## Gateway: The BPM model shown is for a Travel Agency that receives the customer's 7. The website requests authorization from the Financial Institution to charge the Pool: acts as a graphical container for partitioning a set of activities customer's credit card. (BPMN: Task with a possible Time-out Exception Flow). trip criteria and displays matching flight and hotels. Once the customer A Gateway is used to control the divergence and A swim lane is a visual mechanism from other Pools It contains Events Activities Gateways Execution within the Travel Agency's lane is paused (step 9) waiting for a convergence of Sequence Flow. Thus, it will makes a selection, the agency charges the customer's credit card and of organizing different activities into response from the Financial Institution. Connecting Objects and Artifacts. determine branching, forking, merging, and joining books the flight and hotel. An itinerary is sent to the customer and a link to categories of the same functionality 8. The Financial Institution processes the authorization request Lane: used to organize and categorize activities within a Pool. A of paths. Internal markers will indicate the type of Two notations are used to organize the airline check-in website is sent to the customer 24hrs before the trip Lane is represented as a sub-part of the pool. behavior control. There are five types of gateways: 9. The Financial Institution sends back the authorization request response. activities: Pools and Lanes. date. The modeler follows the 6 steps shown below: 10. The paused website receives the response and continues execution. XOR - Data-Based exclusive **Event:** × 11. The website evaluates the response received (BPMN: Data-Based Decision decision and merging Shown I. Define the Process Participants (Pools): An event affects the flow of the process and is usually Gateway) with or without the "X" marker Start by defining the process participants. In the example shown, there are three 12. In the happy path, the credit card charge is authorized. (BPMN: Default associated with a "Trigger" that defines the cause of the XOR - Event-Based exclusive participants: The Customer, The Travel Agency and the Financial Institution. event. There are three types of Events, based on when the decision and merging. The process is developed from the point of view of the Travel Agency, hence, the 13. The website performs a transaction that includes two activities: booking the affect the flow (3) 目 Customer and the Financial Institution are considered as external Participant who flight and booking the hotel room. The Transaction insures that all activates are completed successfully or all of them will be cancelled. (BPMN: Transaction). Start Event Inclusive (OR)- inclusive Ô will be communicated with using messages. Each Participant is represented as a Intermediate Event decision and merging 14. In the happy path, the booking is successful for both. End Event 15. The website prepares the trip itinerary. Complex -- complex conditions \* II. Define the level of activity detail to show within each Pool: 16a. The website emails the trip itinerary to the customer. $\Theta \otimes \Theta$ and situations (e.g., 3 out of 5) If the activities performed by a participant are irrelevant and instead the process is End 16b. At the same time (in parallel), the Customer Service dept mails the paper focused on the messages exchanged with the participant, then the process model itinerary to the customer's physical address. Connecting objects: Parallel (AND) -- forking and shows minimal (like in the case of the Financial Institution) to no activities (like in 17. The process continues when both itineraries are sent to the customer Sequence Flow: joining the case of the Customer) within that Pool Activity: (RPMN: Parallel .loin) A Sequence Flow shows in which 18. The website closes the order order the activities will be performed An activity is a generic term for work to be performed. There are two Activity types: **Artifacts:** 19. The website waits until 24 hrs before the trip date. III. Define how to categorize the activities within each Pool: Task: An atomic activity. There are three types of markers for a Task: a Loop Marker, a Sequence flow may be: 20. The website emails the customer a link to the airlines check-in website. Multiple Instance Marker and a Compensation Marker. A Task may have one or two marke Artifacts allow modelers to add information into the Since it is necessary to distinguish between the automated activities performed by a) Conditional Flow: < (BPMN: Sub-process with Activity Looping) diagram so it is more readable. There are three the Travel Agency's website and the manual activities performed by the Customer Task with Loon Task with Task with 21. The process ends successfully Service dept, the two are shown as two Lanes within the Travel Agency Pool. Artifacts types: b) Default Flow: Compensation Multiple Instance Group: The Group is used to group IV. Define the activities that lead to a successful end: V. Define the alternate paths that lead to a successful end: Message Flow: 0--different activities but does not Note: the following steps correspond to the steps in the BPMN diagram below First Alternate Path: At step 7, if the request to authorize the credit card times Sub-Process: A compound activity. The Sub-Process can be in a collapsed view that hides A Message Flow is used to illustrate affect the flow in the diagram. out (more than 10 seconds), then the flow is routed to steps: 22, 23, 24, 8, 9, 25, its details or in an expanded view that shows its details. There are five types of markers what messages flow between two 1. Define the starting event of the process. The process starts when the web site 26, 27, 28 and resumes at step 15. for a Sub-Processes: a Collapsed Marker (the plus sign), a Loop Marker, a Parallel receives a message from the customer with the desired flight and hotel room process participants (Pools). Sequence Data Objects: Data Objects show Marker, a Compensation Marker and Ad Hoc Marker. criteria. (flight dates, no. of stops, no. of nights, hotel rating, etc). (BPMN: Start Flow is not allowed between Pools. the reader which data is required or Second Alternate Path: At step 13, if booking fails for the first, second or third A collapsed Sub-Process may have one to three of these other markers, in all Message Event) produced in an activity time, then the flow is routed to steps; 29, 30, and resumes at step 13, combinations except that Loop and Multiple Instance cannot be shown at the same time 2. The web site performs two sub-processes simultaneously (in parallel) to retrieve Association: the flights and hotel rooms that meet the customer criteria (RPMN: Parallel Annotation: An annotation is a way for An Association is represented with a Collapsed Sub-Multiple Compensation Activity Expanded Sub-Process) Examine the model to find more alternate paths. the analyst to convey additional dotted line. An arrowhead may be Instance Looping 3. The Web site presents the available flights and hotel rooms to the customer. information to the reader of the model added to indicate the flow direction. \$(<del>+</del>) || + ~[<del>+</del> **+** 4. The website decides the next step based on the event that will take place, which VI. Define the exception paths that will not lead to a successful end: Associations are used to associate an will be one of three: a) no customer response for 15 minutes (which may make the First Exception Path: At step 4, if the system waits for 15 minutes without A Transaction is a Sub-Process that is supported by special protocol An Intermediate Event can be placed on the Artifact, data or text to an Object, A displayed flights and hotel rooms obsolete), b) the customer requests to continue receiving a response from the customer, the flow is routed to steps: 39, 40, 41, that insures that all parties involved have complete agreement that boundary of a Task or Sub-Process to represent directional Association is used to booking with a selected flight and hotel room, and c) receive the customer's 42, 43 and 21 show that a Data Object is either an the activity should be completed or cancelled. exception or compensation handling. request to cancel. (BPMN: Event-Based Gateway) input to or an output from an activity A Transaction has three outcomes: Successful completion: this will Request authorization 5. In the happy path, the process will receive a message from the customer with a Second Exception Path: At step 11, if the credit card charge are not authorized, be shown as a normal Sequence Flow that leaves the Sub-Process request to continue booking for selected flight and hotel room. (BPMN) to charge credit card the flow is routed to steps: 50, 51, 52, 42, 43, and 21. Failed Completion (Cancel): When a Transaction is cancelled then the activities inside Intermediate Message) timed out the Transaction will be subjected to the cancellation actions, which could include rolling 6. The website requests and gets the customer's credit card information Problem with Receive trip Review trip Trip [10 sec] Examine the model to find more alternate paths response back the process and compensation for activities. Hazard: This means that something itinerary itinerary went terribly wrong and that a normal success or cancel is not possible Note about notations colors Secure connection and line styles: A notation MAY use any line colors to suit the purpose of the 34 Present a message modeler or tool (e.g., to highlight 33. Failed booking for the 4th time 35.Manual Charge Credit Card Process that customer service the value of an object attribute) ooking will handle the order A notation MAY be extended to 54. Complex 51. Present a use any line styles to suit the Gateway 37. Failed booking flight only or H. room only, nessage credit card purpose of the modeler or tool 38. To be defined later List of flights could not be charged 40. Present (e.g., to highlight the value of an START Investigate Transaction And hotel rooms messane renuestin integrity. Both bookings object attribute) with the Receive custo Repeat for each emai user to start again 30. Failed booking less than 4 time should be successful or condition that the line style flight and 29 Failed N N registered with the trip MUST NOT conflict with any hotel room criter the entire transaction booking 20. Send email should be rolled back. current BPMN defined line style 31 Wait Itinerary notification with link to ~ [+ 2. Expanded Thus, the line styles of Sequence flight check-in Flow, Message Flow, and 16a. email D F Associations MUST NOT be Retrieve Book selected fligh 39. Waiting for 15 min wit Institution trip itinerary 4. Evaluat flights withi Response no customer response the next customer 12. Charge Request and event criteria 3. Present 14 Successful 17 Paralle get Credit Card 7. Request authorization to Cancel flight flights and hotel 18. Close ٩ $\Box$ booking information 15. Prepare rooms to charge credit card Retrieve hotel 5. Receive customer's 11. evaluate: 19. Delay until 24 rooms within request to continue hrs before trip the response customer hooking with selected [10 sec] criteria flight and H. room Poster Info 43. Cancel order Cancel room 23.Present a message subprocess 41. Cance that customer service Author: 53. Unexpected 44. Receive customer's will handle the order Khalid B Simaan request to cancel booking Poster version: 27. Successful 1.0.0 - May 20th 2008 24.Request credit card 28. Manually 16b. Mail trip 44. Charge not booking authorization using request system to 26 Call airlines and itinerary authorized alternative methods prepare itinerary hotel to continue Copyright 2008 © (dial-in, call Fin Inst Mail to customer's physical customer Service, etc. Modern Analyst 25. Charge authorized mailing address 46. Booking + 47. Request refund Media LLC 36. Manual not successful For more such resources visit MODERN 48. Process www.ModernAnalvst.com analyst 8. Process 9. Send authorization credit card refund

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