Post-Doctoral Application Management System

Functional requirements and application design document

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Iteration 1

Prepared for Ms. Cathy Sandis (UP Research Office) by SoftServe Group

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Change log			
Date	Version	Description	Person
10/02/2014	v 0.0	Original SRS document created	Mathys Ellis
02/03/2014	v 0.1	Added to glossary	Mathys Ellis
11/03/2014	v 0.2	Added more functional requirements which relate more to the use case diagrams	Alfred Ngako
16/03/2014	v 0.3	Added domain objects data relation diagrams	Alfred Ngako
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20/03/2014	v 0.6	Updated the domain objects diagram	Mathys Ellis
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16/03/2014	v 0.75	Did some restructuring and document formatting	Mathys Ellis
17/03/2014	v 0.8	Added to the glossary	Mathys Ellis
12/05/2014	v 0.9	Created new Functional requirements and application design document.	Mathys Ellis
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15/05/2014	v 0.92	Added and redefined domain objects.	Mathys Ellis
15/05/2014	v 0.93	Added and redefined use case diagrams and preconditions.	Mathys Ellis
16/05/2014	v 0.95	Added and redefined use case diagrams and preconditions and postconditions. Also updated domain objects.	Mathys Ellis
19/05/2014	v 0.97	Added process specifications and added approval levels of applications.	Mathys Ellis

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1 Project Repository

https://github.com/mox1990/Project-Postdoc.git

2 Document description:

2.1 Document purpose:

This functional requirements and application design document serves the purpose of providing a detailed breakdown of the SoftServe's Post-Doctoral application management system's expected functionality and how it will be realised in terms of application design. Further it defines the services contracts required by each of the stakeholders with the proposed software system. Thus this document serves as a contract between SoftServe and the client, Mrs Cathy Sandis of the DRIS of the University of Pretoria in terms of project functional requirements.

2.2 Documentation methodology

The documentation and software development methodology used by the project adhere to the guidelines set out by the agile method. Thus this document has undergone and will undergo various iterations that may extend or reduce the contents of the document.
This document was created using the requirement elicitation techniques and requirement definitions as specified by Klaus Pohl's book Requirements Engineering: Fundamentals, Principles, and Techniques [Dr.Phol, K., 2010]. The requirements, vision and scope were elicited from the following sources:

- Numerous interviews with the client.

- On-line research into UP Post doctoral applications.

- Correspondence with the UP IT department.

- Collecting and analysing various documents such as:

  - The initial project request document
  - Application forms
  - Renewal forms
  - CV templates
  - Approval and recommendation forms

2.3 Document conventions:

- Documentation formulation tool: LaTeX

- ERD Crow-Foot notation

- UML 2.0

2.4 References:

- Dr.Phol, K., 2010, *Requirements Engineering: Fundamentals, Principles, and Techniques*, Springer, Heidelberg.

3 Functional requirements

3.1 Introduction

This section discusses the functional requirements for SoftServe's Post-Doctoral application management system. The required functionality, domain objects, process specification and use cases related to the functional requirements of the project will be discussed.

3.2 Required functionality

The following sections will discuss the required functionality of all the major services handled by the system. Namely:

- User gateway

- Application service

- Report services

- Notification services

- User account management services

- Audit-Trail services

- Archival services

3.2.1 User gateway

The user gateway provides the access control services of the system and is a centralised gateway which all users have to use in order to gain access to the system and its services.

- The gateway must provide a user login facility which allows the users to authenticate themselves using their account user name or email address and their account password.

- The gateway must insure that the correct user privileges are loaded before allowing the system to proceed.

- The gateway must insure that the user is allocated a session so that the system can identify the user.

- All internal stakeholders should be able to log in with their PeopleSoft account details once the system is integrated but until such time they should login with the credentials specified at the time of account creation.

3.2.2 Application services

The application services encompasses the the entirety of the of the application process undergone by prospective fellows namely new and renewal applications.

The main user of these services will be the prospective fellows who wishes to track their application progress or renew or apply for a Post-Doctoral fellowship. Other stakeholders will only make use of certain sub-services which are provided under the Application services. It should be noted that most of the different stakeholders' usage will be focused in this set of services only. Further the application process is broken up in stages that run concurrently until they reach the stage where the post-doctoral committee meeting is to take place after which all eligible applications are batch processed. In order to manage this after each stage is complete the applications will be automatically forwarded to the next. Only the system administrator will have the power to move applications back through the stages.

- **Application approval levels:** There are various stages that an application goes through. Each stage requires a different type of approval or check. Thus the approval level of each stage in order of first to last, is highlighted below. Note * indicates this stage is only for new applications:

  1. **Open application** - This application is a newly created application.
  2. ***Refereed application** - This application has a completed list of referral reports from the specified referees.
  3. **Finalised application** - This application has been finalised by the respective grant holder.
  4. **Recommended application** - This application has been recommended by the respective HOD.
  5. **Endorsed application** - This application has been endorsed by the respective Dean's office.
  6. **Eligible application** - This application has been checked eligibility by the DRIS.
  7. **Fund-able application** - This application has been approved for funding and is complete.

- **New fellowship application service:**

  1. Account creation for new prospective fellows, referees and grant holders.
  2. All internal stakeholders should be able to log in with their PeopleSoft account details when the system is integrated but until such time they will be provided with account creation options.
  3. A prospective fellow should be able to open a new application.
  4. A prospective fellow should be able to add their CV in the required format.

5. A specified grant holder should be able to add their CV in the required format.

6. A owner of a CV should be able to add various qualifications and work experience to their CV.

7. A owner of a CV should be able to update their CV if it has been created.

8. A prospective fellow should be able to specify their intended grant holder.

9. A prospective fellow should be able to specify their intended referees.

10. A application should be made available for stakeholders such as the DRIS, HOD and Dean to deny or approve it at the correct stage in the process.

11. A member of the Post-Doctoral committee must be able to create minutes for a active meeting.

- **Application renewal service:**

  1. A research fellow should be able to open a new renewal application.

  2. A research fellow should be able to add their progress report on all the work they have been working on.

  3. A renewal application should be made available for stakeholders such as the DRIS, HOD and Dean to deny or approve it at the correct stage in the process.

- **Application Referees' report service:**

  1. A referee should be able to login and create a referral report for the prospective fellow that has identified him/her.

- **Grant holder application finalisation service:**

  1. A research fellow's grant holder should be able to finalise the renewal application of that research fellow.

  2. A prospective fellow's grant holder should be able to finalise the prospective fellows application who he supervises.

- **HOD approval service:**

  1. A HOD of a department should be able to login and approve, decline or ask for amendment of any pending applications.

  2. A HOD of a department must be able to create a recommendation report for applications they approve.

- **Dean endorsement service:**

  1. A member of the dean's office should be able to login and endorse the applications that they approve with a motivation and be able to rank them.

- **DRIS approval service:**

  1. A DRIS member who administers the process must be able to log in and review pending applications that need to be checked for eligibility and approve or deny them.

  2. A DRIS member who administers the process must be able to create post doctoral committee meetings. And also be able to prepare the pre-documentation their of.

  3. A DRIS member who administers the process must be able to finally approve or deny the funding of any last stage applications and also be able to provide motivation thereof.

- **Application progress viewer service:**

  1. A prospective fellow should be able to login with their user account details.

  2. A prospective fellow's application status should be made available for their review if they have an application in the system.

3.2.3 Report services

The report services provides the reporting generation service for the DRIS in order to extract valuable information and allow them to provide electronic and hard copy data for review or archiving. The DRIS is the only stakeholder that will make use of this system. Note a reports are temporal objects and do not get saved by the system.

- A DRIS member must be able to into the system and get access to the reporting module.

- The DRIS member must be able to access a report generation tool which effectively allows them to:

  1. Open new report.
  2. Select report data from the database.
  3. Generate report.
  4. View report.

- The DRIS member viewing the report must be allowed to be exported the report to either a pdf or a spreadsheet format.

3.2.4 User account management services

The user account management services provide each user who has an account on the system with the facilities to manage their account and also a facility for the system administrator to manage the accounts on the system.

- A prospective fellow will be create a new account if they don't have one.

- Any identified grant holder or referee that is not already on the system should be allowed to create a new account.

- If integrated with peoplesoft the system should be able to pull all the account information of personnel but until such time the system administrator will have to be allowed create the accounts of all DRIS members, Dean's office members, HODs and post-doctoral committee members.

- A user should be able to modify their account details.

- A administrator should be able to modify any user account details.

- A administrator should be able to remove any user account.

3.2.5 Notification services

The system will need to generate automated notifications that are sent internally and to the corresponding email of the recipient. This service should also be provided to users with in the system with the correct privileges.

- Stakeholders must be able to create a new notification.

- A notification must have recipient.

- A notification must have a non-empty message.

- A notification must be sent to both the user account and recipient's email address.

3.2.6 Audit-Trail services

The Audit-Trail services provide a means for the system administrator or DRIS members to view all the actions that were performed by a user of the system. It is important to note that the audit entries is read-only and can only be updated by the system itself. The monitored actions are hard wired into the system so to prevent any tampering.

- An authorised user must be able to generate a report via the reporting services for the audit log.

- The system should be able to insert audit log entries when the monitored actions occur.

3.2.7 Archival services

The archival services of the system will be able to back up the current state of the database to a specified location. Further it should be able to remove old records from the working database that are no longer in use and store then in a location so that they can be retrieved on a on-demand basis.

- The system administrator needs to be able to perform a automatic archival of old data.

- The system should be able to notify the system administrator of any possible archival data.
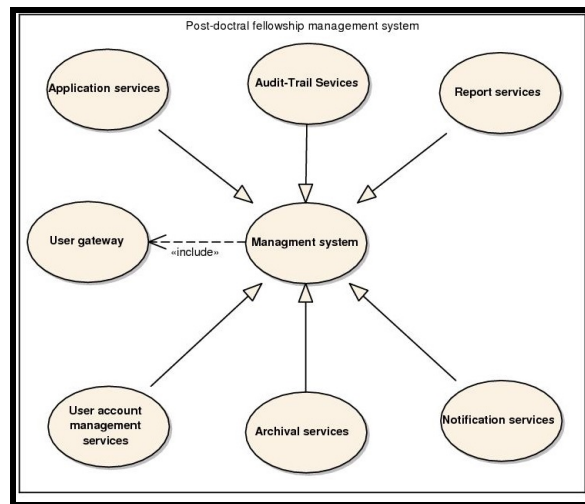
3.3 Use case diagrams

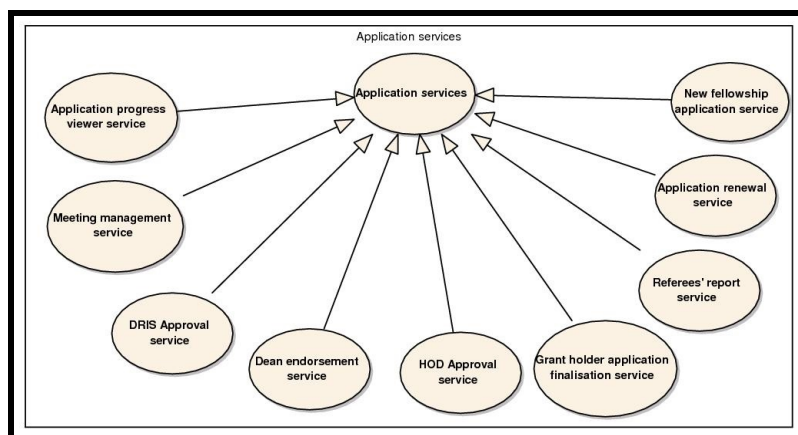Figure 1: Use case diagram of Post-doctoral fellowship management system

Figure 2: Use case diagram of Application service
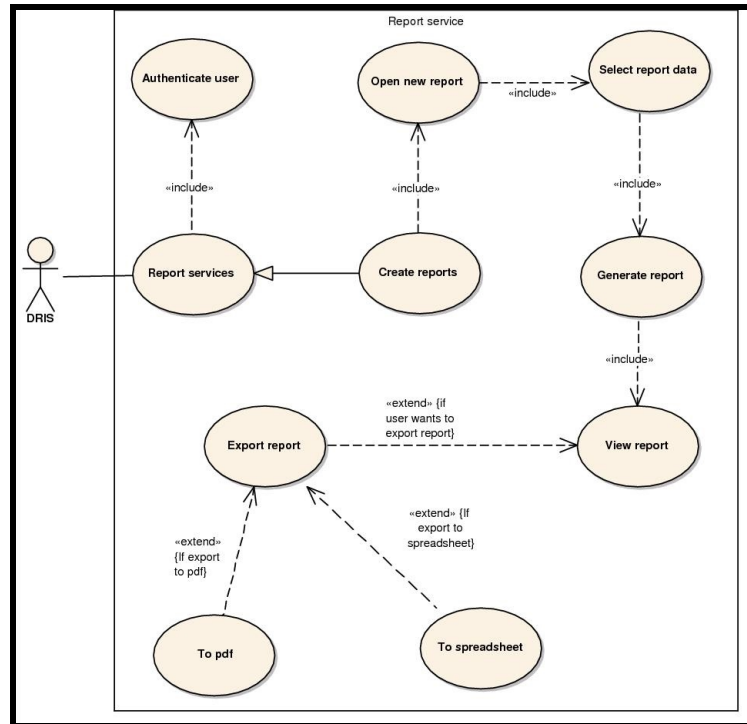
Figure 3: Use case diagram of Report service
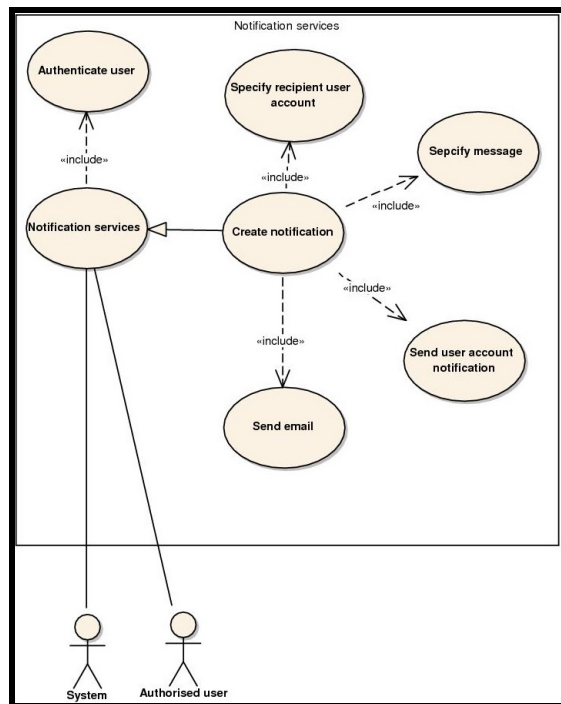
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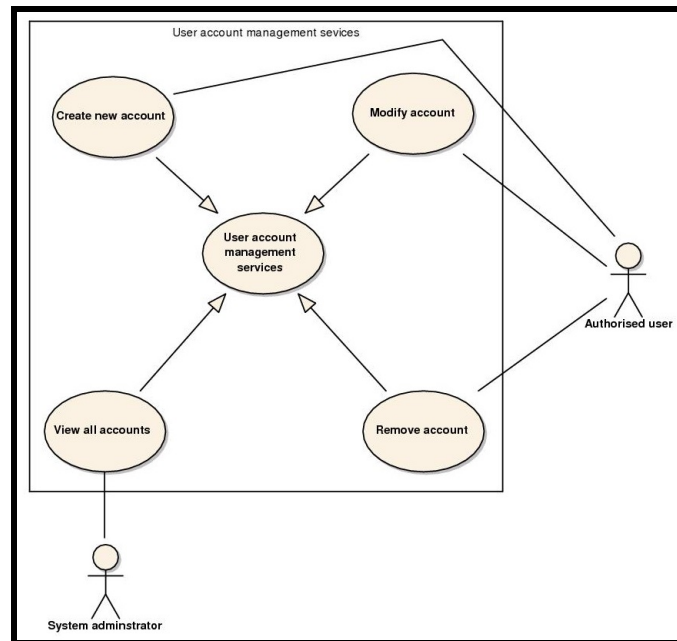
Figure 5: Use case diagram of User account management services
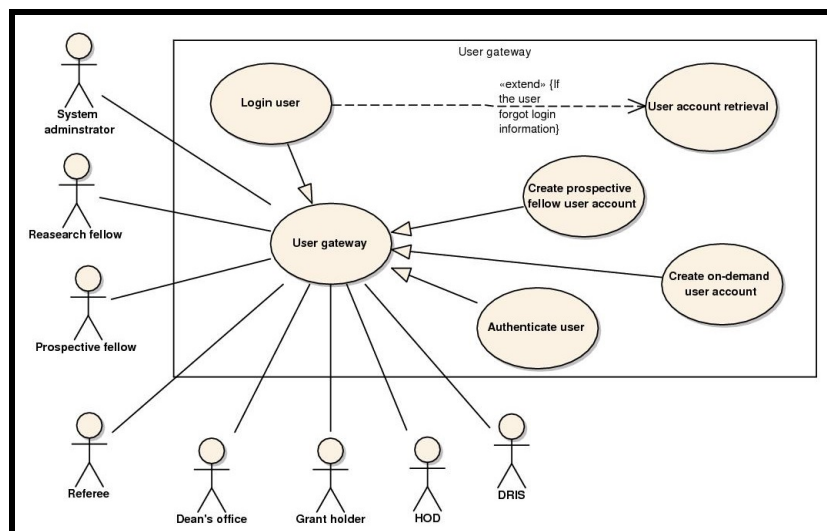
Figure 6: Use case diagram of User gateway
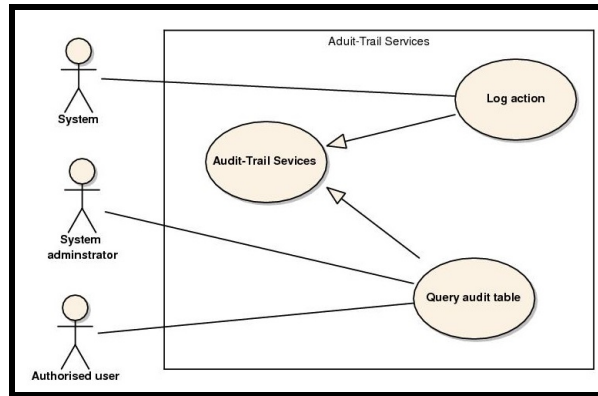
Figure 7: Use case diagram of Audit-Trail services
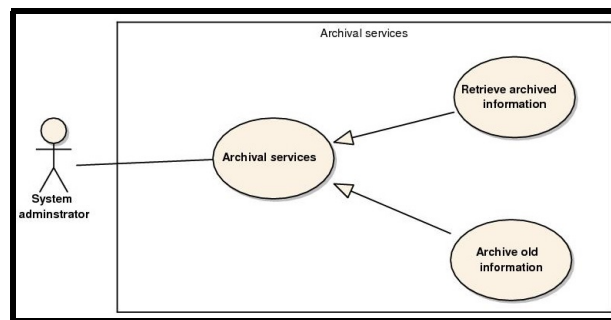
Figure 8: Use case diagram of Archival services
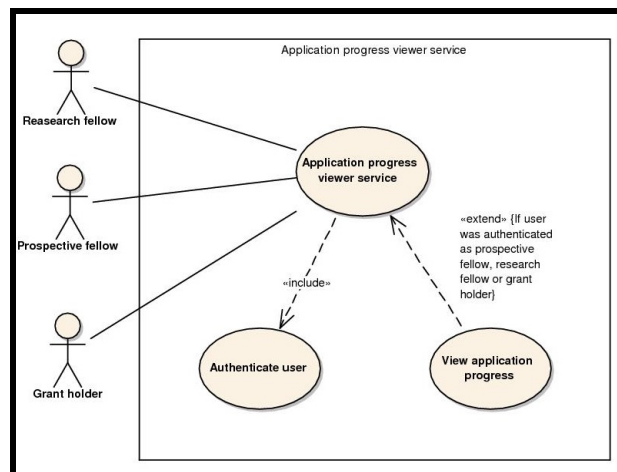
Figure 9: Use case diagram of Application progress viewer service
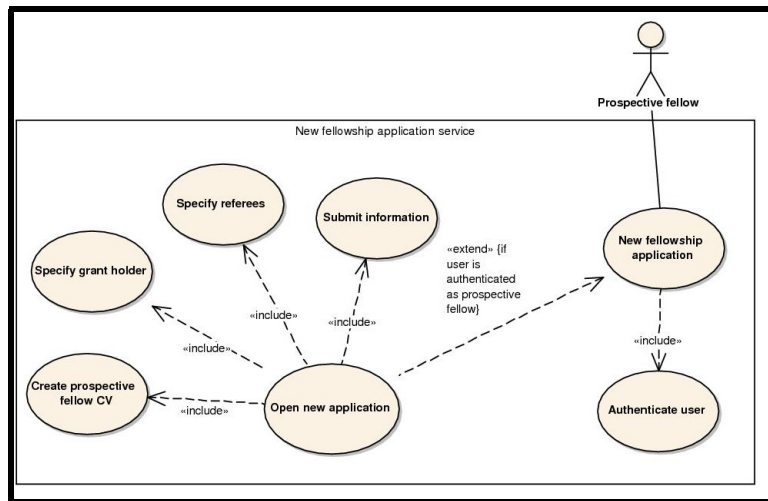
Figure 10: Use case diagram of New fellowship application service
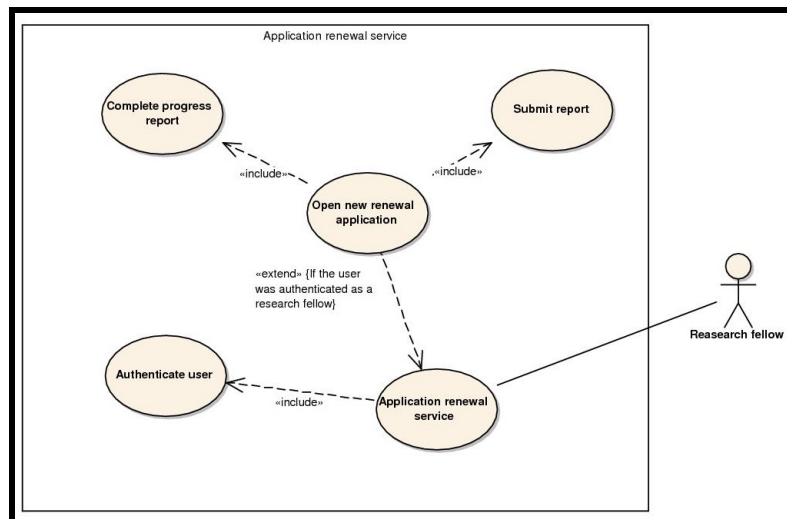
Figure 11: Use case diagram of Application renewal service
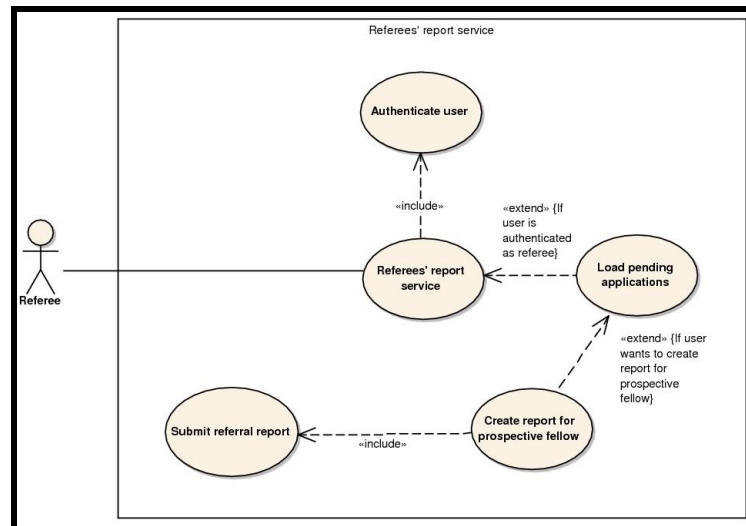
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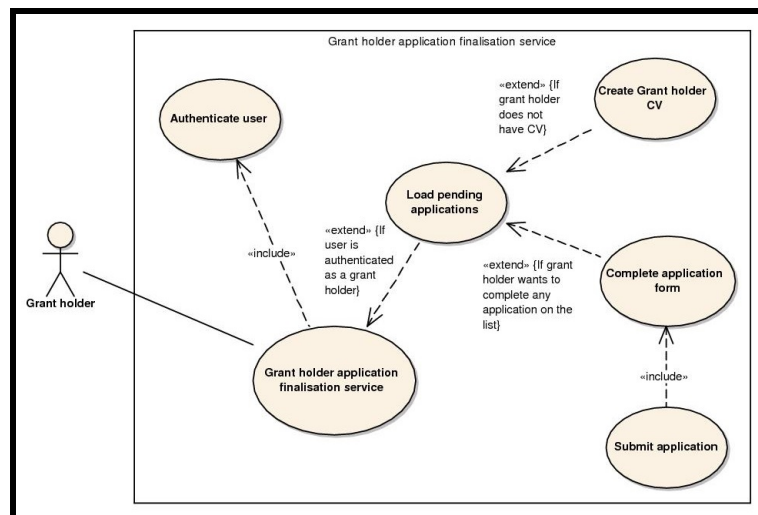
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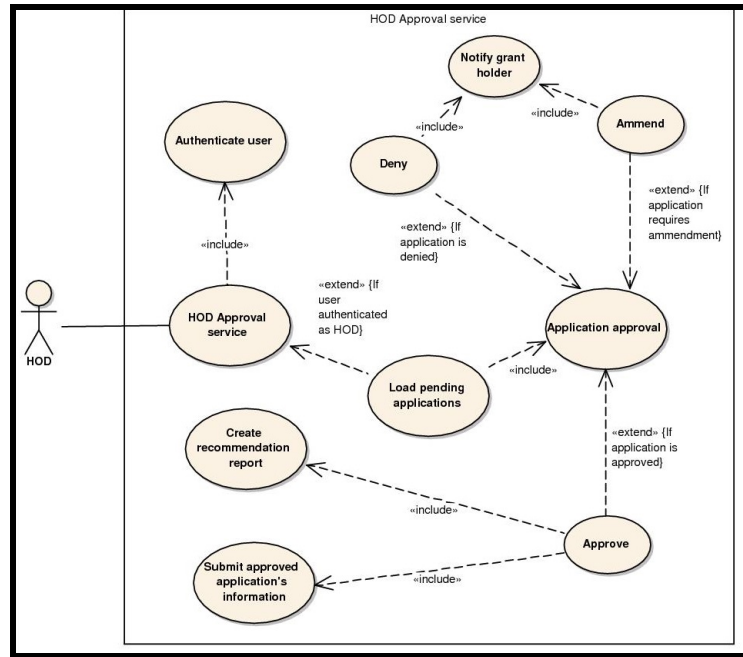
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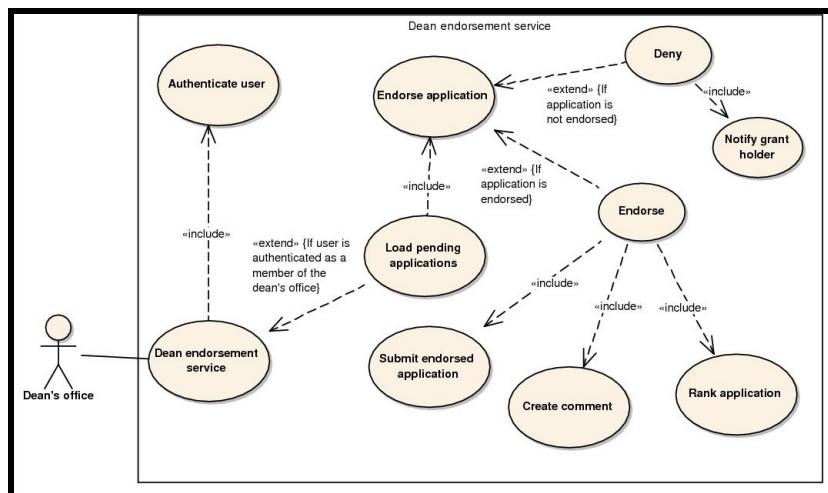
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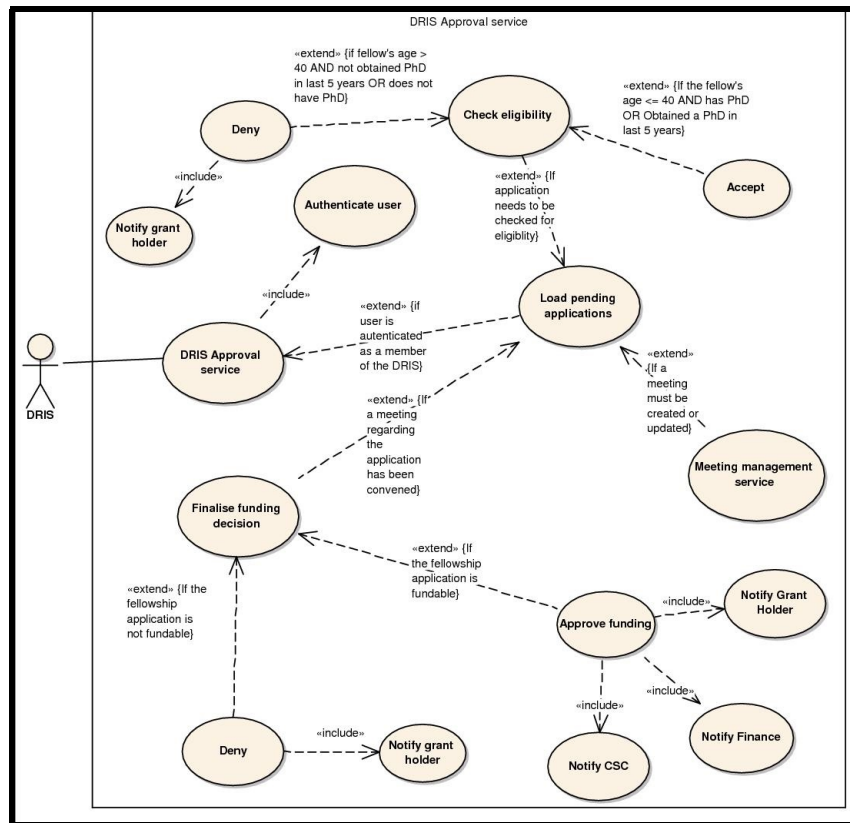
Figure 16: Use case diagram of DRIS approval service
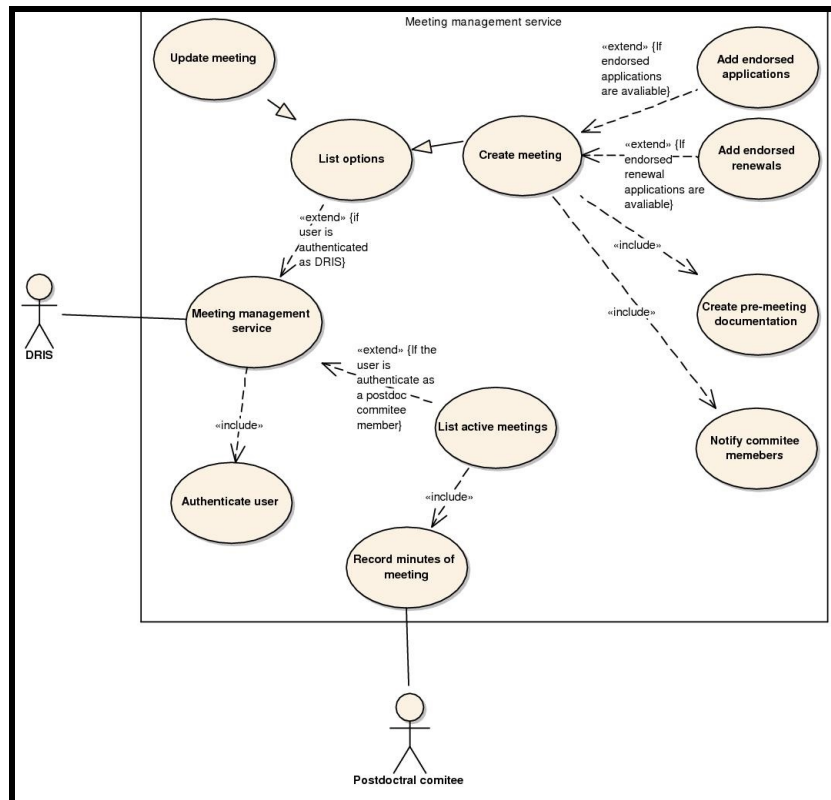
Figure 17: Use case diagram of Meeting management service

3.4   Use case prioritization

This section states the ranking in terms of priority of the service use case per use case diagram figure. The priorities are: Critical, Important and Nice to have.

- User gateway: Critical

  - Login user: Critical
  - User account retrieval: Important
  - Create prospective fellow user account: Critical
  - Create on-demand user account: Critical
  - Authenticate user: Critical

- Application services: Critical

  - New fellowship application service: Critical
  - Application renewal service: Critical
  - Referees' report service: Critical
  - Grant holder application finalisation service: Critical
  - HOD Approval service: Critical
  - Dean endorsement service: Critical
  - DRIS approval service: Critical
  - Meeting management service: Important
  - Application progress viewer service: Important

- Report services: Important

- Notification services: Critical

- User account management services: Critical

  - Create new account: Critical
  - Modify account: Critical
  - Remove account: Important
  - View all accounts: Important

- Audit-Trail services: Critical

  - Log action: critical

– Query audit table: Important

- Archival services: Nice to have

    – Retrieve archived information: Nice to have

    – Archive old information: Nice to have

3.5   Use case/Services contracts

This section states the preconditions and postconditions of the each use case per use case diagram figure.

3.5.1   Preconditions

These are conditions that must be met by the system or user before they are allowed to use the use case.

- Fig 2.

    – New fellowship application service: Can only be accessed if new applications are open.

    – Application renewal service: Can only be accessed if renewals are open and if the user is a research fellow that is still in possession of a fellowship.

    – Referees' report service: Can only be accessed if user is a referee.

    – Grant holder application finalisation service: Can only be accessed if user is a grant holder.

    – HOD Approval service: Can only be accessed if user is a HOD.

    – Dean endorsement service: Can only be accessed if user is a member of the dean's office.

    – DRIS Approval service: Can only be accessed if user is a member of the DRIS.

    – Meeting management service: Can only be accessed if user is a member of the DRIS or post-doctoral committee member.

    – Application progress viewer service: Can only be accessed if user logged as a prospective fellow, research fellow or grant holder. Also the user needs to have at least one application on the system.

- Fig 3.

    - Create report: If a user with the associated credentials has been authenticated as a member of the DRIS or with the correct security role.

    - Open new report: If no report is currently open.

    - Select report data: If report is open and data is available for report.

    - Generate report: If data has been selected.

    - View report: If a report has been generated.

    - Export report: If user wants to export report and the user is busy viewing the report.

    - To spreadsheet: If user wants to export report to a spreadsheet.

    - To pdf: If user wants to export report to a pdf.

- Fig 4.

    - Create notification: If requesting user is the system or an authorised user.

    - Specify recipient user account: If a notification is in its setup stage.

    - Specify message: If a notification is in its setup stage.

    - Send user account notification: If notification is ready to be sent.

    - Send email: If notification is ready to be sent.

- Fig 5.

    - Create new account: If requesting user has the appropriate security role.

    - Modify account: If requesting user has the appropriate security role or is the owner of the account.

    - Remove account: If requesting user has the appropriate security role.

    - View all accounts: If requesting user is a system administrator.

- Fig 6.

    - Login user: If requesting user is a user of the system.

    - User account retrieval: If requesting user has forgotten their user credentials.

    - Create prospective fellow account: If a new prospective fellow wishes to create an account.

    - Create on-demand user account: If a user has been identified by an applicant and has a security token.

    - Authenticate user: if user is logged in.

- Fig 7.

  - Log action: If requesting user is the system.

  - Query audit table: If the user has the correct security role.

- Fig 8.

  - Retrieve archived information: If requesting user is a system administrator or the system.

  - Archive old information: If requesting user is a system administrator or the system.

- Fig 9.

  - View application progress: Can only be used if there are any applications made by the user.

- Fig 10.

  - Submit information: If all the application information is complete.

- Fig 11.

  - Open new renewal application: If research fellow has a fellowship that is renewable.

  - Submit report: If the progress report has been completed.

  - Submit renewal application: If all the required information for the renewal has been entered.

- Fig 12.

  - Load pending applications: If there are any pending applications for the referee and if the user was authenticated as the referee.

  - Create report: If if a application is selected from the list of pending applications.

  - Submit referral report: If the referral report has been completed.

- Fig 13.

  - Load pending applications: If there are any pending applications for the grant holder and if the user was authenticated as the grant holder.

  - Create Grant holder CV: If grant holder does not have a CV.

  - Complete application form: If grant holder has selected any application that is still pending.

– Submit application: If all the required information has been entered

.

- Fig 14.

  – Load pending applications: If there are any finalised application available for approval and the grant holder of the application falls under department the HOD is in charge of and if user has been authenticated as the HOD.

  – Application approval: If HOD has selected a application from the application list.

  – Create recommendation report: If the application has been approved.

  – Submit approved application's information: If the recommendation report has been completed.

- Fig 15.

  – Load pending applications: If there are any approved application available for endorsement and the grant holder of the application falls under faculty of which the Dean's office is in charge of and the user has been authenticated as a member of the dean's office.

  – Endorse application: If a application is selected from the pending list.

  – Rank application: If the application has been endorsed.

  – Create comment: If the application has been ranked.

  – Submit endorsed application: If the required endorsement information has been completed.

- Fig 16.

  – Load pending applications: If the user is authenticated as a member of the DRIS and if there are any endorsed application available for eligibility checking or applications available for finalising their funding decisions.

  – Check eligibility: If there are any endorsed application available for its eligibility check.

  – Deny: If the prospective fellow is older than 40 and has not obtained their PhD in the last 5 years or if the prospective fellow does not have a PhD.

  – Accept: If the prospective fellow is younger than 40 or is 40 and they have a PhD or if they have obtained a PhD in the last 5 years.

  – Meeting management service: If a meeting is to be created or updated.

  – Finalise funding decision: If the meeting regarding the application has been concluded.

- Deny: If the application's funding was denied.

- Approve funding: If the application's funding was denied.

- Fig 17.

  - List options: If user is a authenticated DRIS member.

  - Create meeting: If any eligible applications are available and the user selects the service from the options list.

  - Add endorsed applications: If any new applications that are eligible are available.

  - Add endorsed renewals: If any renewal applications that are eligible are available.

  - List active meetings: If user is a authenticated post doctoral committee member.

  - Record minutes of meeting: If the selected meeting has been listed.

3.5.2 Postconditions

These are conditions that must be met by the system and the data after the use case has been used.

- Fig 3.

  - Authenticate user: The user has been authenticated as a DRIS member or has the appropriate security role.

  - Open new report: A new report is active.

  - Select report data: The data for the active report is selected.

  - Generate report: The report is available for viewing.

  - View report: The report is available for export and must be visible.

- Fig 4.

  - Authenticate user: The user was authenticated as the system or a user with the appropriate security role.

  - Create notification: A possible notification is open for receiving its contents.

  - Specify recipient user account: The notification has a a recipient.

  - Specify message: The notification has a message.

  - Send user account notification: The message is sent to the user.

  - Send email: The message is sent the email associated with recipients user account.

- Fig 5.

- Create new account: A new user account is added to the system.

- Modify account: The specified user account is updated.

- Remove account: The specified user account is removed from the system.

- View all accounts: All user accounts are listed.

- Fig 6.

  - Login user: User is verified and logged in.

  - User account retrieval: An recovery email is sent to the user account that has been queried for recovery.

  - Create prospective fellow user account: A prospective fellows user account was created.

  - Create on-demand user account: A user account identified by the account token was created.

  - Authenticate user: The user is confirmed to be logged in and has the security role expected by the system.

- Fig 7.

  - Log action: A user action was recorded in the audit table and cannot be changed by user nor by the system.

  - Query audit table: An valid response to the query was returned.

- Fig 8.

  - Retrieve archived information: The current working database has been repopulated with the selected archive database data.

  - Archive old information: Any old information in the current working database is moved to the archived data base.

- Fig 9.

  - Authenticate user: The current user was authenticated as a grant holder or research fellow or a prospective fellow.

  - View application progress: The application progress of the specified user application is visible.

- Fig 10.

  - Authenticate user: The current user was authenticated as a prospective fellow.

  - Create prospective fellow cv: The CV is created and associated with the prospective fellow.

- – Specify grant holder: The grant holder's contact information is associated with the application.

- – Specify referees: The referees' contact information is associated with the application.

- – Submit information: The initial application data is complete. Referees are notified. And the prospective fellow is a associated with the application.

- Fig 11.

  - – Authenticate user: The current user was authenticated as a research fellow.

  - – Open new renewal application: A new renewal is for a fellowship is open.

  - – Complete progress report: The progress report associated with the renewal is completed.

  - – Submit report: The initial renewal information is complete. Grant holder is notified.

- Fig 12.

  - – Authenticate user: The current user was authenticated as a referee.

  - – Load pending applications: Any applications that need a referral report from the specified referee must be listed.

  - – Create report for prospective fellow: The report is complete and ready to be submitted.

  - – Submit referral report: The referral report has been finalised and associated with the application and the Grant Holder of the application is notified.

- Fig 13.

  - – Authenticate user: The current user was authenticated as a grant holder.

  - – Load pending applications: Any applications that need to be finalised from the specified grant holder must be listed.

  - – Create report for prospective fellow: The report is complete and ready to be submitted.

  - – Submit referral report: The referral report has been finalised and associated with the application and the Grant Holder of the application is notified.

  - – Create grant holder cv: The grant holder's CV is associated with the grant holder.

  - – Complete application form: The application data is complete and the application is ready to be finalised.

– Submit application: The application is now a finalised application and the grant holder is associated with the application. The HOD of the relative department is notified.

- Fig 14.

  – Authenticate user: The current user was authenticated as a HOD.

  – Load pending applications: Any applications that need to be approved by the specified HOD must be listed.

  – Deny: Application has status changed to denied.

  – Amend: Application is reopened and status changed to amend.

  – Notify grant holder: A denied or amend notification is sent to the Grant holder of the application appropriately.

  – Approve: The application recommendation report becomes available for completion.

  – Create recommendation report: The recommendation report is associated with the application and the Approval is ready to be finalised.

  – Submit approved application's information: The application approval is finalised and the application is now a approved application and the Dean's Office of the relevant faculty is notified.

- Fig 15.

  – Authenticate user: The current user was authenticated as a member of a dean's office.

  – Load pending applications: Any applications that need to be approved by the specified dean's office must be listed.

  – Deny: The application's status is changed to denied.

  – Notify grant holder: A denied notification is sent to the Grant holder of the application.

  – Endorse: The application's endorsement information becomes available for completion.

  – Rank application: The application has a rank associated with it.

  – Create comment: The application has a endorsement comment associated with it.

  – Submit endorsed application: The application endorsement is finalised and the application is now an endorsed application and the DRIS is notified.

- Fig 16.

- Authenticate user: The current user was authenticated as a member of the DRIS.

- Load pending applications: Any applications that need to be checked for eligibility or have their final funding decision made by the DRIS must be listed.

- Deny: The application's status is changed to denied if it is not eligible.

- Notify grant holder: A denied notification is sent to the Grant holder of the application.

- Accept: The application is ready for discussion and is now an eligible application.

- Deny: The application's status is changed to denied if its funding is not approved.

- Approve funding: The application is now a complete application.

- Notify grant holder: A notification is sent to the Grant holder of the application that it is successful.

- Notify CSC: A customizable notification is sent to the CSC.

- Notify Finance: A customizable notification is sent to the Finance department.

- Fig 17.

  - Authenticate user: The current user was authenticated as a member of the DRIS or the Post doctoral committee.

  - List options: The option to update or create meeting are listed.

  - Create meeting: A new meeting is open for modification.

  - Add endorsed applications: An endorsed new application has been added to the agenda of the meeting.

  - Add endorsed renewals: An renewal application has been added to the agenda of the meeting.

  - Create pre-meeting documentation: Documentation complete and associated with meeting and the meeting is closed for modification.

  - Notify committee members: A notification is sent to all the committee members.

  - List active meetings: All active meetings at the time are listed.

  - Record minutes of meeting: The meeting is finalised and it's minutes stored.

3.5.3 Request and result data structures

The system will be following a object oriented approach due it being the paradigm of the Java programming language. Therefore the input and output structure will mainly be in the form of objects. Also the objects that will be produced and used inside the system will adhere to the domain objects.
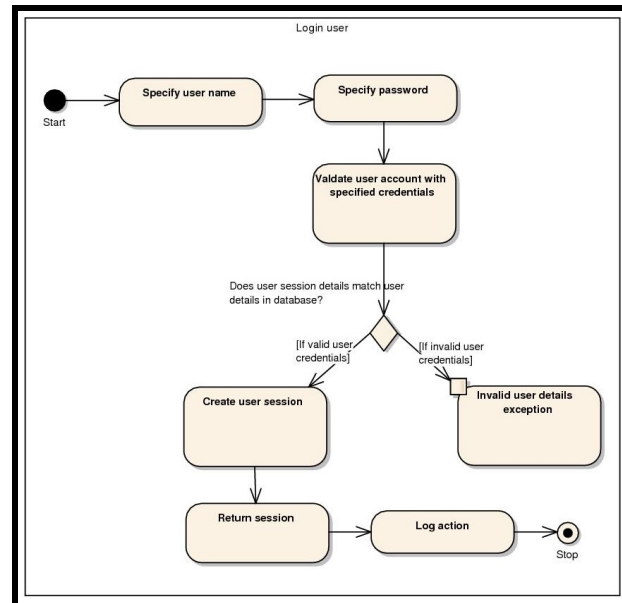
3.6   Process specifications

Figure 18: Activity diagram of the Login user use case.
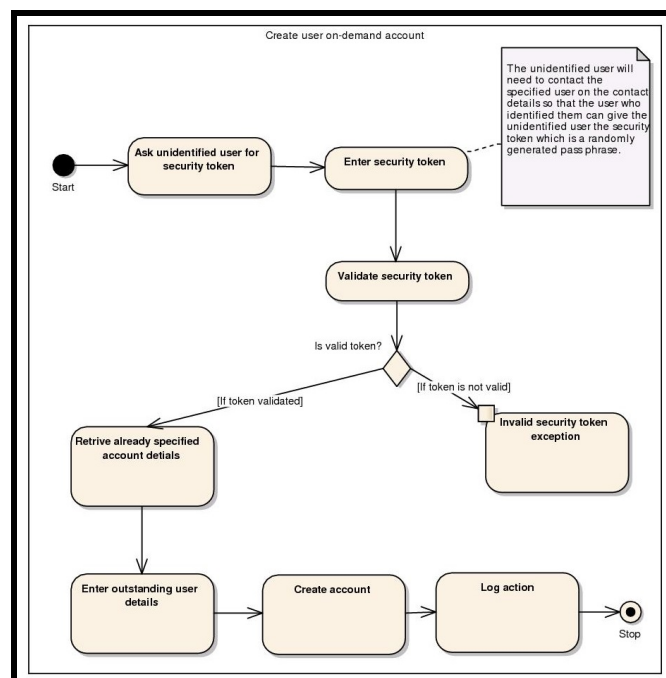

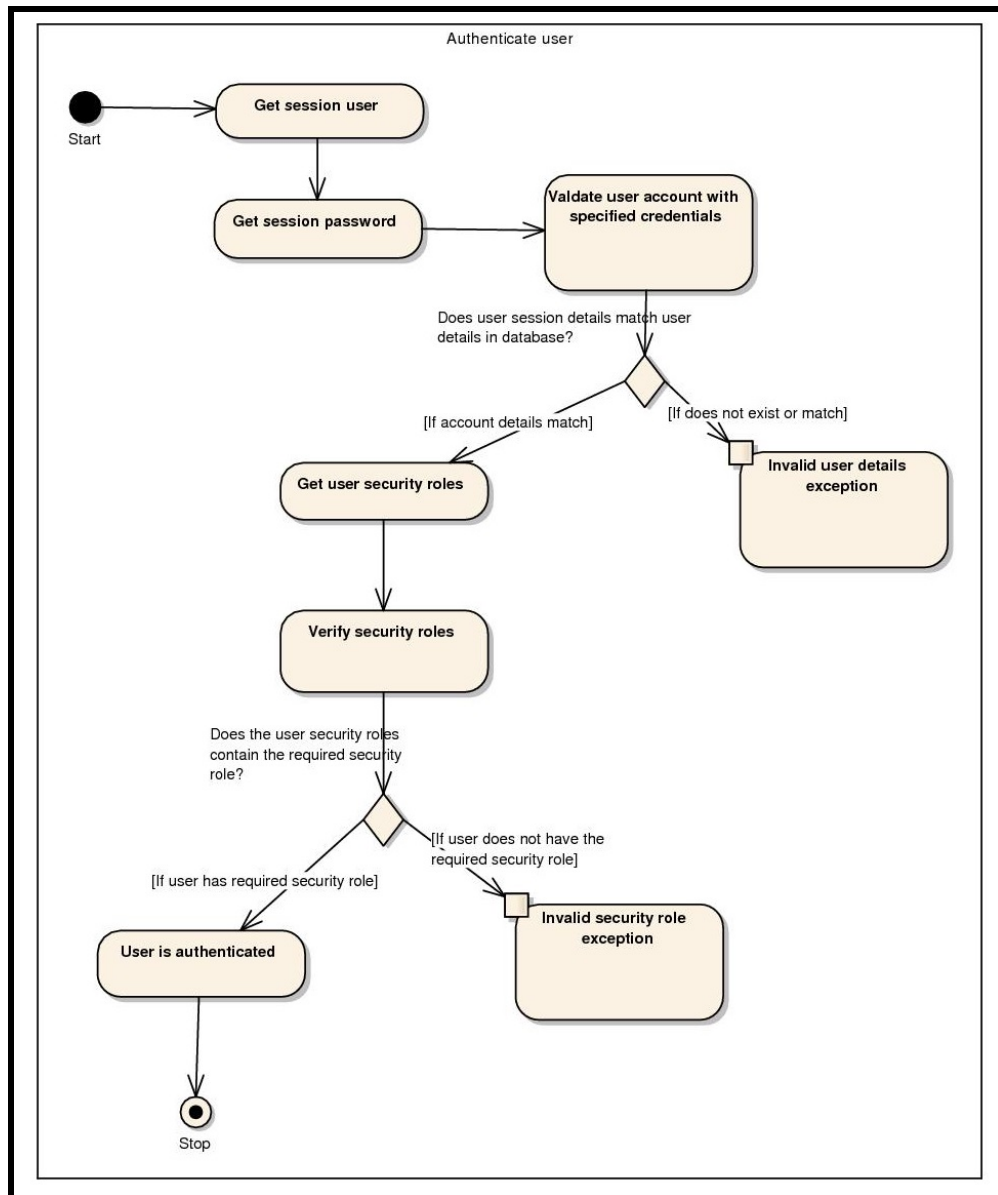Figure 19: Activity diagram of the Create user on-demand account use case.

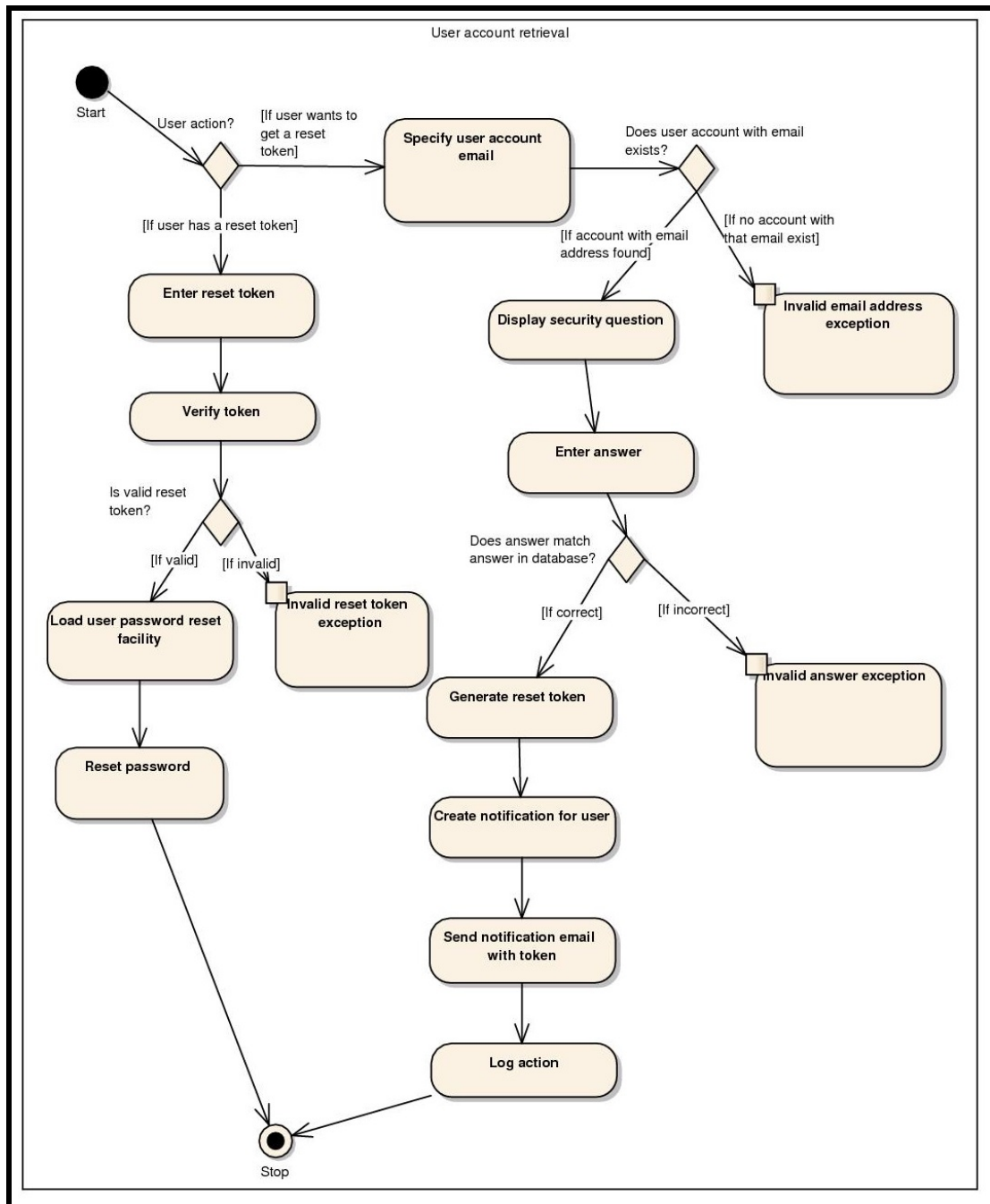Figure 20: Activity diagram of the Authenticate user use case.

Figure 21: Activity diagram of the User account retrieval use case.
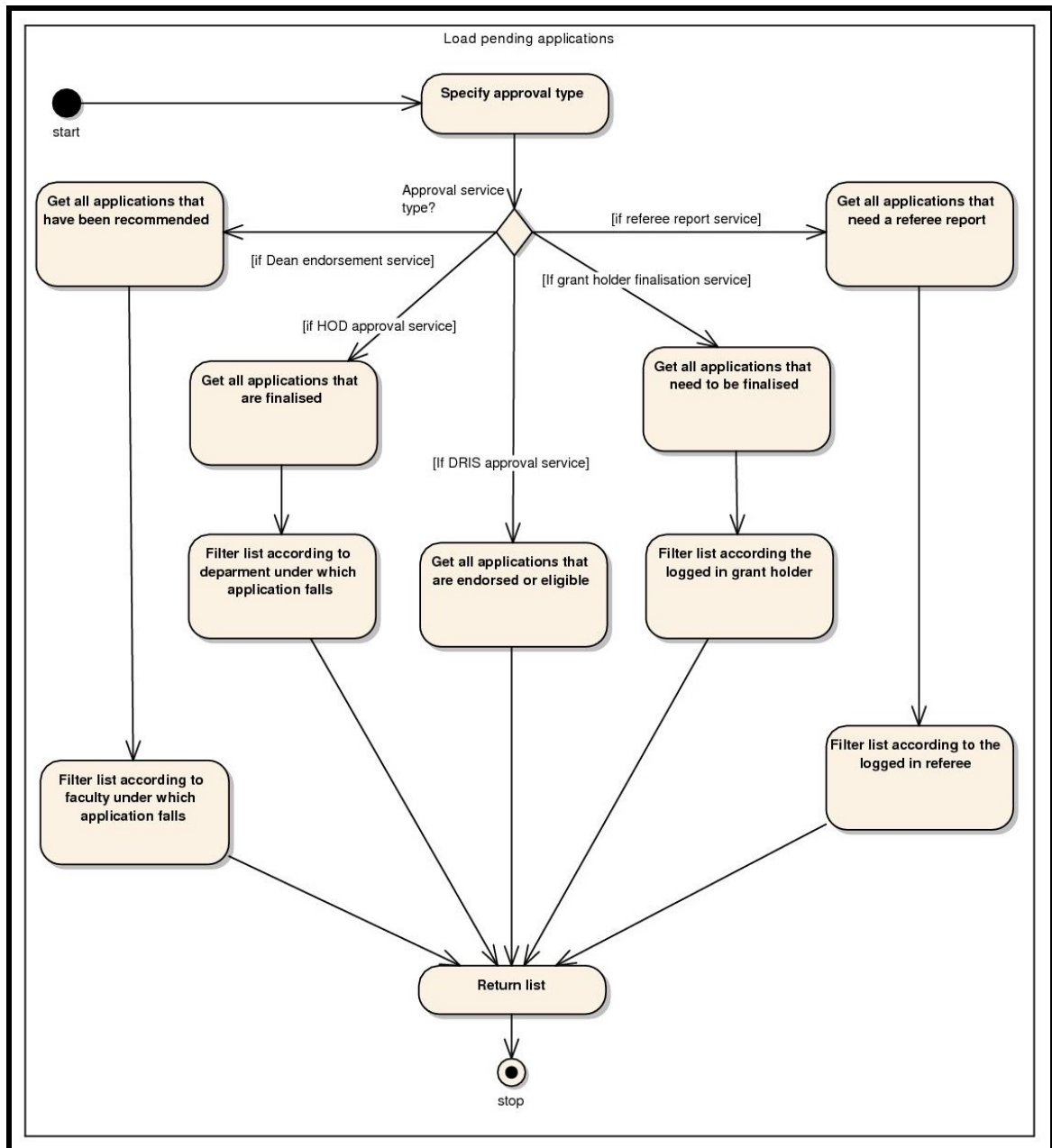
Figure 22: Activity diagram of the Load pending applications use case.
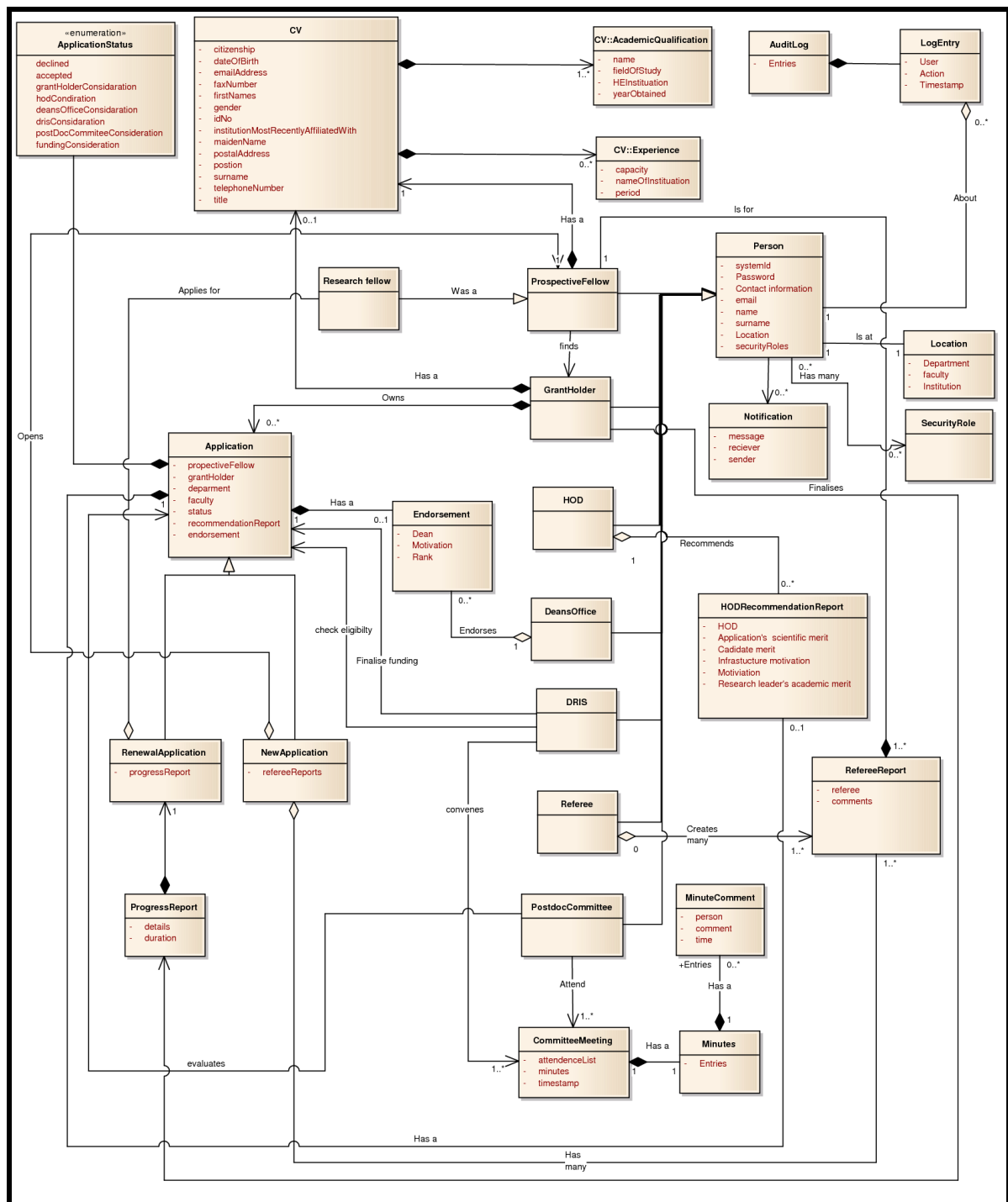
3.7 Domain Objects

3.7.1 Overview

Figure 23: Overview of the data structures and relationships for the core domain objects of the system.

3.7.2 Person

This object represents the stakeholders that will make use of the system. All stakeholders will have accounts which they will use to log on to the system. Using a unique user id and a predefined or user specified password. The unique user id can either be a Peoplesoft Emplid number or a email address. The person has an associated **Location** and **SecurityRole**(s)

3.7.3 Location

This object represents the location of a **Person** in the institution if they are a member of the University of Pretoria. This object will no longer be needed if the system is integrated with peoplesoft as it would cause redundancy.

3.7.4 SecurityRole

This object represents a particular security role of a **Person**. A **Person** may have many different security roles.

3.7.5 DRIS

This object represents members of Department of Research and Innovation Support who administers the process.

3.7.6 ProspectiveFellow

This inherited object represents a prospective fellow who is a holder of a PhD obtained in the last five years (or nearing completion of a PhD) or is 40 years or younger and has a PhD. The prospective fellow can open a **NewApplication**.

3.7.7 ResearchFellow

This inherited object represents a research fellow who is a currently a researcher at the University of Pretoria. This object was initial a **ProspectiveFellow**. The research fellow can apply for a **RenewalApplication**.

3.7.8 GrantHolder

This inherited object represents a grant holder who can be a rated researcher by the NRF or not. The system should not require the CV's of A and B rated researchers to be added to the system. The reason for this is that the CV's of such researchers can be easily obtained from the NRF and tend to be very long. A grant holder is the supervisor for a or many **ProspectiveFellow**(s) and owns the **Application** of the **ProspectiveFellow**(s).

3.7.9 HOD

This inherited object represents a HOD of a particular department. The HOD creates the recommendation reports for **Application**(s) they consider to meet their requirements.

3.7.10 HODRecommandationReport

This inherited object represents a recommendation report highlighting the reasons to why the **Application** of a **ProspectiveFellow** is needed by the department.

3.7.11 Deans Office

The Dean's office object represents the relevant faculty's Dean and Deputy Dean. The Dean's Office creates the **Endorsement** for any the **Application** that is approved by them.

3.7.12 Endorsement

This object represents the endorsement of an **Application** of a **ProspectiveFellow** and contains the rank in comparison to other pending **Application**(s).

3.7.13 Referee

This inherited object represents the referees of any **ProspectiveFellow** and is responsible for creating **RefereeReport** regarding the **ProspectiveFellow**.

3.7.14 RefereeReport

This object represents the referral report from an identified referee of a **ProspectiveFellow**.

3.7.15 PostDocCommittee

This inherited object represents the individual members of the post-doctoral committee who approves all available **Applications** during committee meetings and records the **Minutes** of the meeting.

3.7.16 CommitteeMeeting

This object represents a meeting of the **PostDocCommittee** convened by the **DRIS** that will be review the **Applications** and will evaluate each. This object contains the attendance list, date and time convened and the **Minutes** of the meeting.

3.7.17 Minutes

This object represents the minutes of the **CommitteeMeeting** and holds the multiple **MinuteComment**(s) of the meeting.

3.7.18 MinuteComment

This object represents a comment made by a **PostDocCommittee** member during a **CommitteeMeeting**.

3.7.19 Application

This object represents an applications and will contain the information of **ProspectiveFellow** and **GrantHolder** who owns it. The object holds the status of the application. As well as the **HODRecommandationReport** of a **HOD** and **Endorsement** from a **DeansOffice**.

3.7.20 NewApplication

This inherited object represents new application for a **ProspectiveFellow** who is currently not a fellow in the system. Also it holds any **RefereeReport**(s) that has been created for the application.

3.7.21 RenewalApplication

This inherited object represents renewal application for a **ProspectiveFellow** who is a fellow in the system. Also it holds the **ProgressReport** that has been created for the application.

3.7.22 ProgressReport

This object represents a report on the research that the **ProspectiveFellow** had done through the duration of their fellowship.

3.7.23 CV

This object represents a CV and contains all the information such as personal details, **AcademicQualification**(s), **Experience** regarding a **GrantHolder** or **ProspectiveFellow** in the system.

3.7.24 AcademicQualification

This object represents a academic qualification and the information regarding it such as the qualification name, field, where it was obtained and when it was obtained.

3.7.25 Experience

This object represents a work experience and the information regarding it such as the capacity of the work, where this work was done and when it was done.

3.7.26 Notification

This object represents a email or internal message sent by a user to a user via the system. The system itself may also seen as a user in this regard.

3.7.27 AuditLog

This object represents a audit log that stores all the actions of all users within the system.

3.7.28 LogEntry

This object represents a **AuditLog** entry which records the action, who committed the action as well as at what time the action was committed.

4   Glossary:

- **Activity diagram** - A UML diagram that depicts the flow of actions or activities in the process.

- **API** - Application Programming Interface

- **Audit log** - A log that keeps track of user actions.

- **Application** -Both renewal applications or new fellowship applications are seen as applications by this project.

- **CV** - Curriculum Vita

- **Domain objects** - Are the objects that are present in the system being modelled.

- **HTML** - Hyper Text Mark-up Language

- **Java EE** - Java Enterprise Edition

- **NRF** - National Research Foundation

- **PhD** - A doctoral degree in a particular field of study.

- **PDF** - Portable Document Format file

- **Peoplesoft** - A management system designed by oracle.

- **Spreadsheet** - A special type of digital document that is used to represent data in rows and columns

- **Use case diagram** - A UML diagram that gives a visual depiction of a service or group of services.

- **UML** - Unified modelling language. A commonly used model standard to provide technology neutral models of different aspects of software.

- **UP** - University of Pretoria