Software Requirements Specification

for

ScholarSphere

Version --

Prepared by Group 20

Syracuse University CSE 687

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--	April 7, 2024	--	Group 20	All	Initial Revision

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1. 1. Introduction

1.1. Purpose

This Software Requirements Specification (SRS) is intended to delineate software requirements for the ScholarSphere website.This SRS is intended to provide guidance to the developers of the system to implement required functionality, as well as the test team to develop appropriate Verification and Validation (V&V) plans and procedures required to demonstrate to the customer that the system was built to this specification.

1.2. Scope

The Software Requirements Specification captures all the requirements in a single document. The ScholarSphere that is to be developed contains records of all research publications and journals with along with information such as author, date of publish and type of publication/ journal. Login credentials of staff and students are stored. The ScholarSphere is supposed to have the following features.

1. The product provides members access to records of all research publications. It provides logon feature to users.
2. The system contains information about user such as name, department, qualification (staff or student) and list of journals published by the user.
3. The system provides the members with the option to check their account and/or change their options like password of the account whenever needed.
4. The system lets the website manager(s) to add/remove records of any research publication and maintain its catalogue. They can add/remove any member according to their discretion.
5. The system provides a comprehensive list of all publications which can be filtered by author, name, date, type of publication etc.
6. The system provides visual statistical information about research journals published over a period of time based on category and field of research. This information can be tailor-made to show information about research journals published by a specific author.
7. The system keeps track of the citations that a publication which can be viewed subsequently.

1.3. Definitions

BDD	Block Definition Diagram
SRS	Software Requirement Specification
UML	Unified Modeling Language
V&V	Verification and Validation

1.4. References

1. IEEE Std 830-1998 - IEEE Recommended Practice for Software Requirements Specifications - Revision of IEEE Std 830-1993

This document follows the recommended format specified in IEEE Std 830-1998 IEEE RecommendedPractice for Software Specifications. For Section 3, the specific template A.5 for organizing information by feature is followed.

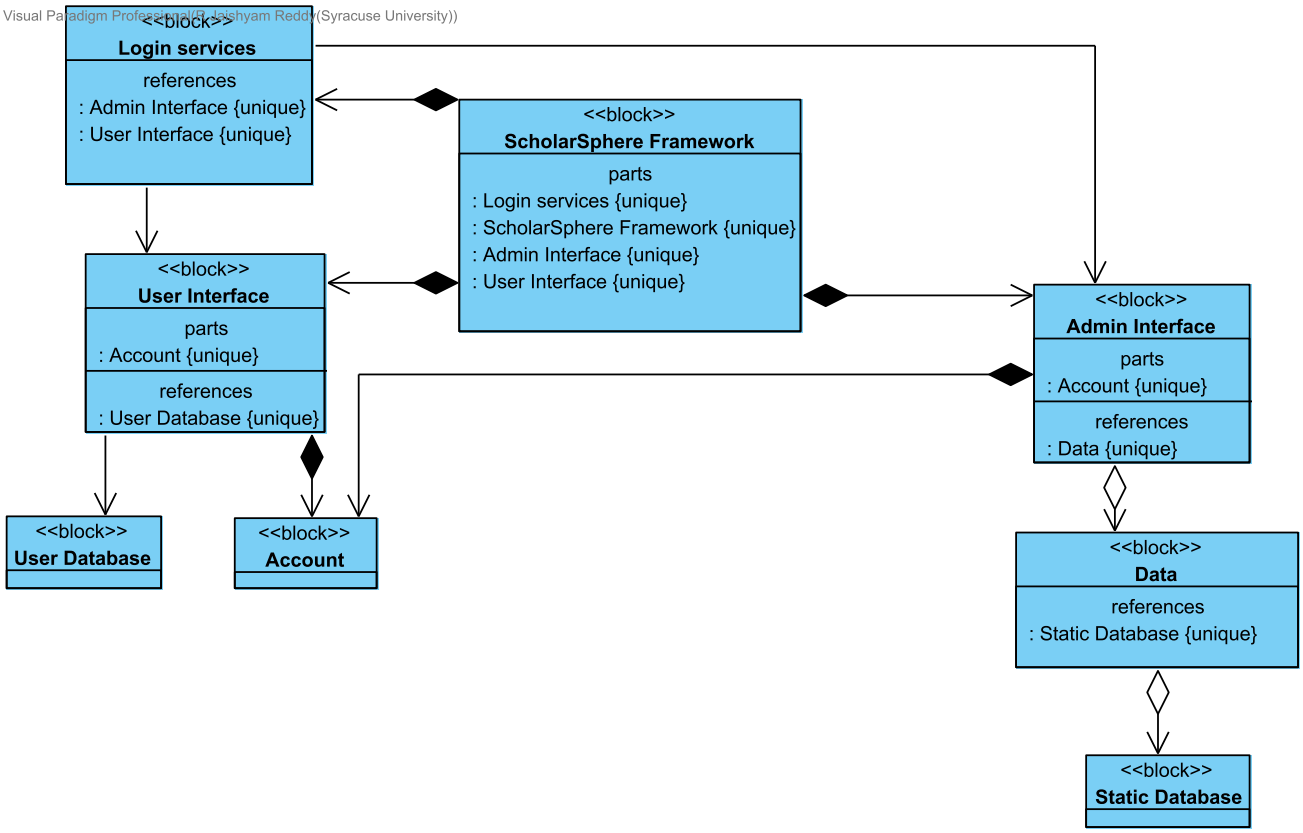
2. Overall Description

2.1. Product Perspective

The ScholarSphere is a package to be used by students and staff of this institution to access the catalog of published material efficiently. This web portal provides easy access to research publications, journals and their pertinent information all in one place which would be otherwise difficult to do so directly without aid. The catalog of published research material of all categories and types are updated regularly by the website managers.

Statistical information about published material over the years, relevant information about an individual research paper such as citations, type of publication (Thomson Reuters etc.), other papers by the author can be viewed by the user.

2.1.1. ScholarSphere Block Definition Diagram



Account

1. Manages user account related functionality.

Admin Interface

1. Offers the system's administrative interface.
2. Includes elements like references to the Data (unique) and the Account (unique).

Data

1. Holds the static data that the system uses.
2. Makes unique reference to the Static Database.

Login services

1. Gives users the ability to log into the system.
2. Includes allusions to the unique Admin Interface and distinctive User Interface.

ScholarSphere Framework

1. The fundamental structure of the ScholarSphere program.
2. Comprises the ScholarSphere Framework (unique), the Admin Interface (unique), the User Interface (unique), and the Login services (unique).

Static Database

1. The system that stores the static data for the system.

User Database

1. Stores user related data and information.

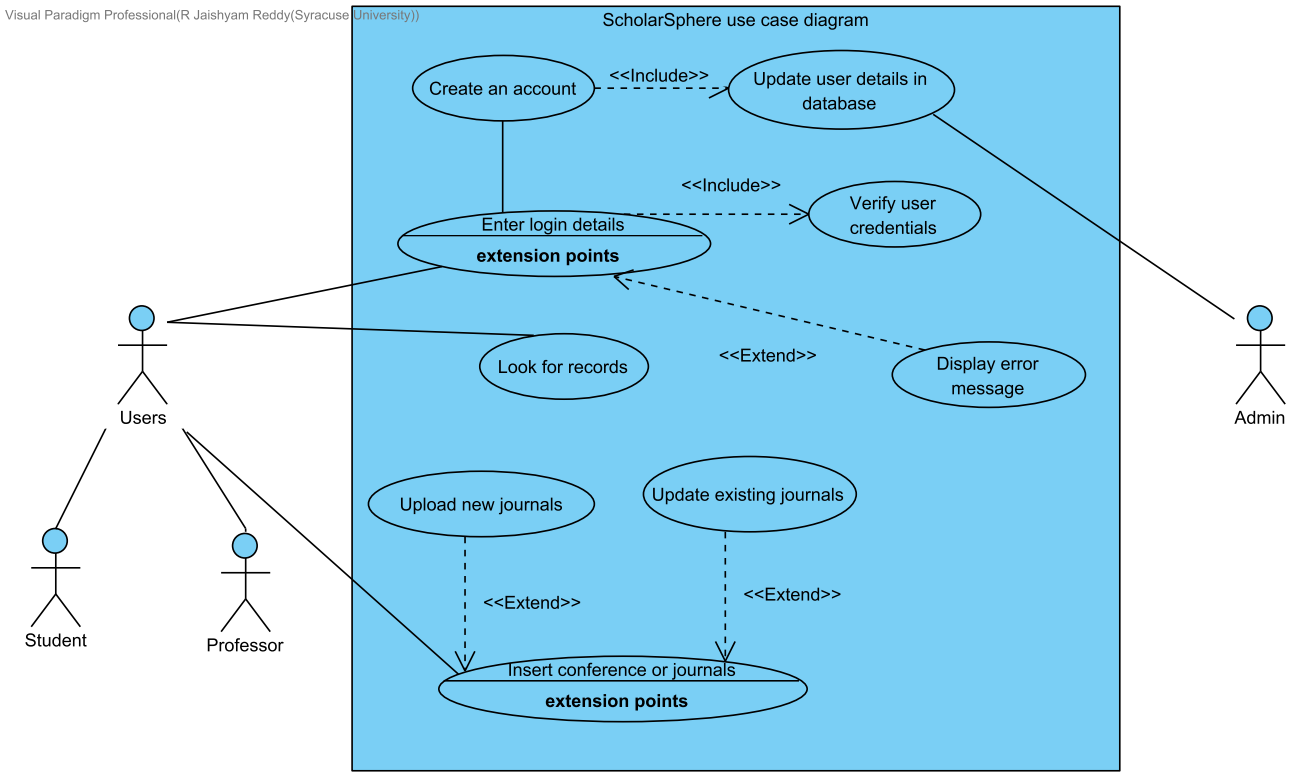
User Interface

1. Gives the system its user-facing interface.
2. Includes unique components like Account and references to the User Database.

2.2. Product Functions

The following use case diagram depicts the users of the system, and the intended way in which they will interact with the system.

2.2.1. ScholarSphere uses



Admin

ID: AC04

Who has access to the entire database.

2.2.2. Professor

ID: AC03

User who is a professor.

2.3. Use Case Descriptions

2.3.1. Student

ID: AC02

User who is a student.

2.3.2. Users

ID: AC01

Users include both students and professors.

2.3.3. Insert conference or journals

ID: UC09

Users can upload journals and conference papers to the website.

Primary Actors

Users

Supporting Actors

Professor, Student

Details

Level	Subfunction
Complexity	High
Use Case Status	Initial
Implementation Status	Scheduled
Preconditions	User will have an option to either upload or update existing journals and conference papers.
Post-conditions	New journal and conference papers are added. Existing journals and conference papers are updated.
Author	N/A
Assumptions	N/A

Scenarios

Uploading journal

1. The user selects journal.
2. Then, the user selects "upload" and proceeds to upload their document.
3. The database is updated.

Uploading conference paper

1. The user selects conference paper.
2. Then, the user selects "upload" and proceeds to upload their document.
3. The database is updated.

Updating journal

1. The user selects a journal.
2. Then, they choose "update info" to make changes to the existing journal.
3. The database is updated with the new information.

Updating conference paper

1. The user selects a conference paper.
2. Then, they choose "update info" to make changes to the existing conference paper.
3. The database is updated with the new information.

Requirements

New title for every record

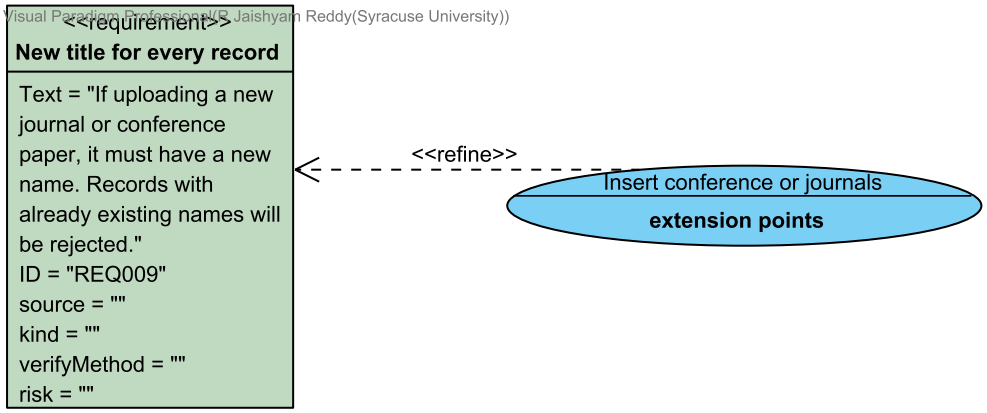
ID: REQ009

If uploading a new journal or conference paper, it must have a new name. Records with already existing names will be rejected.

Relationships

Relationship	From	To
«E» unnamed	Insert conference or journals	Upload new journals
«E» unnamed	Insert conference or journals	Update existing journals
«I» unnamed	Insert conference or journals	Forward request to admin
«r» unnamed	Insert conference or journals	New title for every record
unnamed	Insert conference or journals	Professor
unnamed	Insert conference or journals	Student
unnamed	Users	Insert conference or journals

2.3.4. Insert conference or journals



2.3.5. Look for records

ID: UC06

Allows users to search for journals and conference papers with a filter where they can look for journals or conference papers in their interested areas of study and read them.

Primary Actors

Users

Supporting Actors

Professor, Student

Details

Level	Subfunction
Complexity	High
Use Case Status	Initial
Implementation Status	Scheduled
Preconditions	User needs to select journal or conference paper and then search for a topic.
Post-conditions	Journal or conference paper in the selected topic is given access to the user.
Author	N/A

Assumptions N/A

Scenarios

Looking for journals

1. User clicks on journals and searches for their interested topic.
2. System takes the input and searches in the database and displays the journals in that topic.
3. User can select which journal they want and read it.

Looking for conference papers

1. User clicks on conference papers and searches for their interested topic.
2. System takes the input and searches in the database and displays the journals in that topic.
3. User can select which journal they want and read it.

Requirements

Availability of records

ID: REQ005

Journals and conference papers related to the users search input should be available on the site.

Journal or conference paper

ID: REQ006

User needs to select between journal or conference paper before searching for a topic.

Valid user req

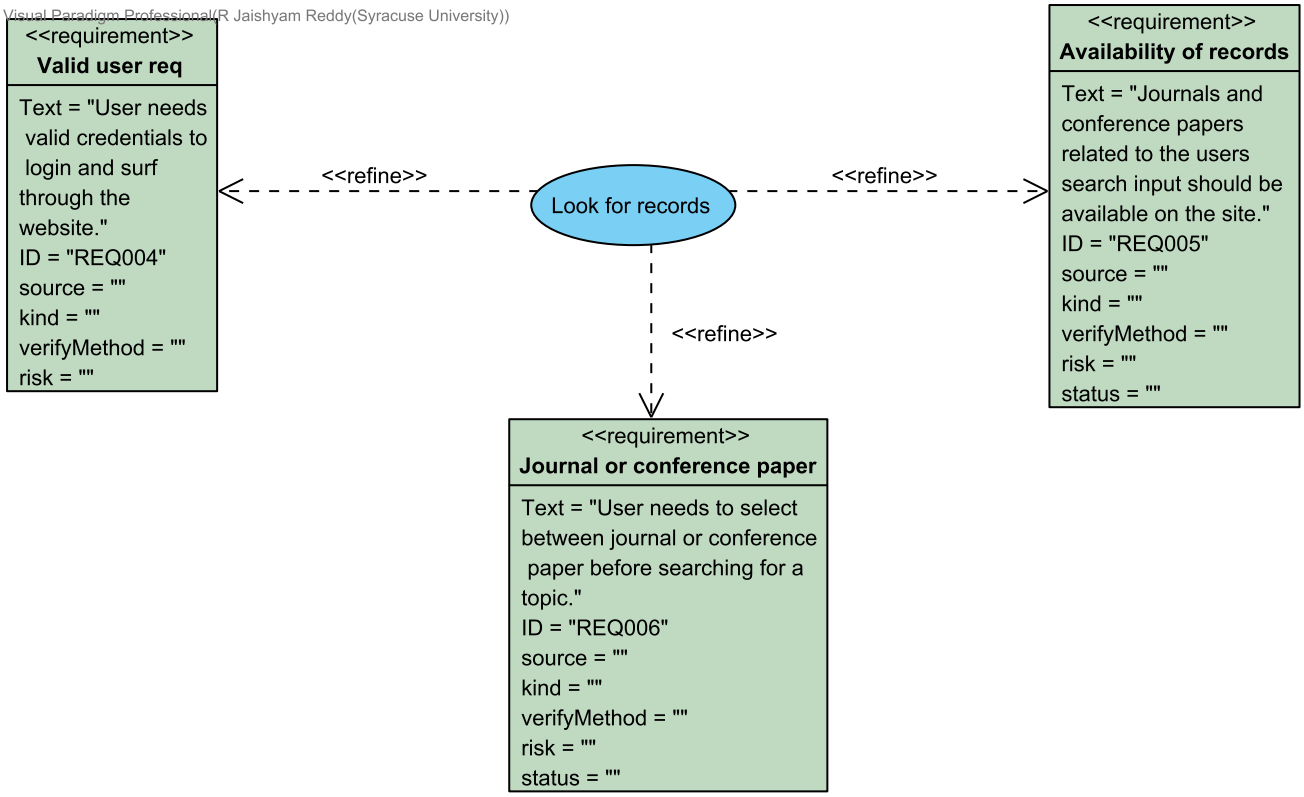
ID: REQ004

User needs valid credentials to login and surf through the website.

Relationships

Relationship	From	To
unnamed	Look for records	Valid user req
unnamed	Look for records	Availability of records
unnamed	Look for records	Journal or conference paper
unnamed	Look for records	Professor
unnamed	Look for records	Student
unnamed	Users	Look for records

2.3.6. Look for records



2.4. User Characteristics

Refer to Use Case Diagram above and the descriptions of the Actors.

2.5. Constraints

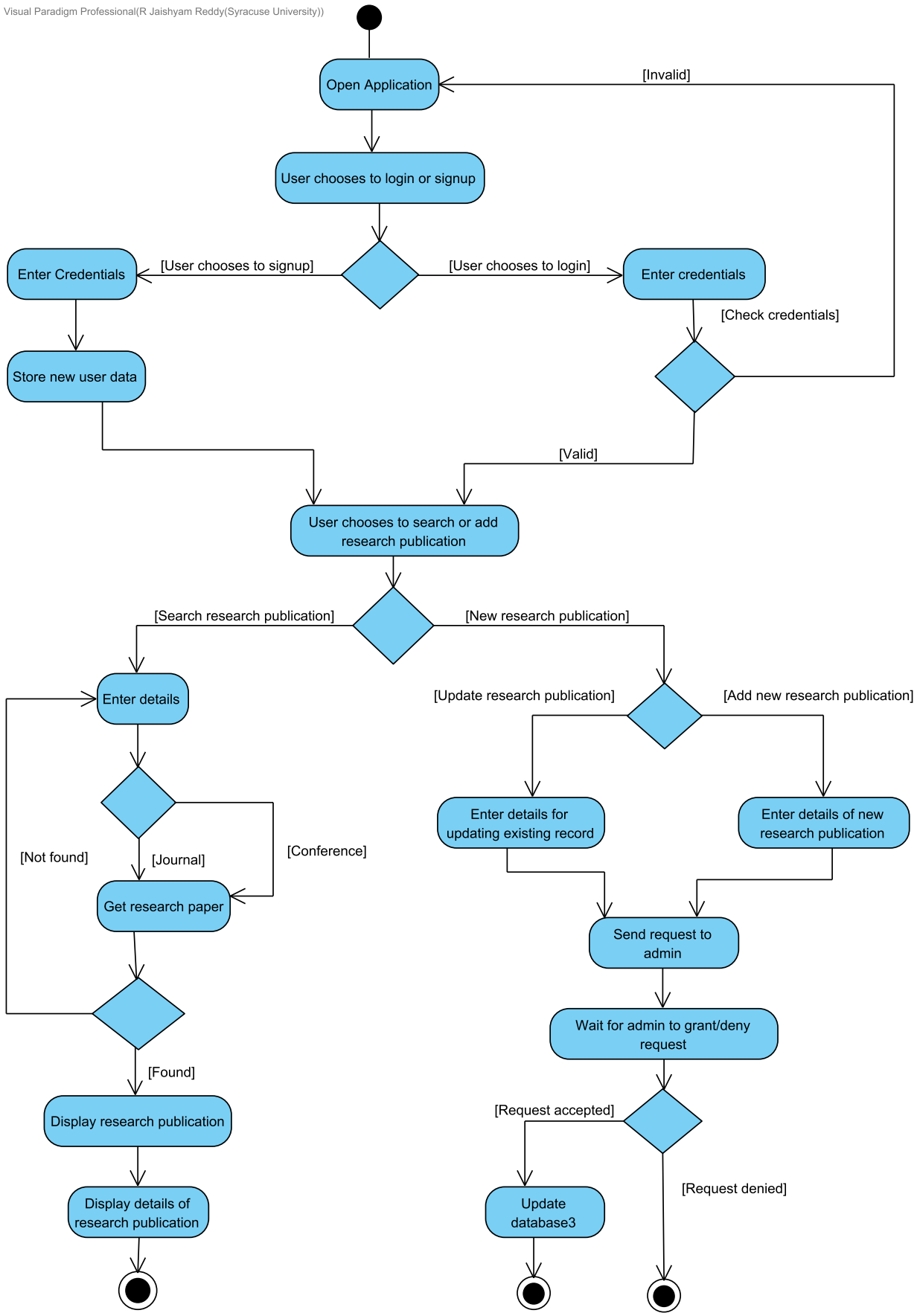
These are defined specifically in Section 3

3. Specific Requirements

3.1. Overview

This section describes in detail all the functional requirements.

3.1.1. ScholarSphere Activity Diagram



Display details of research publication

Details of the record is displayed.

Display research publication
The research paper that the user wants is displayed.

Enter Credentials
The user is asked to enter their login credentials.

Enter credentials
The user is asked to enter their login credentials.

Enter details
After the user clicks on search existing records, they will be asked to enter the details about the search they want to do.

Enter details for updating existing record
Details that are to be updated in an existing record are entered by the user.

Enter details of new research publication
The details about the new record that they are going to upload are to entered by the user.

Get research paper
The research papers in the searched area are displayed.

Open Application
The user will open the website.

Send request to admin
After all the required information is filled, a request is sent to the admin.

Store new user data
New user details entered by the new user are stored.

Update database3
The database is updated with the changes made or with the new record that was uploaded by the user.

User chooses to login or signup
The user is asked to either logon or sign up. The user chooses one of the two options.

User chooses to search or add research publication

The user will be asked to either search for existing records or to upload new records.

Wait for admin to grant/deny request

After the request is sent to the admin about the changes to be made, the admin reviews to either deny or grant the change request.

3.2. Functionality

3.2.1. Logon Capabilities

- The ScholarSphere **shall** provide the users with logon capabilities.

3.2.2. Mobile Devices

- The ScholarSphere **shall** support mobile devices along with desktop access

3.2.3. Alerts

- The ScholarSphere shall give a notification to the website manager or administrator in case of any issues.

3.2.4. Usability

- The interface of this portal **shall** be user-friendly and self-explanatory.
- Accessing the portal **shall** be easy as it uses web browser as an interface.
- The portal **shall** be accessed from the internet or it's derivative technologies.
- The ScholarSphere **shall** run 24 hours a day.

3.3. Reliability

- The ScholarSphere **shall** provide complete reliability due to the importance of data and the damages incorrect or incomplete data can do.

3.3.1. Availability

- The ScholarSphere **shall** be completely accessible for free, 24hours a day and 365 days a year.

3.3.2. Mean Time Between Failures(MTBF)

- The ScholarSphere **shall** be created and developed in such a manner that it rarely fails or fails once in a year.

3.3.3. Mean Time to Repair

- The ScholarSphere **shall** be developed in such a manner that even if it fails, it sh**all** get recovered within 5-6 hours.

3.3.4. Accuracy

- The accuracy of this portal **shall** be contingent upon the accuracy of speed at which the users use the ScholarSphere.

3.4. Performance

3.4.1. Response Time

- The user **shall** be able to download the information from the website within 2 minutes even the website is under maintenance.
- The information **shall** be refreshed every two minutes.
- The access time for a mobile device **shall** be less than a minute.
- The system **shall** respond to the member in not less than two seconds from the time of the request submittal.
- The system **shall** be allowed to take more time when doing large processing jobs.

3.4.2. Administrator Response

- The system **shall** take negligible time delay to provide service to the administrator.

3.4.3. Throughput

- The number of transactions s**hall** be directly dependent on the number of users, the users may be the Administrator, Students, Professors and also the people who use the website for checking-out information regarding Research publications.

3.4.4. Capacity

- The system shall be capable of handling 100 users at a time.