**An Efficient And Privacy-Preserving Semantic Multi-Keyword Ranked Search Over Encrypted Cloud Data**

* Admin
  + Login
  + Manage subjects
  + Manage tutors
  + View reviews
  + View search keywords
  + View keyword rankings
* Tutors
  + Login
  + Manage study materials
    - Extract keywords
    - View ranking
  + View downloads
  + View comments
    - Send reply
* Users
  + Register
  + Login
  + Search for a materials
    - View result
    - Download file
  + Add comment
    - View reply
  + Review the application

**Tables**

* Login
  + login\_id
  + Username
  + Password
  + Usertype
* Users
  + user\_id
  + login\_id
  + first\_name
  + last\_name
  + Gender
  + Phone
  + Email
* Subjects
  + subject\_id
  + subject\_title
  + Description
* Tutors
  + tutor\_id
  + login\_id
  + first\_name
  + last\_name
  + Qualification
  + Phone
  + Email
* Materials
  + material\_id
  + tutor\_id
  + subject\_id
  + Title
  + file\_path
  + uploaded\_date
  + no\_of\_downloads
* Keywords
  + keyword\_id
  + Keyword
  + Ranking
  + no\_of\_hits
* Material\_keywords
  + material\_keyword\_id
  + keyword\_id
  + material\_id
* SearchHistory
  + history\_id
  + user\_id
  + search\_word
  + search\_date
* Comments
  + comment\_id
  + material\_id
  + user\_id
  + comment\_description
  + Reply
  + comment\_date
* Reviews
  + review\_id
  + user\_id
  + review\_description
  + review\_date