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Enterprise Information Systems

Business Processes

1. Consider the case study: participation in scientific events. Researchers from all over the world constantly participate in conference meetings to share and present their findings. Professors and students are no strangers to these events. In order to participate, professors require authorization from the universities' technical scientific committees and their department coordinators. Professors start this process by filling out a form where they indicate their name and affiliation (Department), the period of absence, the location and cost of the event. The department coordinator adds his opinion regarding the participation and states whether or not to support its costs (usually there is no support… but the option to do so exists). The scientific committee analyses and decides to accept or deny the request, informing the professor of the result.

   a. Design the business process "Participate in scientific events".
   b. Create an organisation: groups, roles and users relevant to this process.
   c. Map the actors with the organisation members.

2. Consider the case study: participation in scientific events. Based on the description of exercise 1, consider the following additional details about filling out the form. When the period of absence collides with scheduled classes, the professor must indicate if the class will be: (1) rescheduled, (2) lectured by a colleague, (3) cancelled. In case (1) an authorization form the course coordinator is required to validate the new date. In case (2), the colleague must be available to lecture the class. Case (3) can only happen once a year if the other two are not possible.

   a. Design the business process as a sub-process of the process designed in exercise 1.
   b. Add new groups, roles and users to the organisation if necessary.
   c. Map the actors with the organisation members.

3. The company *SmallBite* business area consists in preparation and sale of fast food meals. Despite the relevance of the organisation and management processes, its main activity is selling meals. This activity occurs in two distinct points of sale (PoS): by phone or at the shop. Therefore, each way contains different and unique tasks. However, some tasks are

common and shared. At the shop, the sale begins by the employee (PoS-cashier) identifying the items requested by the customer. The PoS-cashier registers the order, if the items are available. When the order is completed, the customer pays for it and the cashier prints the receipt. In a sale by phone, the employee (PoS-operator) identifies the client before taking any item into order. In the second phase, the employee attends the order through the receipt printed in the first phase. The employee checks the request, prepares the meal in the kitchen and deliveries it to the customer. Even if the PoS is at a shop, the customer can choose to eat at the diner or take away. In this case, the employee must pack the order before delivery. In a sale by phone, however, it is mandatory to pack the order and prepare it for delivery. When the customer picks up the meal, the cashier registers the payment which concludes the order. If no delivery occurs – for instance, the client does not pick up the meal – the order must be cancelled.

a. Design the business process "sales at shop". This process represents all tasks since the customer requests the meal until it's delivered to him;
b. Design the business process "sales by phone". This process represents all tasks since the customer requests the meal until it's delivered to him;
c. Group some tasks of both processes into macro-tasks;
d. Create an organisation: groups, roles and users relevant to this process.
e. Map the actors with the organisation members.

4. Consider the following process description: The process starts when a 'goods to ship' event indicates that this preparation should be executed. Right after the instantiation of the process, there are two things done in parallel: while the clerk has to decide whether this is a normal postal or a special shipment (do not define the criteria how to decide this inside the process model), the warehouse worker can already start packaging the goods. If a special shipment is necessary, the clerk requests quotes from different carriers, then assigns a carrier and prepares the paperwork. But if a normal post shipment is fine, the clerk needs to check if an extra insurance is necessary. If that extra insurance is required, the logistics manager has to take out that insurance. In any case, the clerk has to fill in a postal label for the shipment. Finally, after everything has been fulfilled the warehouse worker can "add paperwork and move package to pick area".

a. Design the business process "hardware retailer shipment". This process represents all the activities necessary to ship the ordered goods to the customer.
b. Create an organisation: groups, roles and users relevant to this process.
c. Map the actors with the organisation members.

5. Consider the following process description: The process starts with the pizza customer, who has noticed her stomach growling. The customer therefore selects a pizza and orders

it. After that, the customer waits for the pizza to be delivered. After that, the customer actually waits for two different events that could happen next: Either the pizza is delivered as indicated, or there is no delivery for 60 minutes, i.e., after one hour the customer skips waiting and calls the vendor, asking for the pizza. Assume that the clerk promises the pizza to be delivered soon, and the customer waits for the pizza again, asking again after the next 60 minutes, and so on. When the pizza arrives at the customer's door, she will recognise this arrival and therefore pay for the pizza before eating it. The vendor process is triggered by the order of the customer. After the pizza chef bakes the pizza, the delivery boy will deliver the pizza and receive the payment, which includes giving a receipt to the customer.

a. Design the business process "the pizza collaboration". This process represents all the activities necessary to order and deliver a pizza.
b. Create an organisation: groups, roles and users relevant to this process.
c. Map the actors with the organisation members.

6. Consider the process "Candidatura a Projeto Informático". The goal of this process is assigning project proposals to students that apply to them.

a. Identify the activities necessary to complete this process and design an appropriate process model: from a candidate student point of view; from a project supervisor point of view; from a course director point of view;
b. Integrate all workflows into a single process model.
c. Create an organisation: groups, roles and users relevant to this process.
d. Map the actors with the organisation members.

7. Compose a process model for the process "HR selection and recruitment", considering the following description:

The process starts in the HR department, which registers an open position in their HR Information System. This position offer is automatically dispatched throughout 3 channels: published on the corporate website, distributed on job boards and advertised on social media channels. Then, the HR department retrieves applications from candidates, pre-selects them for and interview, and interviews them (subprocess). If there are candidates selected after interviews, the HR department selects a candidate for the job position, prepares the offer and then the offer is sent automatically to the candidate. The HR then gets the candidate reply, and if accepted/validated, the other candidates are informed and the winning candidate is congratulated at the same time by the HR information system.

If there are no candidates selected after interviews, the HR department goes back to the task "retrieve applications from candidates".

If no offer is validated by the chosen candidate, and there are more selected candidates, then the HR department goes back to the task "select candidate for offer".

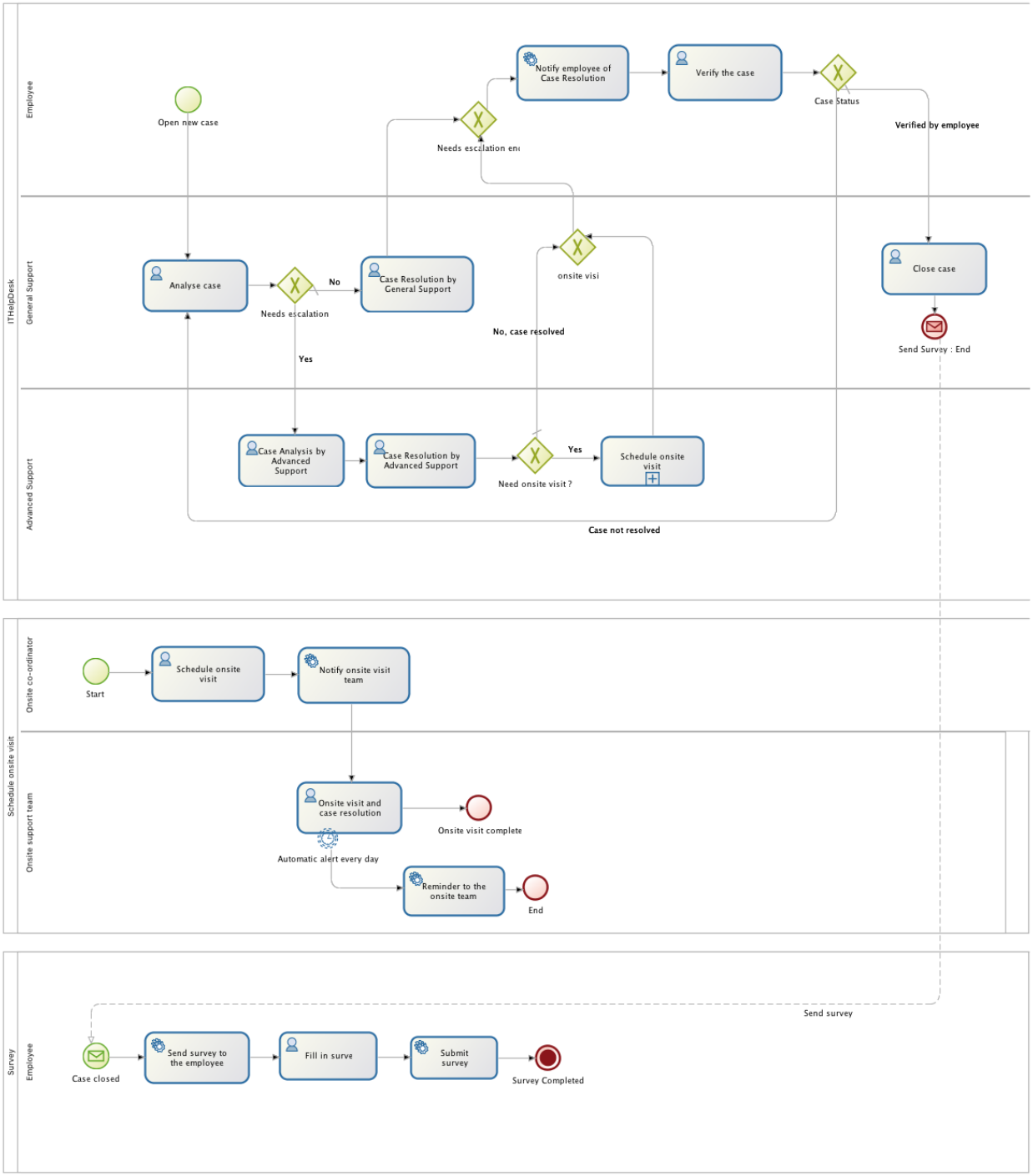
If there are no more selected candidates, then the HR department goes back to the multi-instance subprocess "interview pre-selected candidates".

The multi-instance "interview pre-selected candidates" subprocess is initiated by the HR department, which performs an HR interview. If the candidate passes the HR interview, then a Manager performs another interview. If the candidate also passes this Manager interview, the subprocess ends with a "End passed" event.

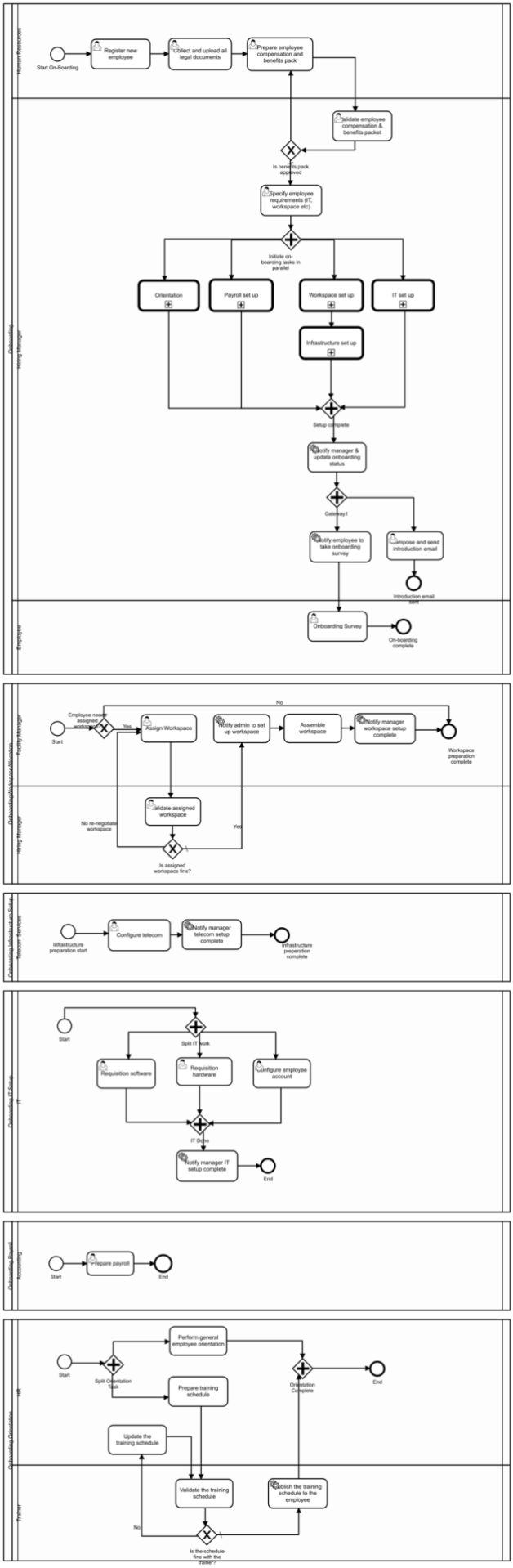
In case the candidate fails any of the interviews, the "Inform rejection" send message task is performed by the HR which initiated a "Reject candidate" process, and this "Candidate interviews" subprocess ends with an "End failed" event.

The "Reject candidate" process starts with a message from the "Inform rejection" task, and send a rejection message to the candidate automatically, ending this process.

8. Write down the text description for the following "IT Help Desk" process model. Begin by describing the whole "happy flow" in one paragraph, and proceed with alternative flows in each paragraph that follows.



9. Write down the text description for the following "Onboarding HR" process model. Begin by describing the whole "happy flow" in one paragraph, and proceed with alternative flows and subprocesses in each paragraph that follows.


Human Resource
Start On-Boarding
Register new employee
Collect and upload all legal documents
Prepare employee compensation and benefits pack
Validate employee compensation & benefits packet
Is benefits pack approved
Specify employee requirements (IT, workspace etc)
Initiate on-boarding tasks in parallel
Onboarding
Hiring Manager
Orientation
Payroll set up
Workspace set up
IT set up
Infrastructure set up
Setup complete
Notify manager & update onboarding status
Gateway1
Notify employee to take onboarding survey
Compose and send introduction email
Introduction email sent
Employee
Onboarding Survey
On-boarding complete
Onboarding Workspace Allocation
Facility Manager
Start
Employee needs assigned workspace
Yes
No
Assign Workspace
Notify admin to set up workspace
Assemble workspace
Notify manager workspace setup complete
Workspace preparation complete
Hiring Manager
Validate assigned workspace
No re-negotiate workspace
Yes
Is assigned workspace fine?
Onboarding Infrastructure Setup
Telecom Services
Infrastructure preparation start
Configure telecom
Notify manager telecom setup complete
Infrastructure preparation complete
Onboarding IT Setup
IT
Start
Split IT work
Requisition software
Requisition hardware
Configure employee account
IT Done
Notify manager IT setup complete
End
Onboarding Payroll
Accounting
Start
Prepare payroll
End
Onboarding Orientation
HR
Start
Split Orientation Task
Perform general employee orientation
Prepare training schedule
Orientation Complete
End
Update the training schedule
Trainer
Validate the training schedule
Publish the training schedule to the employee
No
Is the schedule fine with the trainer?

10. Compose a process model for the process "Vacation request", considering the following description:

The vacation request starts with the Employee filling up a request form, where s/he signals the desired vacation days. These days are then automatically deducted from the total available days, and a vacation calendar is also automatically updated with the pending vacation requests. The Employee's manager is notified automatically of this pending request. This manager reviews the request, and if approved, the employee is automatically notified, the vacation calendar is automatically updated with the approved vacation period and the process terminates.

If the request is refused by the manager, 4 automatically executed tasks start: notify employee of refused request, credit days from refused request, update vacation calendar of request refused and notify HR of request refused.

While the manager is reviewing the vacation request, 3 events can occur: 1) 7 days have passed after the date of the request, 2) 10 days have passed the after the date of the request, and 3) a cancellation message arrives to cancel the request. For the first event, a reminder is sent to the manager automatically. For the 2nd event, the manager is interrupted from the review request task, and the vacation request is escalated to a a backup reviewer, which reviews the request. For the 3rd event, the process is proceeds with the update of the vacation calendar and the credit of days deducted previously, and then immediately terminates.