ID2207 - MODERN METHODS IN SOFTWARE ENGINEERING (HOMEWORK 2)

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1   Glossary

SEP	Swedish Events Planners. We are designing their internal system.
Customer Service	Customer services team manages the requests for events planning that are received from clients, and discusses them with the top management.
Sr. Customer Service	Act as the manager of customer service, review and forward applications to top management and communicates with client if necessary.
Financial Manager	Manager of the finance department. Manage budgets.
Administration Department Manager	Manager of the administration department. Acts as the final authority.
HR Team	Represent the HR department.
HR Manager	Head of the HR department. Responsible for new recruitment.
Marketing Manager	Manager of the marketing department. Communicate with clients, provide demos.
Vice President	Generates reports about employees' utilization and work progress.
Operation Department	Production department and service department uses similar functionality on their operations. These two departments are identified as operation department.
Operation Managers	Production manager and/or service manager.
Operation Sub Teams	Production sub teams and/or service sub teams.
AddClient	Functionality for saving new client information into the system.
SearchClient	Functionality for searching the information of existing clients.
Outsourcing	Recruiting resource for a specific project only.
Suspend	Paused for negotiation.

2 Identified Actors

1. Customer Service
2. Sr. Customer Service
3. Financial Manager
4. Administration Department Manager
5. Operation Manager
6. Sub Teams
7. HR Team
8. HR Manager
9. Marketing Manager
10. Vice President

3 Scenarios

3.1. A complete scenario while the client request for an event where both budget negotiation and recourse recruitment is required.

Scenario Name	clientRequestWhileBudgetNegociationAndResourceRecruitmentRequired
Participating actor instances	sarah : Customer Service janet: Sr. Customer Service alice: Financial Manager mike: Administration Department Manager jack, natalie: Operation Manager simon, maria: HR Team tobias, antony, Julia, margy, christian : Sub Teams helen, kate : Sub Teams
Flow of events	1. A client contact Sarah with event request 2. Sarah takes the initial data from the client 3. Sarah enter the client's request in a form 4. Sarah send the form to Janet. 5. Janet receive the request form. 6. Janet search for client record. 7. If client record not exists, Janet creates client records. 8. Janet review client request. 9. Janet forward the request to Alice. 10. Alice writes her feedback based on the estimated budget by the client. 11. Alice forward the request to Mike. 12. Mike review the request. 13. Mike approve the request 14. Janet contacts the client and organizes a meeting with the client. 15. Alice, Janet, Jack and Natalie attend the business meeting with the client and get client's requirement/ preferences and planned budget. 16. Based on client's requirement, Jack and Natalie checks the availability of resources.

	17. Jack and/or Natalie could not find required resources. 18. Jack and/or Natalie initiates a request to Simon asking for additional resources. 19. Simon determine if the resources are required for a short or long term basis. 20. Maria initiate staff recruitment or outsourcing. 21. Maria create and publish advertisement. 22. Simon review applications. 23. Simon initiates interviews. 24. Simon recruits required resources. 25. Jack and Natalie create tasks by filling an application with the client needs. 26. Jack and Natalie sends specified tasks to Tobias, Antony, Julia, Margy, Christian, Helen and Kate. 27. Tobias, Antony, Julia, Margy, Christian, Helen and Kate decides a plan for the activities they have to make in the event. 28. Tobias, Antony, Julia, Margy, Christian, Helen and Kate edits the task by filling an expected plan and reviewing budget. 29. If the planned budget exceeds client's budget, Jack and/or Natalie request budget negotiation with Alice. 30. Alice estimate the budget. 31. Alice negotiates the budget issues with the client. 32. Alice and the client reach to an agreement. 33. Jack and Natalie reviews the plans and edit the application to set its status as in progress.

3.2. This scenario illustrate the situation while client request for an event which is not feasible for the organization.

Scenario Name	nonfeasibleRequestFromClient
Participating actor instances	sarah : Customer Service janet: Sr. Customer Service
Flow of events	1. A client contact Sarah with event request. But the type of event that the client want is not what SEP does. 2. Sarah takes the initial data from the client. 3. Sarah enter the client's request in a form. 4. Sarah send the form to Janet. 5. Janet receive the request form. 6. Janet search for client record. 7. If client record not exists, Janet creates client records. 8. Janet review client request and decided that SEP is not going to organize that event. 9. Janet reject the request.

3.3. This scenario illustrate the situation while the budget is too poor for organizing the event. It also shows the process of approving/rejecting a new event.

Scenario Name	unrealisticBudgetEstimationByClient
Participating actor instances	sarah : Customer Service janet: Sr. Customer Service alice: Financial Manager mike: Administration Department Manager
Flow of events	1. A client contact Sarah with event request, but the budget is too poor. 2. Sarah takes the initial data from the client. 3. Sarah enter the client's request in a form. 4. Sarah send the form to Janet. 5. Janet receive the request form. 6. Janet search for client record. 7. If client record not exists, Janet creates client records. 8. Janet review client request. 9. Janet forward the request to Alice. 10. Alice writes her feedback based on the estimated budget by the client. 11. Alice forward the request to Mike. 12. Mike review the request. 13. After reviewing the request and Alice's feedback, Mike reject the request.

3.4. This scenario shows the recruitment process

Scenario Name	resourceRecruitment
Participating actor instances	jack, natalie: Operation Manager maria: HR Team simon: HR Manager
Flow of events	1. Jack and/or Natalie initiates a request to Maria/Simon asking for additional resources. 2. Jack and/or Natalie creates the form with detailed requirement. 3. Maria/Simon starts the recruitment process. 4. Maria prepares job advertisements and contracts. 5. Maria publishes the advertisement. 6. Simon review the applications. 7. Simon conduct interviews where Maria helps. 8. Simon select the candidates for recruitment.

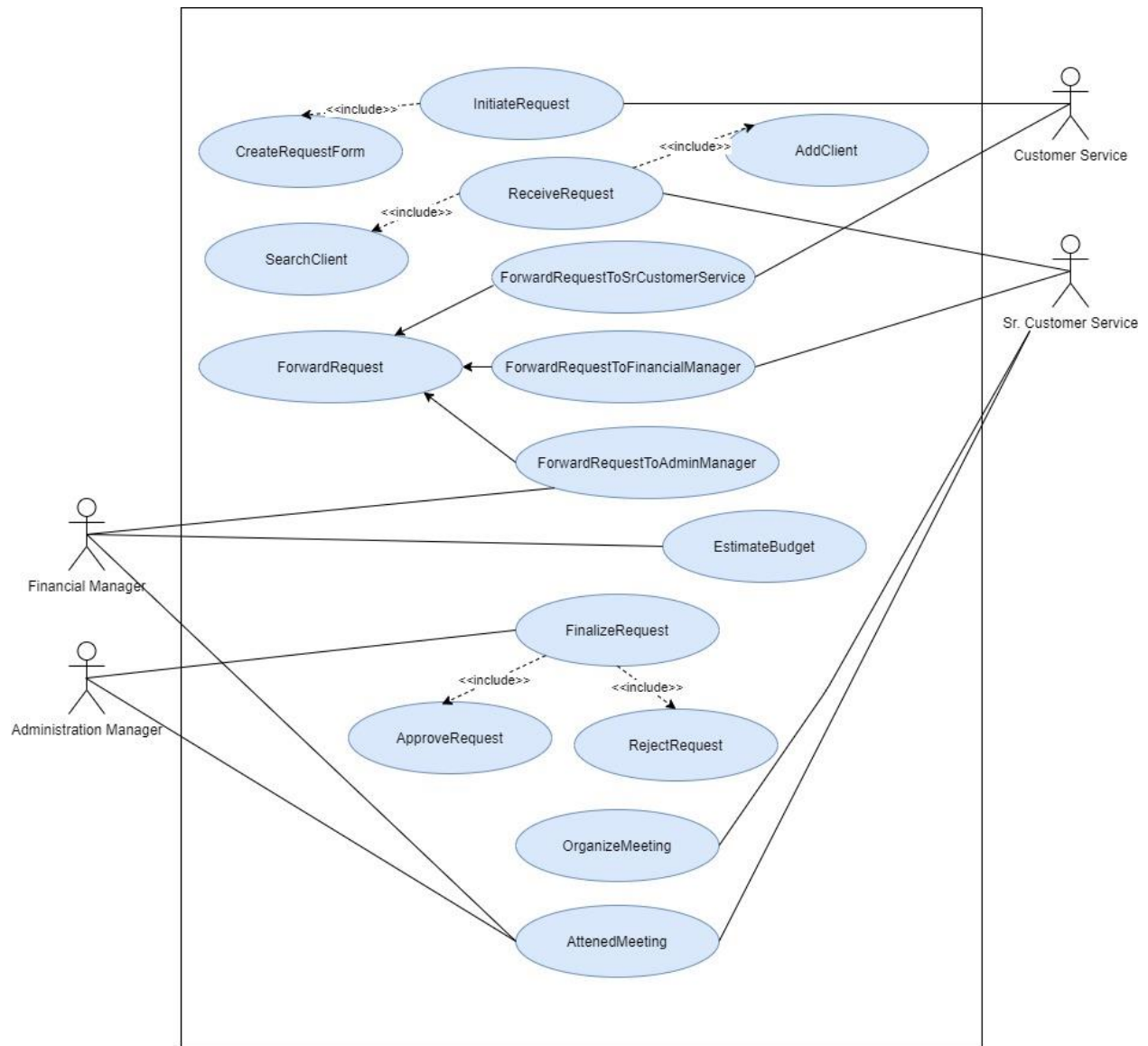3.5. This scenario describe the budget negotiation process.

Scenario Name	budgetNegotiation
Participating actor instances	jack, natalie: Operation Manager alice: Financial Manager
Flow of events	1. Jack and/or Natalie request budget negotiation to Alice. 2. Alice estimate the budget. 3. Alice negotiates the budget issues with the client. 4. Alice and the client try to reach to an agreement. The process moves forward only if Alice and the client agree on the issue.

3.6. This scenario shows the activity of operations department.

Scenario Name	taskDistribution
Participating actor instances	jack, natalie: Operation Manager tobias, antony, Julia, margy, christian, helen, kate : Operation Sub Teams maria: HR Team simon: HR Manager alice: Financial Manager
Flow of events	1. Jack and/or Natalie check the schedule of resources. 2. If there is schedule conflict or resource shortage, Jack and/or Natalie request Maria/Simon for recruitment. 3. If resource is available, Jack and/or Natalie assign resources. 4. Jack and/or Natalie fills an application with the client needs from his department and sends tasks to Tobias, Antony, Julia, Margy, Christian, Helen and Kate. 5. Tobias, Antony, Julia, Margy, Christian, Helen and Kate edits the task by filling an expected plan and added comments for extra budget. 6. Jack and/or Natalie reviews the comments sent by each sub-team. 7. If additional budget required, Jack and/or Natalie request budget negotiation to Alice.

4 Use Case

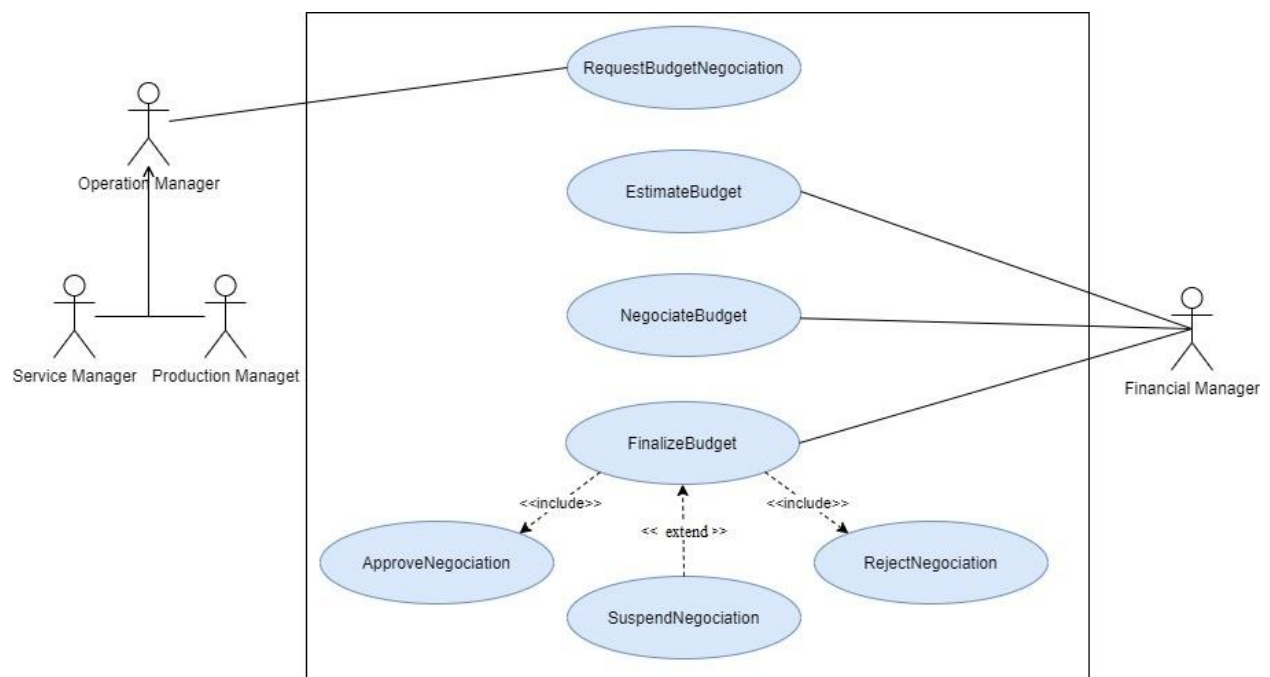| Name: eventRequest |
| --- |
| **Actors:** |
| Customer Service |
| Sr. Customer Service |
| Financial Manager |
| Administration Manager |
| **Entry Conditions:** |
| 1. Customer Service logins to the system. |
| 2. System validates the credentials. |
| 3. Customer Service accesses the create request functionality. |
| **Exit Condition:** |
| When the Administration Manager takes a decision to approve or reject an event request. |
| **Quality Conditions:** |
| The system should be available and functioning without unexpected interruptions. |
| **Event Flow:** |
| 1. Customer Service initiate new event planning request |
| 2. Customer Service send it to their manager (Sr. Customer Service) |
| 3. Sr. Customer Service create client records. |
| 4. Sr. Customer Service Review it |
| 5. Sr. Customer Service forward the request to the financial manager |
| 6. Financial manager writes his/her feedback based on the estimated budget by the client. |
| 7. The financial manager redirects it to the administration department manager |
| 8. Administration department manager review the request. |
| 9. Administration department manager finalize the request. |
| **Alternate Flow:** |
| 5.a Sr. Customer Service reject the event request. |
| 9.a Administration department manager approve the event request. |
| 9.b Administration department manager reject the event request. |

Name: resourceRequisition
Actors: Operation Manager HR Team HR Manager
Entry Conditions: 1. Operation Manager logins to the system. 2. System validates the credentials. 3. Operation Manager accesses the create resource requisition functionality. This use case extends SuspendForNegociation use cases. They are initiated when the HR Manager wants to negotiate with an applicant.
Exit Condition: When the HR Manager finalize recruitment.
Quality Conditions: The system should be available and functioning without unexpected interruptions.
Event Flow: 1. Operation managers initiates a request to the HR team asking for additional resources. 2. HR Team determine if the resources are required in a short or long tarm basis. 3. HR Team initiate staff recruitment. 4. HR Team start advertising. 5. HR Manager review applications. 6. HR Manager conduct interviews. 7. HR Manager finalize applicants. **Exceptions:** 7.a HR Manager suspend the recruitment process for further negotiation. **Alternate Flow** 3.a HR Team initiate staff outsourcing.

Name: budgetNegociation
Actors: Operation Manager Financial Manager
Entry Conditions: 1. Operation Manager logins to the system. 2. System validates the credentials. 3. Operation Manager accesses the create budget negotiation functionality. This use case extends SuspendNegociation use cases. They are initiated when the Financial Manager and the client need more time to reach a conclusion.
Exit Condition: When the client and the Financial Manager agreed whether to approve or cancel the negotiation.
Quality Conditions: The system should be available and functioning without unexpected interruptions.
Event Flow: 1. Operation Manager request budget negotiation with the financial manager 2. Financial Manager estimate the budget. 3. Financial Manager then negotiates the budget issues with the client. 4. Financial Manager and the client reach to an agreement. **Exceptions:** 4.a The negotiation is suspended. **Alternate Flow:** 4.a Financial Manager and the client could not reach to an agreement.

Name: taskDistribution
Actors: Operation Manager Operation Sub Team
Entry Conditions: 1. Operation Manager logins to the system. 2. System validates the credentials. 3. Operation Manager accesses the task creation and distribution functionality. This use case extends ScheduleConflict, ResourceShortage, RequestBudgetAdjustment use cases. They are initiated when the resources are busy or number of resource is not enough or when the planned budget exceeds client budget.
Exit Condition: When the Operation Manager completed review.
Quality Conditions: The system should be available and functioning without unexpected interruptions.
Event Flow: 1. Operation managers check the schedule of resources. 2. Operation managers assign resources. 3. Operation managers fills an application with the client needs from his department and sends tasks to each sub-team. 4. Each sub-team edits the task by filling an expected plan and added comments for extra budget. 5. The operation manager reviews the comments sent by each sub-team. 6. Operation manager finalize plans. **Exceptions:** 1.a Schedule Conflict 2.a Resource Shortage 6.a Suspend for budget negotiation **Alternate Flow:** 2.a Operation manager ask HR Team for additional resources. 2.b Operation manager pause the event until the recruitment process is complete. 2.c Operation managers assign resources. 6.a Operation manager ask for additional budget to Finance manager. 6.b Operation manager pause the event until Finance manager completes negotiation with the client. 6.c After getting required budget, Operation manager finalize plans.
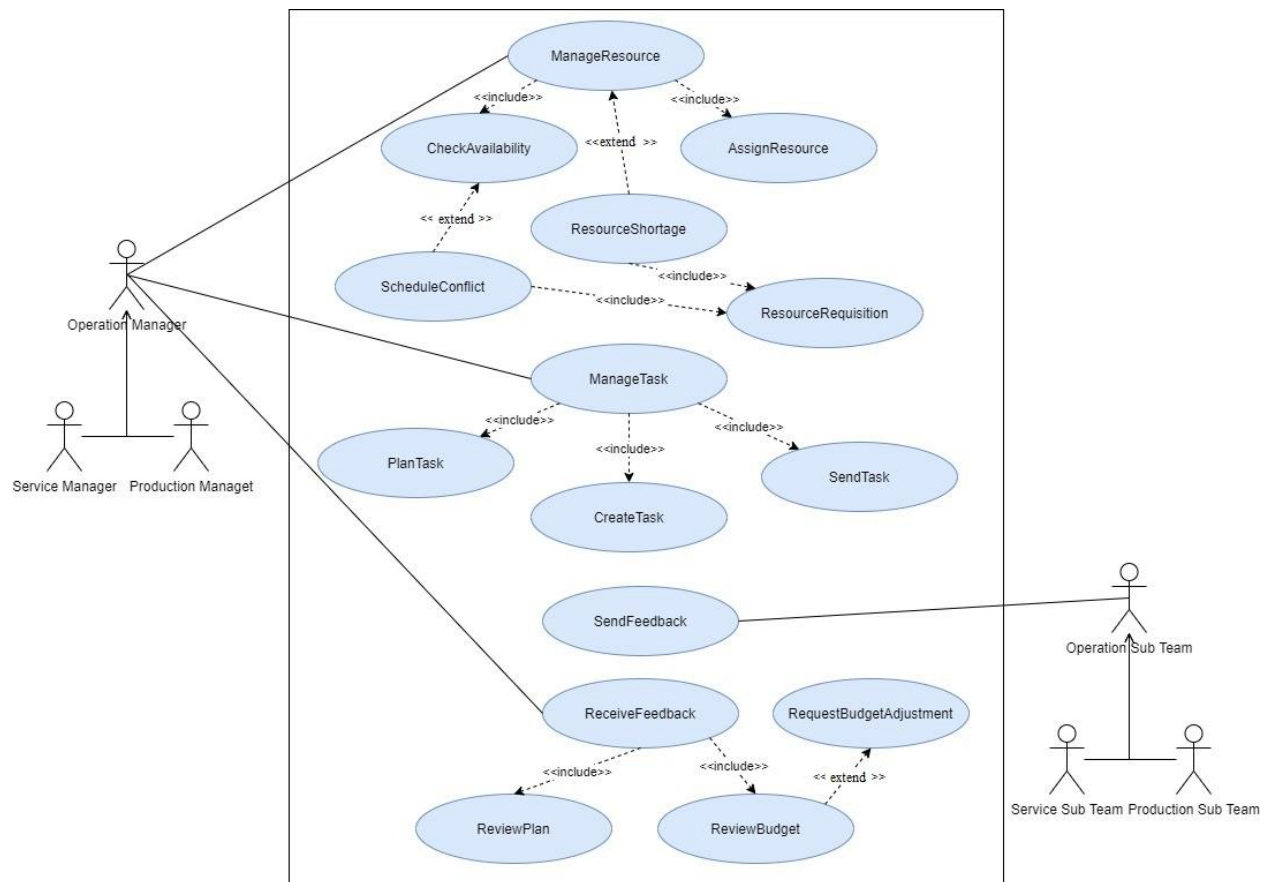
5   Non Functional Requirements

Category	Requirements
Usability	The system must be user friendly. All users must be able to access the system and use the functionality without prior technical knowledge.
Reliability and Recoverability	The system must keep track of all historical data and must have some backup system. Thus, even if the program crashes, all data must kept safe.
Compatibility	The system should comply with minimum hardware requirements.
Efficiency	Even if the system fails, the system will be recovered back up within an hour or less.
Data Integrity	The system must be secured and the data integrity must be kept intact.
Availability	The users must be able to access the system from anywhere over internet.
Security	All data inside the system or its part will be protected against malware attacks or unauthorized access.