

SICSA Requirements Specification

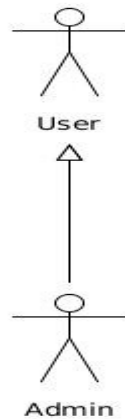


Figure 1

1. Actors

Figure 1 illustrates the relationships between actor roles in the system. A short summary of the actors is given below:

User represents an actor in the system who is able to search for experts most relevant to a query using SICSA look or university template look.

Admin inherits user and is able to modify look and feel, update academics and view queries information.

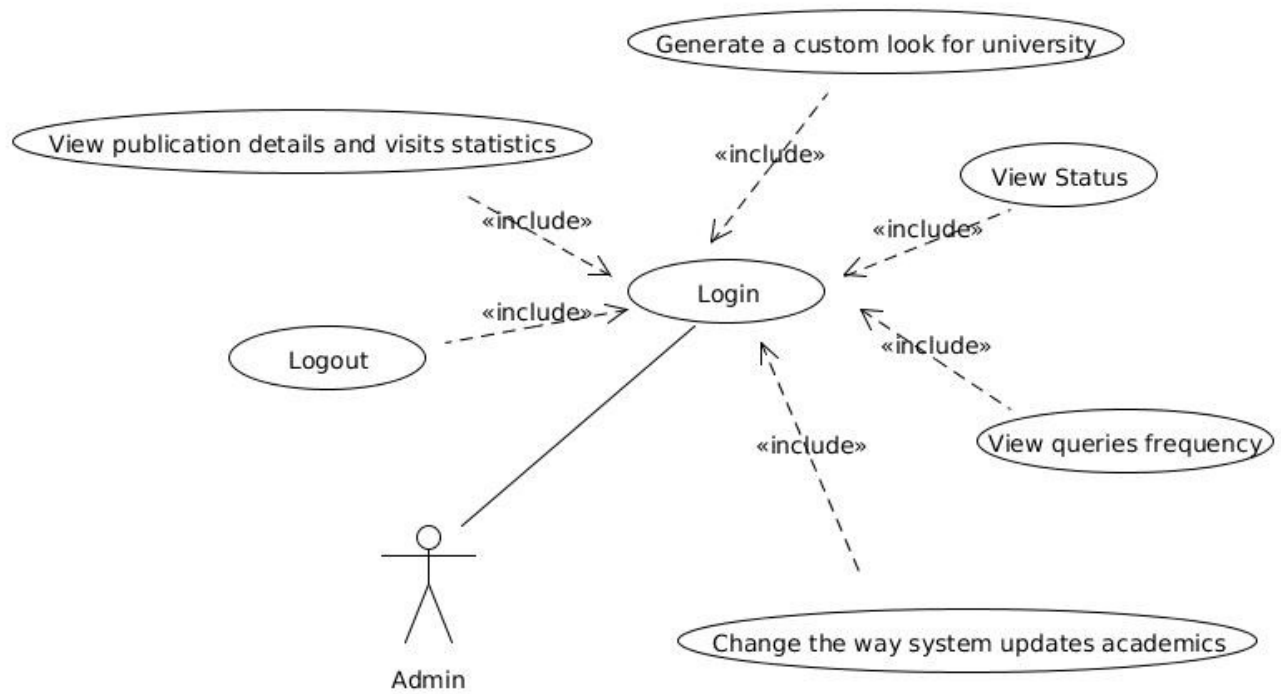
2. Use Cases

The core use cases for the system are:

- Administration (Section 2.1)
 - Login
 - Logout
 - View status
 - View queries frequency
 - Change the way system updates academics
 - Generate a custom look for university
 - View publications details and visits statistics
- Common utility activities (Section 2.2)
 - Search for experts most relevant to a query
 - View academic profile

2.1 Administration

Use Case Diagram



Use Case	Login
Description	<pre>graph TD; Start(()) -- "[logged in?]" --> Decision1{ }; Decision1 --> End1((()); Decision1 --> Join1[]; Join1 --> EnterUsername([Enter username]); Join1 --> EnterPassword([Enter password]); EnterUsername --> Join2[]; EnterPassword --> Join2[]; Join2 --> Submit([Submit]); Submit -- "[correct?]" --> Decision2{ }; Decision2 --> End2((()); Submit --> Decision1;</pre> <p>The diagram illustrates the login process. It begins with a start node leading to a decision diamond labeled "[logged in?].". If the user is already logged in, the process ends at a final node. If not, the flow proceeds to a join bar, then to two parallel activities: "Enter username" and "Enter password". These activities merge at another join bar, leading to the "Submit" activity. From "Submit", a decision diamond labeled "[correct?]" determines the outcome. If the credentials are correct, the process ends at a final node. If incorrect, the flow loops back to the "Submit" activity.</p>
Rationale	The login use case allows administrator to access to the system. The username and password are provided by SICSA staff
Priority	Must Have
Status	Implemented
Actors	<ul style="list-style-type: none">• Admin
Extensions	
Includes	
Conditions	post The user is logged in if correct credentials are provided
Scenarios	
Risks	
User Interface	

Use Case	Logout
Description	The logout use cases changes a users account to logged out, requiring them to re-authenticate to the system. Logout is invoked by the user
Rationale	The logout use case allows a user to leave the system to prevent unauthorised access from an unattended terminal
Priority	Must Have
Status	Implemented
Actors	<ul style="list-style-type: none"> Admin
Extensions	
Includes	Login
Conditions	<p>pre The user is logged in</p> <p>post The user is logged out</p>
Scenarios	
Risks	
User Interface	

Use Case	View Status
Description	A user's status (institution, email) is displayed.
Rationale	User needs to be able to view their status within the system.
Priority	Should Have
Status	Implemented
Actors	<ul style="list-style-type: none"> Admin
Extensions	
Includes	Login
Conditions	pre The user is logged in
Scenarios	
Risks	
User Interface	

Use Case	View queries frequency
Description	The queries frequency associated to user university is displayed
Rationale	User needs to be able to view queries frequency in order to determine the popularity of a particular area
Priority	Should Have

Status	Implemented
Actors	<ul style="list-style-type: none"> Admin
Extensions	
Includes	Login
Conditions	pre The user is logged in
Scenarios	
Risks	
User Interface	

Use Case	Change the way system updates academics
Description	<p>Initially, the SICSA expertise search engine “scrapes” the contacts from your webpages. However, user would prefer XML feeds from each university. This takes 2 forms:</p> <ol style="list-style-type: none"> an XML feed hosted on your website and accessed directly by the expertise search engine. manual uploading of the XML file to the SICSA expertise search engine.
Rationale	Allows user to update academics according to their preference.
Priority	Should Have
Status	Implemented
Actors	<ul style="list-style-type: none"> Admin
Extensions	
Includes	Login
Conditions	pre The user is logged in post Change updated
Scenarios	
Risks	
User Interface	

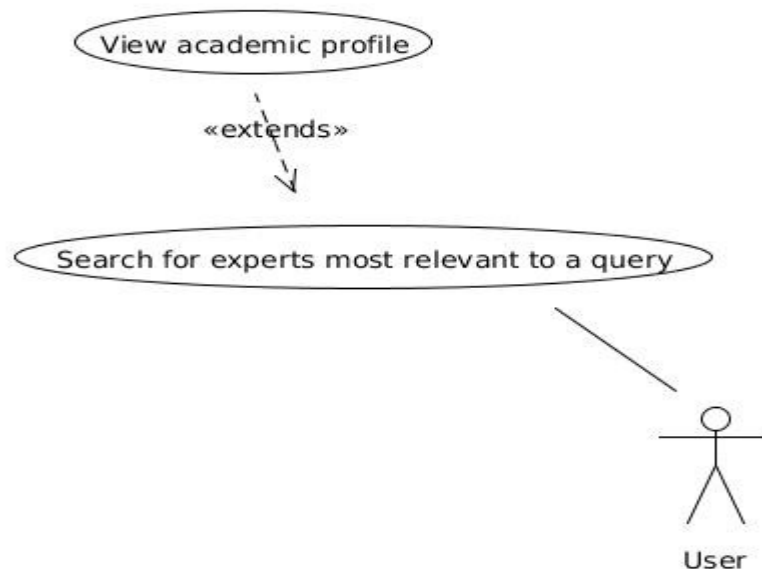
Use Case	Generate a custom look for university
Description	User modifies look and feel for their university. This look and feel is displayed to other users visiting SICSA using specific university look and feel.
Rationale	Allows user to modify template for their university.
Priority	Could Have
Status	Implemented
Actors	<ul style="list-style-type: none"> Admin
Extensions	
Includes	Login

Conditions	pre The user is logged in post look and feel updated
Scenarios	
Risks	
User Interface	

Use Case	View publications details and visits statistics
Description	User is able to view all academics, number of visits and publications associated with each academic in their university.
Rationale	Allows user to view publications details and visits statistics.
Priority	Should Have
Status	Implemented
Actors	<ul style="list-style-type: none"> Admin
Extensions	
Includes	Login
Conditions	pre The user is logged in
Scenarios	
Risks	
User Interface	

2.2 Common utility activities

Use Case Diagram



Use Case	Search for experts most relevant to a query
Description	<div><pre>graph TD Start(()) -- "[terms similar to academic's name?]" --> D1{ } D1 --> UC1([visit academic profile page]) UC1 --> End((())) D1 -- "[university id provided?]" --> D2{ } D2 --> UC2([search for experts most relevant to a query whose university id is matched]) UC2 --> End D2 --> UC3([search for experts most relevant to a query]) UC3 --> End</pre><p>The diagram is a UML Use Case Diagram for the use case 'Search for experts most relevant to a query'. It begins with a start node (solid black circle) leading to a decision diamond with the guard '[terms similar to academic's name?]', which leads to use case 'visit academic profile page'. From there, another decision diamond with guard '[university id provided?]' branches to use case 'search for experts most relevant to a query whose university id is matched' and use case 'search for experts most relevant to a query'. Both use cases eventually lead to the end node (bullseye circle).</p></div> <p>User is able to search for experts most relevant to a query. By default all experts retrieved are ones whose university is registered to SICSA.</p>
Rationale	Allows user to search for experts most relevant to a query.
Priority	Must Have
Status	Partially Implemented
Actors	<ul style="list-style-type: none">• User
Extensions	
Includes	
Conditions	
Scenarios	
Risks	
User Interface	

Use Case	View academic profile
Description	<pre> graph TD Start(()) --> UC1(Search for experts most relevant to a query) UC1 --> UC2(View academic profile) UC2 --> End((())) </pre> <p>The academic profile page includes</p> <ul style="list-style-type: none"> • a list of publications most relevant to a query • all publications • most collaborated co-authors • most popular terms • project's abstract, status & principal investigator • project funds & funder
Rationale	Allows user to view academic profile.
Priority	Must Have
Status	Partially Implemented
Actors	<ul style="list-style-type: none"> • User
Extensions	Search for experts most relevant to a query
Includes	
Conditions	
Scenarios	
Risks	
User Interface	

3. Non Functional Requirements

Must Haves	
Effectiveness	<ul style="list-style-type: none">• Help user find relevant experts by using funded projects as evidence.• Take evidence into account for ranking.
Availability	<ul style="list-style-type: none">• Functional 24 hours a day.
Security	<ul style="list-style-type: none">• Login and Password required.• Inactivity timeouts – 30 minutes.
Performance	<ul style="list-style-type: none">• Take less milliseconds to search experts.• Take around 5 seconds to visit academic profile page.
Documentation	<ul style="list-style-type: none">• Administrator manual provided.
Integrity	<ul style="list-style-type: none">• Data downloaded from dblp database and Research to Gateway (GtR) database.• Referential Integrity in database tables.• File system.• All indexes loaded into main memory.

Should Haves	
Usability	<ul style="list-style-type: none">• Show evidence of the experts matched to a particular query.• emphasise simplicity.• Fully functional for the purpose of the final demonstration.
Recovery	<ul style="list-style-type: none">• Update data every 3 months.