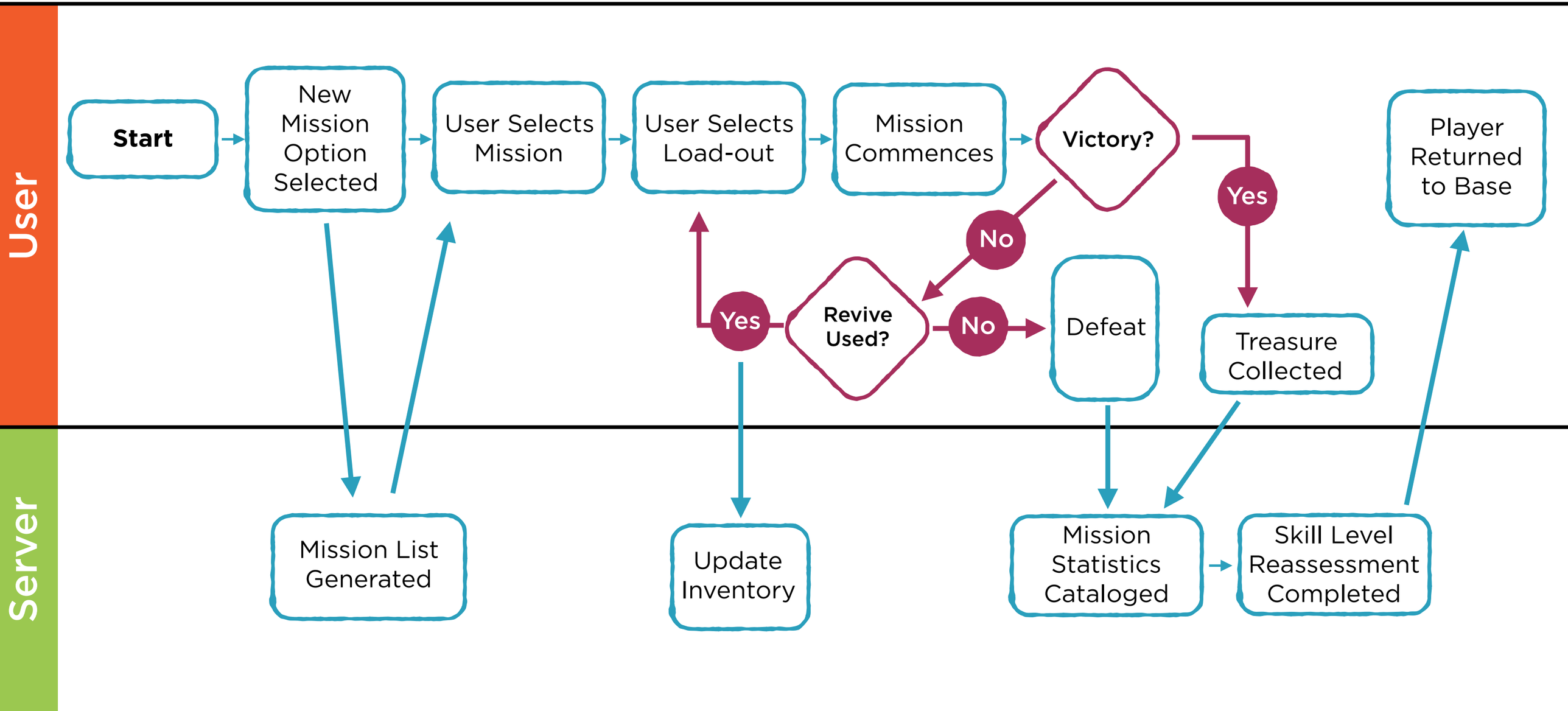
Illustrates how work is completed

Typically human focused; sometimes referred to as **system flows** when analyzing processes involving systems

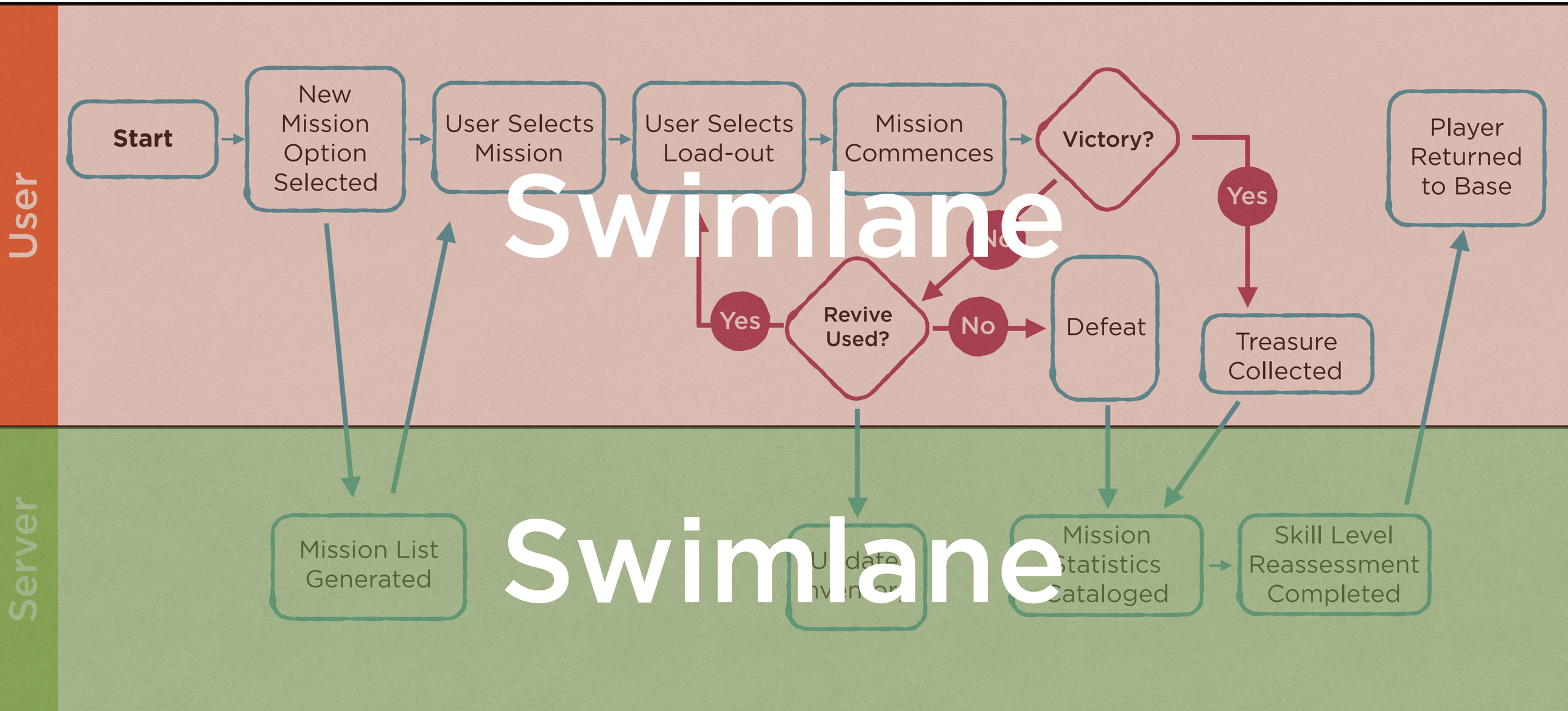
May be used to model current or proposed workflows

Creating a Process Flow

Creating a Process Flow



Creating a Process Flow



Process Flows

Tips for Usage

Highly useful when communicating with stakeholders, including during elicitation

Help to identify missing features and requirements thanks to logic and specificity employed

Important tool in verifying requirements

Process Flows

Relation to Requirements

Requirements can be identified as conditions necessary for process flows to be completed smoothly

Process flows offer opportunity to verify requirements via traceability

Use Cases

Use Cases

Description of how goals are achieved through a series of actions and processes

Typically text or table-based in nature

Focus on functional qualities of systems

Hones in on specific scenarios

Use Cases

Use Case Components

An action phrase is used for the **name**

A brief **description** and list of **actors** are included

The **organizational benefit** is described, helpful for context and prioritization

Preconditions and **triggers** help us understand the circumstances under which the action may take place

Use Cases

Use Case Components

Normal and **alternate flows** are included, indicating how events may unfold

Exception flows indicate when and how issues may arise that result in failure

Post conditions describes the changed state following action taking place

Creating a Use Case

	Matchmaking a Game
Description	Players are matched with other players, based on skill level, geography, and other attributes, for asynchronous multiplayer sessions
Actor	Player
Org. benefit	Matchmaking allows for rivalries between friends and allows for an infinite number of challenges to exist without requiring additional design work from the development team.
Triggers	Player selects option to choose a mission in the “High Seas” area
Preconditions	Player has a fleet ready (1 or more ships), an active connection to game servers, and has exceeded Level 5
Post conditions	Player wins and opponent loses resources or player loses and opponent is rewarded for their defensive effort succeeding. All resource data synced to game servers based on result of mission

Creating a Use Case

	Matchmaking a Game
Normal flows	**NF1 – Player Succeeds:** 1. Player identifies opponent (See AF1) 2. Player initiates attack 3. Damage system calculates attrition between player and opponent forces 4. (See EF1) Player is successful in defeating opponent 5. Resources from opponent are rewarded to player 6. Player and opponent resource levels synced to game server 7. Player is returned to “High Seas” map **NF2 – Player is Defeated:** 1. Player identifies opponent (See AF1) 2. Player initiates attack 3. Damage system calculates attrition between player and opponent forces 4. (See EF1) Player forces wiped out *or* player issues a retreat order 5. Opponent is rewarded for successful defensive effort
Alternate flows	**AF1 – No Opponents Available:** 1. Player is informed no challengers are available 2. Player is transferred to “Candy Atoll” with list of PvE missions
Exception flows	**EF1 – Connection Lost:** 1. Retreat order automatically issued; defender status reset 2. Return to Step 5 of NF2

Use Cases

Tips for Usage

Helpful when multiple possible outcomes exist in a complex series of interactions

Generated and used during elicitation, analysis, and in review with stakeholders

Offers a structured narrative for functionality that can be iterated upon

Useful in constructing tests, analyzing requirements, and validating solutions

Use Cases

Relation to Requirements

Analysis of use case steps yields list of requirements, assists in traceability efforts

In some scenarios, use cases may actually substitute for a formal list of requirements

Functional and nonfunctional requirements should be kept separated

User Stories

User Stories

Narrative statement describing required functions and features of a solution

Written from user's point of view, describing how they interact with a system, and for what purpose

Creating a User Story

Creating a User Story

As a player, I want to...

...find new ways to improve my navy...

...so I can keep having fun playing the game.

Creating a User Story

As a player, I want to...

...find new ways to improve my navy...

...so I can keep having fun playing the game.

Acceptance Criteria:

Simple discovery mechanism in place for new content

New content is added regularly to maintain engagement

Players are directed toward relevant content based on level, play history, and captured analytical data

New content creation is guided by captured analytical data

User Stories

Tips for Usage

May be derived from, or help inform, process flows

One of the clearest ways to present value to a wide range of stakeholders

Helpful in prioritizing backlogs in agile environments

May evolve and gain specificity over time

User Stories

Relation to Requirements

User stories are comprised of groups of requirements

Stories improve traceability of requirements to objectives by providing context

Allows for greater empathy for user when specifying and prioritizing work

Crafting Effective User Stories

Crafting Effective User Stories

I N V E S T

Crafting Effective User Stories

I ndependent
N egotiable
V aluable
E stimable
S mall
T estable

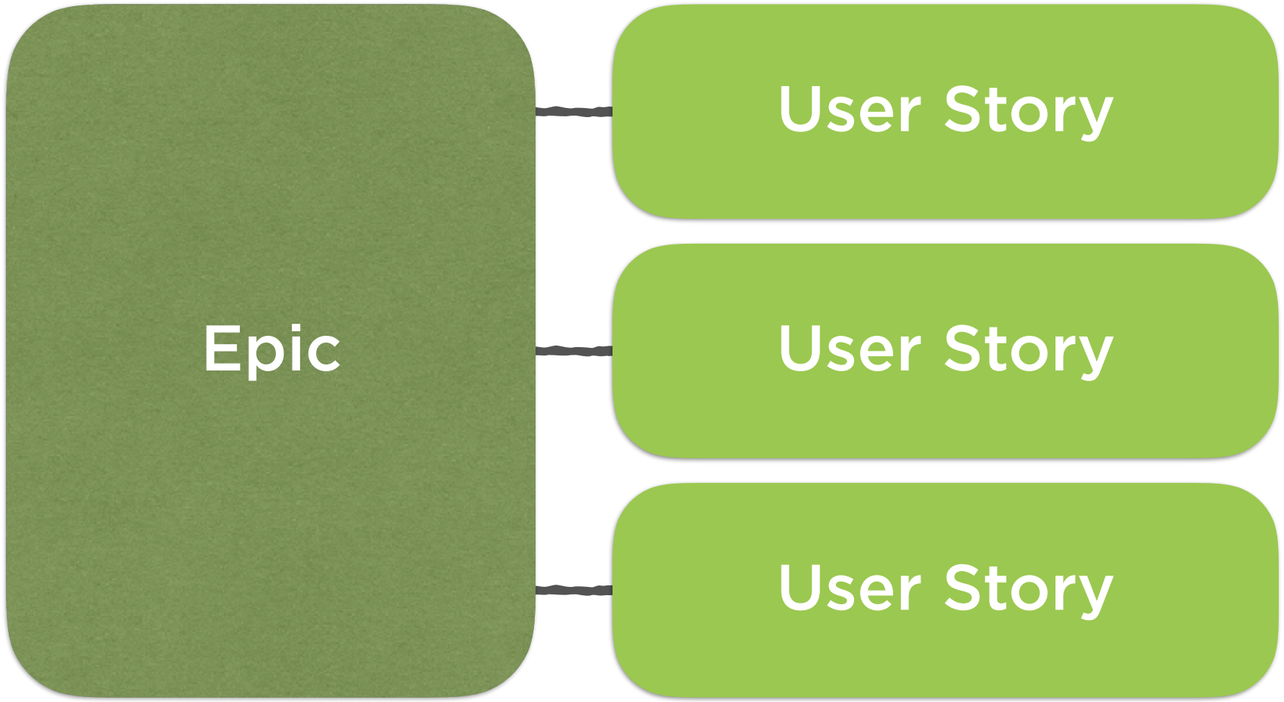
Crafting Effective User Stories

Independent

User stories should typically be independent of others, focusing on its own area with little overlap

Stories should typically be focused enough in scope to be addressed in one iteration of an agile project

Crafting Effective User Stories

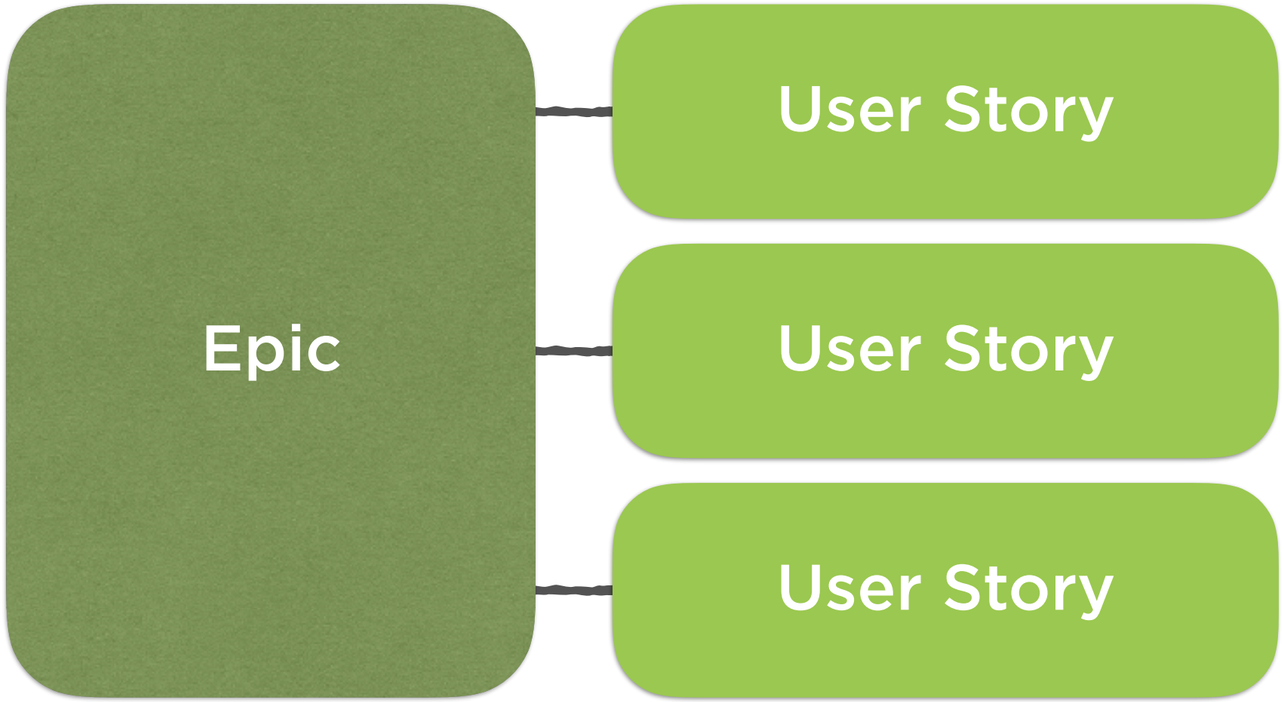


Epics

Related set of stories; still should minimally overlap

Stories should typically be addressable in one iteration of an agile project

Crafting Effective User Stories



Epics

Used to group stories...

- To better organize them
- When work is too complex to be completed in one iteration

Crafting Effective User Stories

Negotiable

Stories remain subject to change right up until implementation occurs

Early drafts of stories can spark stakeholder engagement, lead to better solutions with broader support

All elements of stories subject to changes

Crafting Effective User Stories

Valuable

Must communicate how function or action solves problems and meets needs

Well-crafted stories make a strong connection to value, illustrate value clearly

Crafting Effective User Stories

Estimable

Should either include an estimation of resources expended or provide enough specificity to allow estimations to occur

Stories may be revised closer to implementation to allow for better estimates

Crafting Effective User Stories

Small

Must be large enough to offer value, yet small enough to be implemented within a single iteration of an agile project

Stories too small may lead to questions of scope validity

Stories too large may be better restructured as epics

Crafting Effective User Stories

Testable

Value should be clear and story elements should be verifiable by others

Weak verification may indicate weak traceability, raising questions about story's benefit to meeting needs

Takeaways

Process Models

Focus on how stakeholders interact with processes, solutions, and projects

Examples include process/system flows, use cases, and user stories

Takeaways

Process Flows

Visualizes the progression of work

May be used to represent current or proposed workflows

Squares represent steps; diamonds represent decision points; actors/systems often divided into different “swimlanes”

Takeaways

Use Cases

Describes how goals are achieved

Focuses on functional work; excludes non-functional attributes

Includes a description, list of benefits, normal and alternate flows, exception flows, and pre/post-conditions

Takeaways

User Stories

Narrative describing how actions lead to valuable results

Written from the point of view of the user

Often revised many times as specificity is added, implementation approaches

Takeaways

User Stories

INVEST: Independent • Negotiable
Valuable • Estimable • Small • Testable

Epics are groups of user stories that are related but too large to be accomplished in whole during one iteration

What's Next

Rules, Data & Interface Models