

**DBMS
IT214**

**Final Report
For
Online Article Reading And Uploading Website**



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- Software Requirements Specification

Case Study

Discussion Forum

- A database system about the platform where one can discuss research topics and post research papers: IITs, NITs, and famous institutes'; students can discuss and connect for common research areas and discuss. If a student cannot download some articles, there will be a feature to post links, and other users can see and provide the article. It will have daily updates from professors about research. It should also have a recruitment tab. Also, if multiple users want to discuss the same topic, they can join a link with an anonymous id over the platform.

1.Introduction

1.1 Purpose

- The purpose of this Database is to connect students to Research work of the professors. Because students of very reputed colleges are very eager to research about different topics and to read from professors' research papers.
- Main purpose of this Database is to give students opportunities to give access to the research papers of very famous college professor's. Students can comment on the research papers and ask about their queries.
- So, by implementing this database we are opening new ways for students to open their brain and can get as much information as they can get from reputed universities.

1.2 Intended Audience

- This database is going to be used by :
 - ☐ Students of various colleges all over the world
 - ☐ Faculty members of various colleges
 - ☐ Professors of famous universities
(like : IITs, NITs, DA-IICT, etc.)
 - ☐ Other common users
- So, The main INTENDED AUDIENCE is going to be the Professors. Then students and other common users are going to be our INTENDED AUDIENCE.

1.3 Reading Suggestions

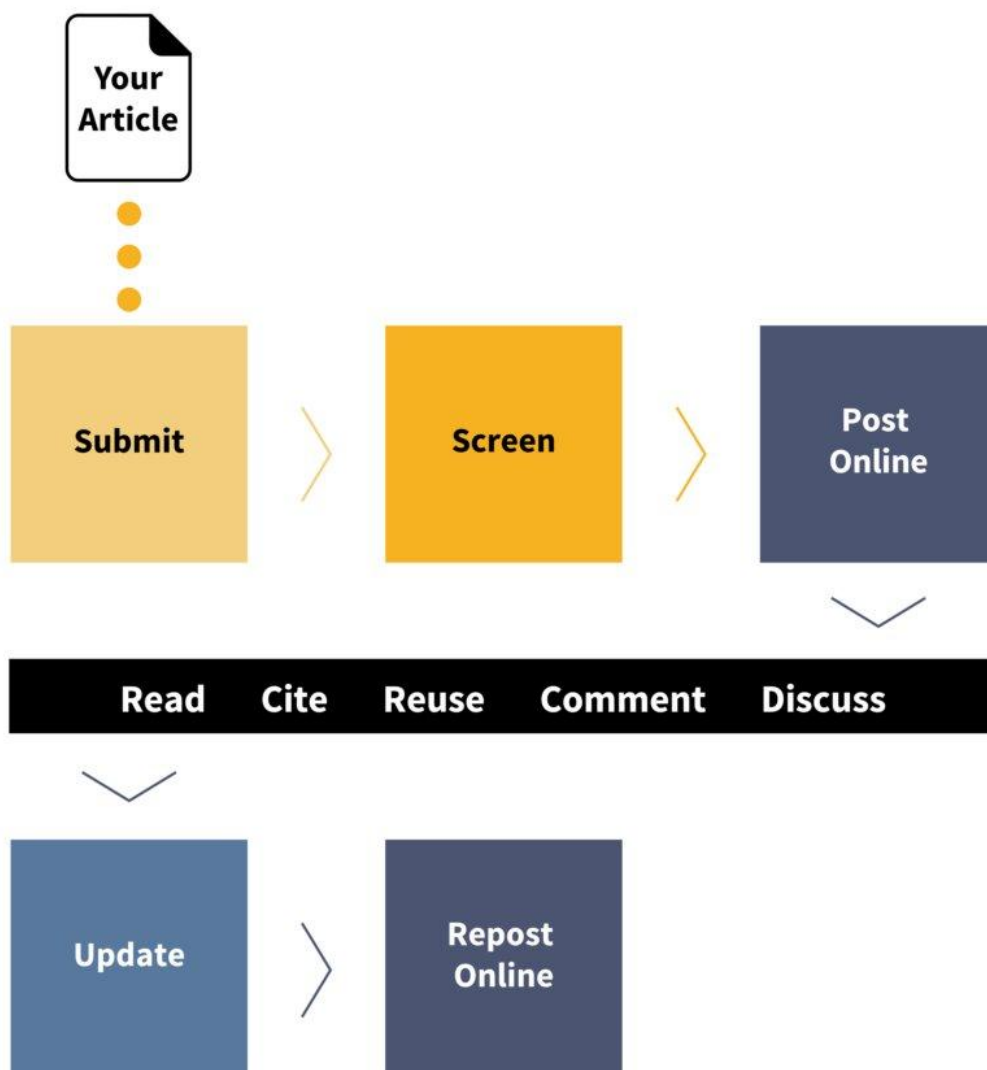
- From doing Research on google I found one website called SCOPUS.
- Here is the link to the website : <https://www.scopus.com/home.uri>
- This website is basically designed for uploading research papers and access to others research papers.
- I found some interesting ideas from that website which I should apply to my Database design.
- First, They have made an option for making an account as an author or student. By this as your role differs you get access to different things.
- Second, There is an option for filters related to your needs. You can search about any topic you want to read.

1.4 Product Scope

- There are a lot of applications and websites where a publisher can upload his research papers. But in this app everyone can add their research paper.
- My product is different from common apps. In my product only Reputed universities professors will be allowed to publish their paper.
- In my product Reading access will be given to everyone but publishing access is limited to Professors. Whether Students can discuss with the professors.
- By doing This My product will give quality content to the users.

1.5 Description

- The given product is basically an online platform for uploading and reading Research papers. In this platform users will be able to read different kinds of Articles and authors can upload their work online. There will be an extra many features which will ease the use of Authors and Students.



2. Description

2.1 Product Perspective

2.1.1 Initial Features

- First, Main functionality of the product is to connect students to the research of various fields
- In account creation different roles available as a student, Author or a normal user
- Author will get access to all the facilities of the Product. Students will have access to read the research paper and to discuss with Authors. If Students want to add their work they will have to take permission from the Author. Other common users will have only access to read.
- Option For Filter
- Comment box for each Article. Also a Discussion tab where students can ask questions to the Authors.
- Video or Chat link for group discussion
- Download Article or access link as per Author's Permission
- Option of Like and Dislike
- Daily updates from Authors about Research
- User can follow Authors

2.1.2 Unique Features

- Option for library where user can add Articles to read later
- Articles available in different Languages and option of translation
- Programs and Events intimation related to the Research topics
- Competition for best articles and Rewards to Winners
- For reading Articles option of Eye comfort
- For authors, Editing tool is available for Editing in Article
- Only IIT,NIT,DAIICT (Famous Collage) Professor can make account as Author
- Finding meaning of unknown words during reading
- It will trigger the user when new articles uploaded on the website
- Make an option of Help menu where users can find answers to their problem related to the website

2.2 Background Reading

2.2.1 Description of Reading

- In online readings I found that many students use online platform for reading Research articles
- But students do not get access to most of the articles on online platform
- On different platforms features are divided. There is no any specific website where user can find every facilities at one place
- When we open website we show many ads which is disturbing during reading
- User interface of many websites are not good

2.2.2 Reference

- https://www.scribendi.com/academy/articles/free_online_journal_and_research_databases.en.html
- <https://www.scopus.com/home.uri>

2.3 Interviews

2.3.1 Interview Plan

ITSolutions : (Role Play) Interview Plan

System: Online Platform for Reading and Uploading Research Paper of Reputed Universities.

Project Reference:

Interviewee:

1. Anant Sharma (Role Play)
 - a. **Designation:** Doing PhD at IIT Mumbai

Interviewer:

1. Param Mistry
 - a. **Designation:** Backend Developer and System designer of the Online Platform

Date: 29/09/2022 **Time:** 16:00

Duration: 30 minutes **Place:** Online - Google Meet

Purpose of Interview:

Preliminary meeting to identify problems and requirements regarding Online Platform of Uploading and Reading Research Papers

Agenda:

- Current Problems on Online Platform for Reading/Uploading Research
- How much access Every get to The Content of Online Websites
- Problems Regarding Discussion with the Authors
- Any Problem They face during Use of Online Websites
- Features That They want to Add/Change in New Online Platform

Documents to be brought to the interview:

1. Any Documents Relating to Current Online Websites

2.3.2 Interview Summary

IT Solutions : (Role Play) Interview Plan

System: Online Platform for Reading and Uploading Research Paper of Reputed Universities.

Project Reference:

Interviewee:

1. Anant Sharma (**Role Play**)
a. **Designation:** Doing PhD at IIT Mumbai

Interviewer:

1. Param Mistry
a. **Designation:** Backend Developer and System designer of the Online Platform

Date: 29/09/2022 **Time:** 16:00

Duration: 30 minutes **Place:** Online - Google Meet

Purpose of Interview:

Preliminary meeting to identify problems and requirements regarding Online Platform of Uploading and Reading Research Papers

Summary of The Interview:

Problems in The Current Online Platforms

- Lack of Robustness in the Online websites
- Sometimes uploading Article is very difficult
- Get access to a very limited Research Papers
- In Discussion tab Many Authors don't reply to the Questions
- During online Reading User Interface is not so good for Reading
- Lack of editing tools for Authors
- Bifurcation of roles of Normal User, Student and Authors is not good

New Functions to be Added to the New Platform

- Define a Proper role and access to Particular user
- Make a good User interface for editing Articles for Authors and Put some good options for reading for Students, Like: Eye comfort
- Put Valid and New options for filtering
- Make a tutorial option for new users
- Give Option for different Languages

2.3.3 Combined Requirements

- Robustness of Online Platform
- Access to Most of the contents
- Tutorial for new users
- Translate in different languages
- Eye comfort mode for reading

2.3.4 Reference

- IEEE template

2.4 Questionnaires

2.4.1 Questions from Google Form

The screenshot shows the 'Responses' tab of a Google Form titled 'Online Platform For Uploading Research Paper'. The form has 29 responses. The 'Accepting responses' toggle is turned on. The 'Individual' tab is selected, showing a list of responses. The first response is visible, with the title 'Online Platform For Uploading Research Paper' and the description 'A database system about the platform where one can discuss research topics and posts research paper.' The response is marked as '* Required'.

Online Platform For Uploading Research Paper

A database system about the platform where one can discuss research topics and posts research paper.

* Required

The screenshot shows the 'Responses' tab of a Google Form titled 'Online Platform For Uploading Research Paper'. The form has 29 responses. The 'Accepting responses' toggle is turned on. The 'Individual' tab is selected, showing a list of responses. The first two responses are visible, both marked as '* Required'.

How many Times In a Day Do you visit online website for Reading Research Papers ? *

☐ Once

☒ Twice

☐ Many Times

☐ Never

Do You Like to Read Research Paper online ? *

☒ Yes

☐ No

Online Platform For Uploading Research Paper

Questions Responses 29 Settings

Which medium do you Prefer for Research Paper Reading ? *

☒ Online

☐ Hard Copy

☐ Downloaded PDF on Computer

On online Website, Do You get access to every Research Paper ? *

☐ Full Access

☐ Most of Them

☒ Half of The Content

☐ Hardly Any

3:04 PM 9/30/2022

Online Platform For Uploading Research Paper

Questions Responses 29 Settings

Hardly Any

Are you satisfied with The Content and Facilities Provided by the Online Websites ? *

☐ Full Satisfied

☒ Moderate

☐ Not Satisfied

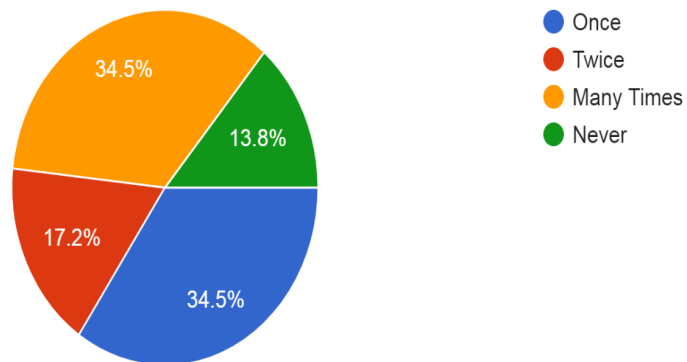
You can suggest any Unique Ideas That you want to Add in Online Platform of Uploading and Reading Research Papers.

3:04 PM 9/30/2022

2.4.2 Summary

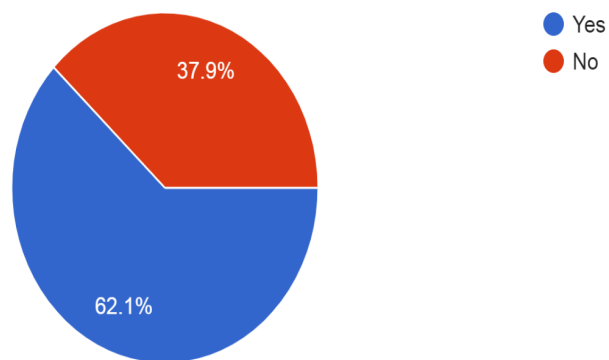
How many Times In a Day Do you visit online website for Reading Research Papers ?

29 responses



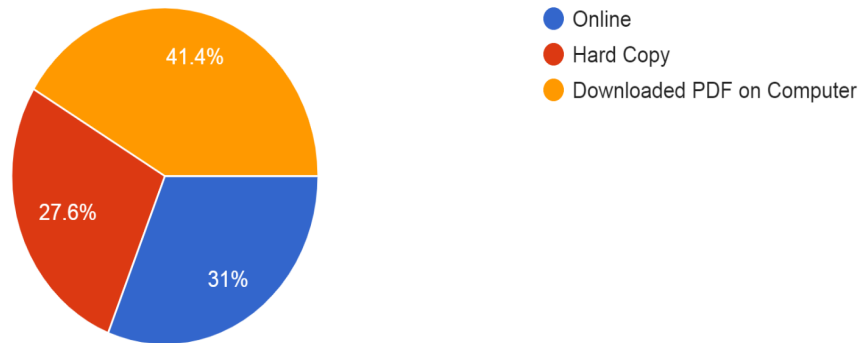
Do You Like to Read Research Paper online ?

29 responses



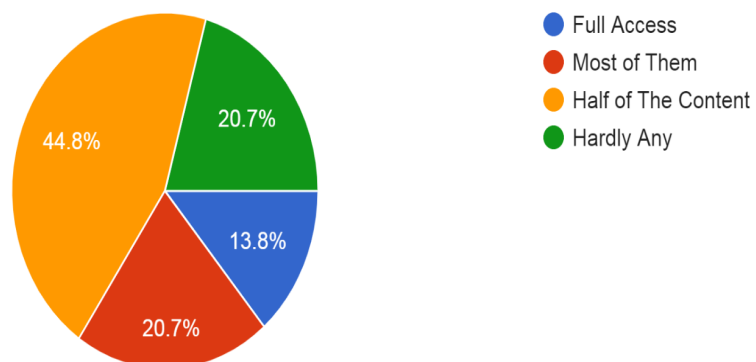
Which medium do you Prefer for Research Paper Reading ?

29 responses



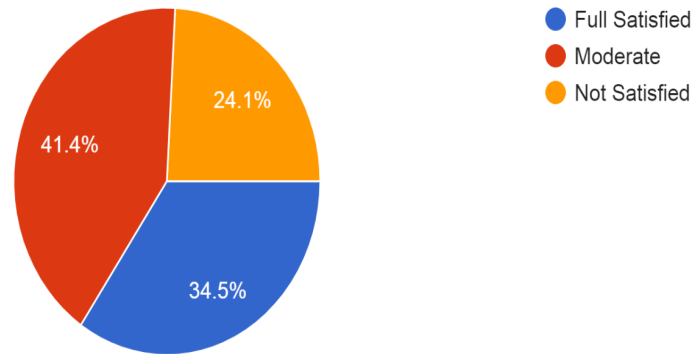
On online Website, Do You get access to every Research Paper ?

29 responses



Are you satisfied with The Content and Facilities Provided by the Online Websites ?

29 responses



2.4.3 Combined Requirements

- Most of users visit online platform for reading articles
- Users like to read Research papers online
- They are more comfortable with downloading PDF of Articles then reading online
- Users get access to the half of the content on online websites
- Users is moderate satisfied with the functionality of online platform

2.5 Observations

2.5.1 Observation Summary

IT Solutions: Observations

System : Online Platform for Reading and Uploading Research Papers

Project Reference :

Observations by: Param Mistry (Backend Developer and System Designer)

Date: 29/09/2022 **Time:** 18:30

Duration: 45 Minutes **Place:** SCOPUS, Refseek, Science.gov, BASE

Observations:

- User Interface need to be improved
- Tutorial is required for new users
- There should be an option for Different Languages/Translation in different language
- Students should get more access to different Researches Than that of now
- Websites should be more descriptive about its functionalities
- There should be an option of Help if some user wants to ask some query Regarding website.
- Some websites are very slow and not much responsive
- More options for filtering the Research will be good

2.5.2 Reference

- IEEE Template

3. Fact Finding Chart

Objective	Technique	Subject (s)	Time Commitment
To get background on the Online platforms	Background Reading	SCOPUS website	1.5 Day
To find out Role of Each user	Interview	Professors, Students and Normal User	3 x 10 Min Each
To find problems in Currents online platforms	Interview	Professors, Students and Normal User	3 x 1 Hour Each
To figure out new improvements in current online Platforms	Interview	Professors, Students and Normal User	3 x 1 Hour Each
To get general opinion from current users	Google Form	All People	2 Day

3.1 Reference

- IEEE Template

4. List of Requirements

4.1 Functional

- Students
- Normal Users
- Professors
- Authors of Famous universities
- Type (like : student, author, etc)
- Various filters for classification of Articles
- Information about authors and students
- Information about events happening related to Articles

4.2 Non Functional

- Design robust architecture for database scaling
- Improve informativeness of the system website
- Make articles available in different languages
- Improve response time of the system website
- Make the UI of system good
- Provide a brief tutorial for Website

5. User categories and Privileges

User Categories:

- Students
- Authors
- Normal User

Privileges corresponding to different user categories:

User Categories	Privileges
Authors	<ul style="list-style-type: none">• Add/Update/Delete information in articles• Give access to students for uploading articles• Give privileges for downloading their articles• Initiate the discussion• Facility for writing tools• Join Competition
Students	<ul style="list-style-type: none">• Read / Download articles• Join the discussion• Request to author for uploading article• Comment/Like/Dislike articles• Join Events• Triggers for new Articles
Normal User	<ul style="list-style-type: none">• Read articles• Comment/Like/Dislike articles

6. Assumptions

User must have minimum requirements as given below :

- 4 GB ram
- 500 GB HDD
- Intel i3 Processor
- Intel Iris Graphic

7. Business Constraints

Considering the survey that we conducted and the observation, we came to know that the system should have Good UI, Moderate security, visualization tools, the robustness of the system, and Trigger to mail for new Articles. To make the system capable enough to handle this set of functionality, it requires servers and memory resources. All these resources cost high, which is the fundamental business constraint in making an Online Platform of Reading and Uploading Articles.

- Noun Analysis And ER Diagram

8. Final Problem Description

- Build an online platform for reading and uploading articles which should be able to show all information related to that.
- Provide robust website and some visualization tools and writing tools for authors
- Make the UI interface better and make the response time as fast as possible
- Define roles and responsibilities according to different users
- Make the tutorial for using website features for new users
- Try to provide all the feature in one website which are easy to find and easy to use
- If possible make all content accessible for students
- Make the content available in different languages
- Provide subscribe to mail service so that interested users can subscribe to it for getting latest information about articles
- Make as much as possible options for filtering
- Build a discussion forum where students and authors can discuss about article
- Make an option of Help menu where users can find answers to their problem related to the website

9. Noun Analysis

9.1 Extracted Nouns and Verbs

Sr No.	Noun	Verb
1	introduction	famous
2	purpose	anonymous
3	database	reputed
4	research work	common
5	research papers	limited
6	database	different
7	research papers	permission
8	professor ' s	access
9	research papers	follow
10	intended audience	add
11	faculty	best
12	reading suggestions	winners
13	product scope	editing
14	description	Not good
15	online platform	online
16	articles	change
17	authors	relating
18	information	preliminary
19	initial features	identify
20	account creation	summary
21	normal user	robust

22	product	Very difficult
23	discussion	bifurcation
24	video	proper
25	chat	valid
26	dislike	filtering
27	daily updates	tutorial
28	languages	translate
29	programs	comfortable
30	events	moderate
31	competition	satisfied
32	rewards	Very slow
33	library	Not much
34	background reading	famous
35	references	various
36	interviews	good
37	role	assumption
38	designer	good
39	anant sharma	comments
40	designation	privileges
41	backend developer	brief
42	system designer	various
43	duration	access
44	content	
45	problem	
46	comments	
47	eye	
48	tutorial	

49	proper	
50	discussion	
51	robustness	
52	problems	
53	preliminary	
54	duration	
55	platform	
56	Figure out	
57	system	
58	tutorial	
59	business	
60	constraint	
61	Memory resources	
62	processor	
63	help	
64	events	
65	facility	
66	tools	
67	competition	
68	glossary	

9.2 Reduced List of Nouns and Verbs

Candidate Entity Set	Candidate Attribute Set	Candidate Relationship Set
Users	<ul style="list-style-type: none"> • User_id • Name • Email_id • Age • gender 	<ul style="list-style-type: none"> • Has: role • Associated : events • Associated : library • Associated : articles • Associated : user_info
Articles	<ul style="list-style-type: none"> • Id • Author_id • Author_name • Language • Description • Length • topic 	<ul style="list-style-type: none"> • Has : glossary • Related : comments
user_info	<ul style="list-style-type: none"> • User_id • occupation 	<ul style="list-style-type: none"> • Associated: users
role	<ul style="list-style-type: none"> • Id • role_type 	<ul style="list-style-type: none"> • Associated : users
events	<ul style="list-style-type: none"> • Event_id • Event_name • description 	<ul style="list-style-type: none"> • Associated : users
library	<ul style="list-style-type: none"> • Article_id • Article description 	<ul style="list-style-type: none"> • Associated : users
comments	<ul style="list-style-type: none"> • Article_id • Comment description 	<ul style="list-style-type: none"> • Related : articles
glossary	<ul style="list-style-type: none"> • Article_id • Hard words 	<ul style="list-style-type: none"> • Related : articles
help	<ul style="list-style-type: none"> • Questions • answers 	<ul style="list-style-type: none"> • Related : users
competition	<ul style="list-style-type: none"> • User_id • Comp_name • staus 	<ul style="list-style-type: none"> • Related : participate

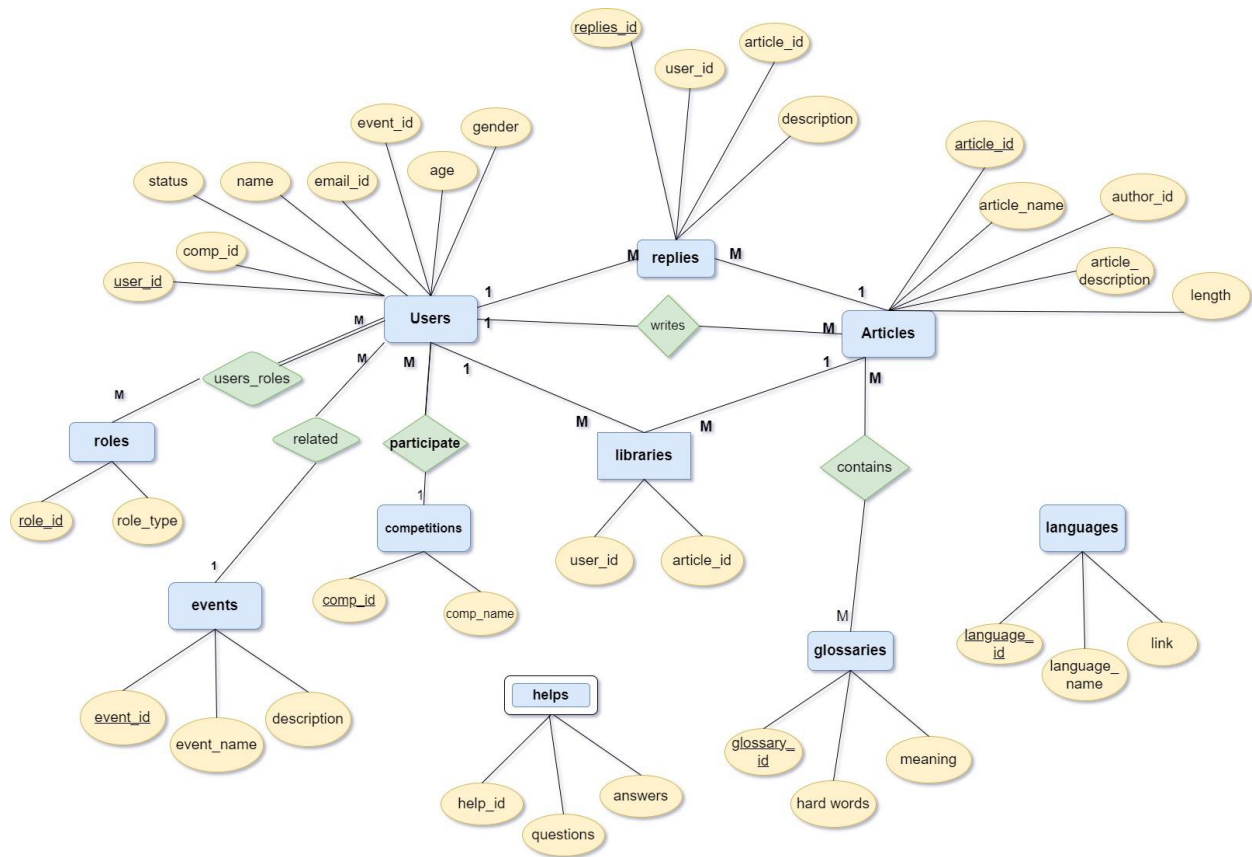
9.3 Rejected List of Nouns

Noun	Reason
users	Duplicate : related to many entities
Online platforms	Irrelevant : involves many parameters
eye	Irrelevant :: related to eye comfort mode
id	General : related to many entities
tutorial	Vague : related to users
interviewer	Irrelevant : unrelated information for the system
authors	Duplicate : related to users
language	Attributes : related to articles
information	General : involves many parameters
designer	Irrelevant : unrelated information for the system
get	Association : related to users and help entity
filter	General : it involves many parameters

9.4 Rejected List of Verbs

Verb	Reason
access	Duplicate : related to authentication
process	General : to general, it involves many parameters
famous	Vague : don't have precise meaning in the Context of the system
winners	Irrelevant : unrelated information the system
Not good	Vague : don't have precise meaning in the Context of the system
various	General : to general, it involve many parameters
brief	Irrelevant : unrelated information to the system

10. E-R Diagram



10.1 Entity Types

- **Strong entity set** : users, articles, library, glossary, comments, discussion, role
- **Weak entity set** : help

10.2 Relationship Types

- Here all the relationship is **Binary Relationships** in the diagram
- Only one relationship (**can**) is ternary relationship

10.3 Other Information of E-R Diagram

- Here **users' entity** is **associated** with **articles** entities with **many to many** relationships.
Participation of users is **partial** and participation of articles is **full**
- **Users have a role** with **one to many** relationships. Both has **partial** participation
- **Users** are **associated** with **events** with **many to one** relationships. both have **partial** participation
- **Users get help.**
- **Users can reply to articles** with many to many relationships. Both has **partial** participation
- **articles have a glossary** with **many to one** relationships. Both has **partial** participation
- **Users** can **participate** in **competitions** with **many to one** relationships. Both has **partial** participation
- **Users** can save **articles** to **library** with **many to many** relationships

- Normalization, Schema Refinement And DDL Scripts

11. Normalization

11.1 Relations, Functional Dependencies and Redundancy Analysis

1. **Users :** (User_id, Name, Gender, Email_id, age, Event_id, comp_id, status)
 - a. PK = {user_id}
 - b. FK = {event_id, comp_id}
 - c. FD = {user_id \rightarrow users}
 - d. There is no Partial Dependencies
 - e. There is no Transitive Dependencies
 - f. There is no anomalies in this relation

2. **Articles :** (Article_id, Article_name, Author_id, Article_description, Length)
 - a. PK = {article_id}
 - b. FK = {author_id}
 - c. FD = {article_id \rightarrow articles}
 - d. There is no Partial Dependencies
 - e. There is no Transitive Dependencies
 - f. There is no anomalies in this relation

3. **Roles :** (Role_id, Role_type)
 - a. PK = {role_id}
 - b. FK = { }
 - c. FD = {role_id \rightarrow role}
 - d. There is no Partial Dependencies
 - e. There is no Transitive Dependencies
 - f. There is no anomalies in this relation

4. **Events :** (Event_id, Event_name, Description)
 - a. PK = {event_id}
 - b. FK = { }
 - c. FD = {event_id \rightarrow events}
 - d. There is no Partial Dependencies
 - e. There is no Transitive Dependencies
 - f. There is no anomalies in this relation

5. Competitions : (Comp_id, Comp_name)

- a. PK = {comp_id}
- b. FK = { }
- c. FD = {comp_id \rightarrow competitions}
- d. There is no Partial Dependencies
- e. There is no Transitive Dependencies
- f. There is no anomalies in this relation

6. helps : (help_id, questions, answers)

- a. PK = { help_id }
- b. FK = { }
- c. FD = {help_id \rightarrow help}
- d. There is no Partial Dependencies
- e. There is no Transitive Dependencies
- f. There is no anomalies in this relation

7. Library : (User_id, article_id)

- a. PK = {user_id, article_id}
- b. FK = { }
- c. FD = {user_id_article_id \rightarrow library}
- d. There is no Partial Dependencies
- e. There is no Transitive Dependencies
- f. There is no anomalies in this relation

8. Glossaries : (Glossary_id, hard_words, meanings)

- a. PK = {glossary_id}
- b. FK = { }
- c. FD = {glossary_id \rightarrow glossary}
- d. There is no Partial Dependencies
- e. There is no Transitive Dependencies
- f. There is no anomalies in this relation

9. Languages : (Language_id, language_name, link)

- a. PK = {language_id}
- b. FK = { }
- c. FD = {language_id → language}
- d. There is no Partial Dependencies
- e. There is no Transitive Dependencies
- f. There is no anomalies in this relation

10. replies : (Replies_id, User_id, article_id, description)

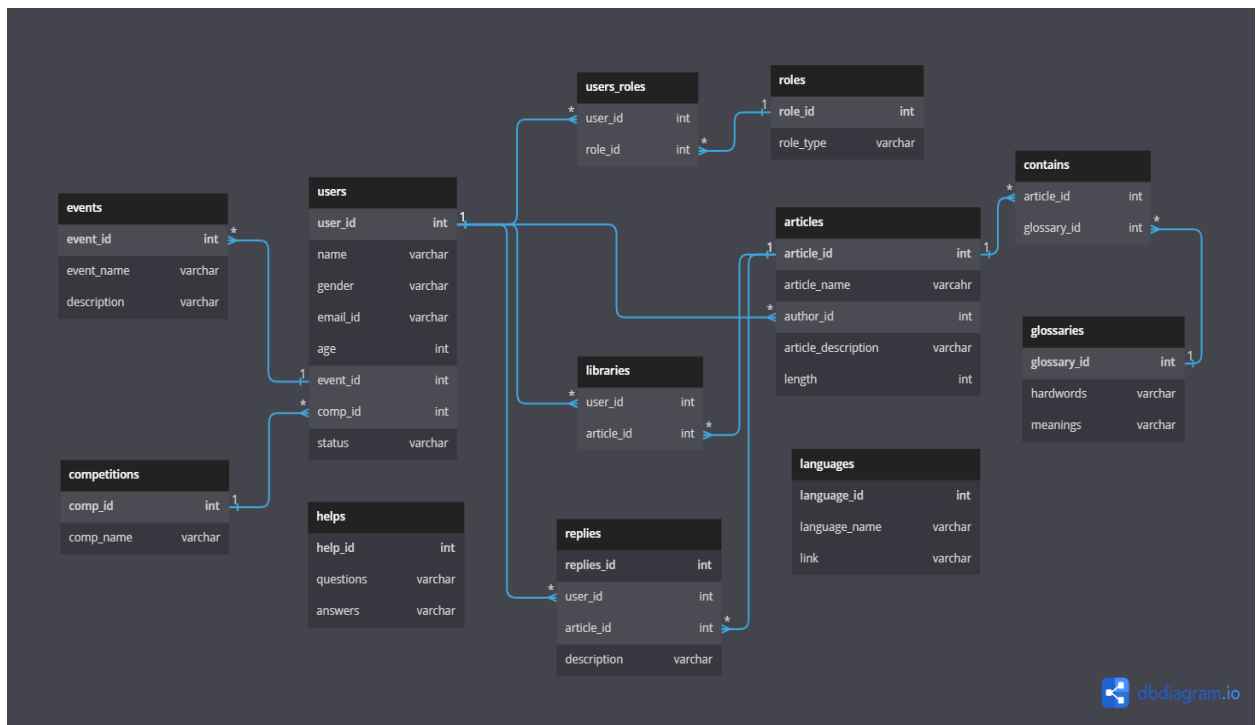
- a. PK = {replies_id}
- b. FK = {user_id, article_id}
- c. FD = {replies_id → replies}
- d. There is no Partial Dependencies
- e. There is no Transitive Dependencies
- f. There is no anomalies in this relation

11.2 Normalized Table

Table(Relation)	Normalized
users	BCNF
articles	BCNF
roles	BCNF
events	BCNF
competition	BCNF
helps	BCNF
glossary	BCNF
language	BCNF
replies	BCNF

11.3 Final Relational Schema

1. Users : (User_id, Name, Email_id, Event_id, Age, Gender, comp_id, status)
2. Articles : (Article_id, Article_name, Author_id, Articles_description, Length)
3. Role : (Role_id, Role_type)
4. Events : (Event_id, Event_name, Description)
5. Competition : (Comp_id, Comp_name,)
6. help : (help_id, answers, questions)
7. Library : (User_id, article_id)
8. Glossary : (Glossary_id, hard_words, meanings)
9. Language : (Language_id, language_name, link)
10. replies : (Replies_id, User_id, article_id, description)



12. DDL Script

```
set search_path to public;
```

```
drop table if exists users cascade;
```

```
CREATE TABLE "users" (  
    "user_id" serial PRIMARY KEY,  
    "name" varchar,  
    "gender" varchar,  
    "email_id" varchar,  
    "age" int,  
    "event_id" int,  
    "comp_id" int,  
    "status" varchar  
);
```

```
drop table if exists articles cascade;
```

```
CREATE TABLE "articles" (  
    "article_id" serial PRIMARY KEY,  
    "article_name" varchar,  
    "author_id" int,  
    "article_description" varchar,  
    "length" int  
);
```

```
drop table if exists roles cascade;
```

```
CREATE TABLE "roles" (  
    "role_id" serial PRIMARY KEY,  
    "role_type" varchar  
);
```

```
drop table if exists users_roles cascade;
```

```
CREATE TABLE "users_roles" (  
    "user_id" int,  
    "role_id" int  
);
```



```
drop table if exists events cascade;
```

```
CREATE TABLE "events" (  
    "event_id" serial PRIMARY KEY,  
    "event_name" varchar,  
    "description" varchar  
);
```

```
drop table if exists competitions cascade;
```

```
CREATE TABLE "competitions" (  
    "comp_id" serial PRIMARY KEY,  
    "comp_name" varchar  
);
```

```
drop table if exists helps cascade;
```

```
CREATE TABLE "helps" (  
    "help_id" serial PRIMARY KEY,  
    "questions" varchar,  
    "answers" varchar  
);
```

```
drop table if exists glossaries cascade;
```

```
CREATE TABLE "glossaries" (  
    "glossary_id" serial PRIMARY KEY,  
    "hard_words" varchar,  
    "meanings" varchar  
);
```

```
CREATE TABLE "contains" (  
    "article_id" int,  
    "glossary_id" int  
);
```

```
drop table if exists languages cascade;
```

```
CREATE TABLE "languages" (  
    "language_id" serial PRIMARY KEY,
```

```

    "language_name" varchar,
    "link" varchar
);

drop table if exists libraries cascade;

CREATE TABLE "libraries" (
    "user_id" int,
    "article_id" int
);

drop table if exists replies cascade;

CREATE TABLE "replies" (
    "replies_id" serial PRIMARY KEY,
    "user_id" int,
    "article_id" int,
    "description" varchar
);

ALTER TABLE "users"
ADD
    FOREIGN KEY ("event_id")
    REFERENCES "events" ("event_id")
    on delete cascade
    on update cascade;

ALTER TABLE "users"
ADD
    FOREIGN KEY ("comp_id")
    REFERENCES "competitions" ("comp_id")
    on delete cascade
    on update cascade;

ALTER TABLE "users_roles"
ADD
    FOREIGN KEY ("user_id")
    REFERENCES "users" ("user_id")
    on delete cascade
    on update cascade;

```

```
ALTER TABLE "users_roles"
```

```
ADD
```

```
    FOREIGN KEY ("role_id")  
    REFERENCES "roles" ("role_id")  
    on delete cascade  
    on update cascade;
```

```
ALTER TABLE "contains"
```

```
ADD
```

```
    FOREIGN KEY ("article_id")  
    REFERENCES "articles" ("article_id")  
    on delete cascade  
    on update cascade;
```

```
ALTER TABLE "contains"
```

```
ADD
```

```
    FOREIGN KEY ("glossary_id")  
    REFERENCES "glossaries" ("glossary_id")  
    on delete cascade  
    on update cascade;
```

```
ALTER TABLE "libraries"
```

```
ADD
```

```
    FOREIGN KEY ("user_id")  
    REFERENCES "users" ("user_id")  
    on delete cascade  
    on update cascade;
```

```
ALTER TABLE "libraries"
```

```
ADD
```

```
    FOREIGN KEY ("article_id")  
    REFERENCES "articles" ("article_id")  
    on delete cascade  
    on update cascade;
```

```
ALTER TABLE "replies"
```

```
ADD
```

```
    FOREIGN KEY ("user_id")  
    REFERENCES "users" ("user_id")
```

```
on delete cascade  
on update cascade;
```

```
ALTER TABLE "replies"  
ADD  
    FOREIGN KEY ("article_id")  
    REFERENCES "articles" ("article_id")  
on delete cascade  
on update cascade;
```

```
ALTER TABLE "articles"  
ADD  
    FOREIGN KEY ("author_id")  
    REFERENCES "users" ("user_id")  
on delete cascade  
on update cascade;
```

13. Snapshots of Database

1. Users

Query

Query History

Scratch Pad

1 SELECT * FROM public.users

2 ORDER BY user_id ASC

Data output

Messages

Notifications

	user_id [PK] integer	name character varying	gender character varying	email_id character varying	age integer	event_id integer	comp_id integer	status character varying
1	1	Nicole Hughes	Male	d.morrison@rand...	50	9	5	winner
2	2	Terri West	other	f.cooper@randat...	18	6	2	winner
3	3	Audrey Gates	Female	s.foster@randat...	45	29	[null]	[null]
4	4	Susan Anderson	Male	v.nelson@randat...	55	[null]	1	looser
5	5	Derrick Morse	Male	b.turner@randat...	15	7	2	looser
6	6	Stephanie Fletcher	other	d.gray@randatm...	60	28	[null]	[null]
7	7	Lindsay Garcia	Male	s.barrett@randat...	68	26	[null]	[null]
8	8	Scott Garcia	Male	b.tucker@randat...	16	[null]	9	winner
9	9	Susan Hill	other	c.higgins@randat...	40	22	[null]	[null]
10	10	Hailey Smith	Female	r.holmes@randat...	45	24	[null]	[null]
11	11	Nathaniel Wilson	Male	j.moore@randat...	42	11	[null]	[null]
12	12	Tammy Hogan	Female	l.barrett@randat...	26	7	10	looser
13	13	John Webb	other	m.gibson@randa...	30	19	[null]	[null]
14	14	Tony Greene	Male	s.hawkins@rand...	31	2	[null]	[null]

Total rows: 70 of 70

Query complete 00:00:00.597

Ln 1, Col 1

2. Roles

Query Query History Scratch Pad x

```

1 SELECT * FROM public.roles
2 ORDER BY role_id ASC

```

Data output Messages Notifications

	role_id [PK] integer	role_type character varying
1	1	normal
2	2	student
3	3	professor
4	4	author

Total rows: 4 of 4 Query complete 00:00:00.640 Ln 1, Col 1

3. Users_roles

Query

Query History

Scratch Pad ×

1

2

```
SELECT * FROM public.users_roles
```

Data output

Messages

Notifications

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	user_id integer	role_id integer	
90	69	4	
91	70	4	
92	12	2	
93	14	2	
94	17	3	
95	20	2	
96	30	3	
97	35	2	
98	5	4	
99	21	4	
100	40	3	
101	43	2	
102	44	2	
103	47	3	

Total rows: 103 of 103

Query complete 00:00:01.330

Ln 1, Col 1

4. Events

Query

Query History

Scratch Pad

1

SELECT * FROM public.events

2

ORDER BY event_id ASC

Data output

Messages

Notifications

	event_id [PK] integer	event_name character varying	description character varying
1	1	fun 2019	Pellentesque ege...
2	2	Check Tech	Cras in purus eu ...
3	3	World Tech	Nam dui. Proin le...
4	4	Berserker Tech	Donec dapibus. ...
5	5	Techry	In tempor, turpis ...
6	6	Bro Tech	Aenean sit amet j...
7	7	Spire Tech	Morbi sem mauri...
8	8	Reboot Tech	Morbi vestibulum...
9	9	funaroo	Nam dui. Proin le...
10	10	Coding Truth	Nunc rhoncus du...
11	11	Coding Access	Cum sociis natoq...
12	12	Coding Desk	Lorem ipsum dol...
13	13	Coding Wise	Duis bibendum. ...
14	14	Codina Artificial	Duis ac nibh. Fus...

Total rows: 30 of 30

Query complete 00:00:01.498

Ln 1, Col 1

5. Competitions

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6. Articles

Query Query History Scratch Pad

```

1 SELECT * FROM public.articles
2 ORDER BY article_id ASC

```

Data output Messages Notifications

	article_id [PK] integer	article_name character varying	author_id integer	article_description character varying	length integer
1	1	How To Make Mo...	1	In hac habitasse p...	130
2	2	10 Incredible Cod...	3	Vivamus metus ar...	171
3	3	Believe In Your T...	4	Nam nulla. Integer...	97
4	4	The Ultimate Gui...	6	Vestibulum rutrum...	101
5	5	What Everyone M...	7	Praesent lectus. V...	163
6	6	How To Make Sci...	9	Maecenas pulvina...	148
7	7	Why Physics Is S...	10	Suspendisse pote...	180
8	8	How Indian Stock...	11	Aenean auctor gra...	116
9	9	10 Key Tactics T...	13	Etiam pretium iac...	91
10	10	Government Is Y...	6	Aenean auctor gra...	97
11	11	Stock Market Do...	18	Mauris enim leo, r...	164
12	12	How To Buy A Sc...	19	Cras in purus eu m...	178
13	13	Coding Strategie...	22	Aliquam augue qu...	147
14	14	Believe In Your W...	23	Fusce congue. dia...	

Total rows: 50 of 50 Query complete 00:00:00.789 ✓ Successfully run. Total query runtime: 789 msec. 50 rows affected.

7. Glossaries

Query Query History Scratch Pad

```

1 SELECT * FROM public.glossaries
2 ORDER BY glossary_id ASC

```

Data output Messages Notifications

	glossary_id [PK] integer	hard_words character varying	meanings character varying
1	1	Abandon	cease to support ...
2	2	Abolish	formally put an e...
3	3	Abscond	leave hurriedly an...
4	4	Accelerate	(of a vehicle or ot...
5	5	Backbite	talk maliciously a...
6	6	Baffle	totally bewilder o...
7	7	Ballad	a poem or song n...
8	8	Banish	send (someone) ...
9	9	Cajole	persuade (someo...
10	10	Charisma	compelling attrac...
11	11	Chasm	a deep crack or o...
12	12	Chauvinist	a person with a p...
13	13	Dauntless	showing fearless...
14	14	Delicacy	fineness or intrin...

Total rows: 50 of 50 Query complete 00:00:01.667 Ln 1, Col 1

8. Contains

Query		Query History	Scratch Pad
1 <code>SELECT * FROM public.contains</code>			
2			
Data output		Messages	Notifications
	article_id integer	glossary_id integer	
82	30	33	
83	31	36	
84	33	37	
85	34	39	
86	35	40	
87	37	38	
88	38	37	
89	39	40	
90	41	42	
91	41	43	
92	42	41	
93	42	44	
94	42	2	
Total rows: 104 of 104		Query complete 00:00:00.825	Ln 1, Col 1

9. Replies

<

10. Libraries

Query				Scratch Pad	
1 SELECT * FROM public.libraries					
2					
Data output				Messages	
				Notifications	
	user_id	article_id			
	integer	integer			
1	70	1			
2	17	3			
3	45	5			
4	7	7			
5	44	1			
6	22	9			
7	11	11			
8	38	12			
9	41	16			
10	44	15			
11	42	9			
12	35	17			
13	5	19			
14	36	21			
Total rows: 50 of 50				Query complete 00:00:01.940	
				Ln 1, Col 1	

11. Languages

Query				Scratch Pad	
1 SELECT * FROM public.languages					
2 ORDER BY language_id ASC					
Data output				Messages	
				Notifications	
	language_id	language_name	link		
	[PK] integer	character varying	character varying		
1	1	Hindi	https://www.easyhindityping.com/english-to-hindi-translation		
2	2	English	https://www.easyhindityping.com/hindi-to-english-translation		
3	3	Gujarati	https://www.easyhindityping.com/english-to-gujarati-translation		
4	4	Spanish	https://www.systransoft.com/lp/spanish-english-translation/		
5	5	Germany	https://www.translate.com/english-german		
6	6	Tamil	https://www.easyhindityping.com/english-to-tamil-translation		
7	7	Marathi	https://www.easyhindityping.com/english-to-marathi-translation		
8	8	French	https://www.deepl.com/en/translator		
Total rows: 8 of 8				Query complete 00:00:01.142	
				Ln 1, Col 1	

12. Helps

Query Query History Scratch Pad

```

1 SELECT * FROM public.helps
2 ORDER BY help_id ASC

```

Data output Messages Notifications

	help_id [PK] integer	questions character varying	answers character varying
1		How do I pick wi...	Yes you can
2		How do I random...	By using randor f...
3		Can I use RANDO...	yes you can
4		What is the Third...	It is for language ...
5		Can I make a pub...	Yes By getting pe...
6		How to downloa...	You have to be st...
7		How to get an ac...	You have to login...
8		Can I upload arti...	You have to take ...
9		Who can Read ar...	Every user can re...
10		Who can comm...	Every user excep...
11		Can I use phone ...	No. You have to u...
12		What is the age c...	Above 15 years
13		Who can particip...	Every users can p...
14		Can I access disc...	If you are student...

Total rows: 15 of 15 Query complete 00:00:02.042 Ln 1, Col 1

- SQL Queries




14. SQL Queries

1. List all the users name whose gender is male

a. Query

```
select u.name
from users as u
where gender = 'Male'
```

b. Output

Data output		Messages	Notifications
       			
	name character varying 		
1	Nicole Hughes		
2	Susan Anderson		
3	Derrick Morse		
4	Lindsay Garcia		
5	Scott Garcia		
6	Nathaniel Wilson		
7	Tony Greene		
8	Stephen Carpenter		
9	Wendy Hines		
10	Paul Simpson		
11	Melissa Elliott		
12	Kyle Avery		
13	Kristin Huynh		
14	Jacob Martin		
15	Madison Reid		
16	Michael Skinner		
17	Spencer Ramos		
18	Mark Anthony		
Total rows: 33 of 33		Query complete 00:00:00.152	

2. List all the users who has participated in the events

a. Query

```
select *
from users
where event_id IS NOT NULL;
```

b. Output

<div><div><div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div></div><div><div></div><div></div></div></div></div>								
	user_id [PK] integer	name character varying	gender character varying	email_id character varying	age integer	event_id integer	comp_id integer	status character varying
1	1	Nicole Hughes	Male	d.morrison@rand...	50	9	5	winner
2	2	Terri West	other	f.cooper@randat...	18	6	2	winner
3	3	Audrey Gates	Female	s.foster@randat...	45	29	[null]	[null]
4	5	Derrick Morse	Male	b.turner@randat...	15	7	2	loser
5	6	Stephanie Fletcher	other	d.gray@randatm...	60	28	[null]	[null]
6	7	Lindsay Garcia	Male	s.barrett@randat...	68	26	[null]	[null]
7	9	Susan Hill	other	c.higgins@randat...	40	22	[null]	[null]
8	10	Hailey Smith	Female	r.holmes@randat...	45	24	[null]	[null]
9	11	Nathaniel Wilson	Male	j.moore@randat...	42	11	[null]	[null]
10	12	Tammy Hogan	Female	l.barrett@randat...	26	7	10	loser
11	13	John Webb	other	m.gibson@randa...	30	19	[null]	[null]
12	14	Tony Greene	Male	s.hawkins@rand...	31	2	[null]	[null]
13	15	Stephen Carpenter	Male	j.harris@randatm...	33	29	[null]	[null]
14	17	Dustin Arnold	Female	s.lloyd@randatm...	17	29	[null]	[null]
15	18	Brenda Powell	Female	e.davis@randatm...	19	26	[null]	[null]
16	19	Natalie Avila	other	t.murphy@randat...	53	15	[null]	[null]
17	20	Paul Simpson	Male	s.stevens@randa...	19	9	[null]	[null]
18	22	John Mcdonald	Female	a.moore@randat...	20	14	[null]	[null]
Total rows: 50 of 50		Query complete 00:00:00.106						

3. List all article_id, article_name and article_decription whose length is greater than 110

a. Query

```
select article_id, article_name, length
from articles
where length > 110;
```

b. Output

	article_id [PK] integer	article_name character varying	length integer
1	1	How To Make More Science By Doing Less	130
2	2	10 Incredible Coding Transformations	171
3	5	What Everyone Must Know About WOMEN EMPOWERMENT	163
4	6	How To Make Science	148
5	7	Why Physics Is So Helpful During COVID-19	180
6	8	How Indian Stock Market Can Help Youmake Your Dreams Come True	116
7	11	Stock Market Doesn't Have To Be Hard. Read These 7 Tips	164
8	12	How To Buy A Science On A Shoestring Budget	178
9	13	Coding Strategies For The Entrepreneurially Challenged	147
10	14	Believe In Your WOMEN EMPOWERMENT Skills But Never Stop Improv...	114
11	15	Who Else Wants To Be Successful With TREE	171
12	18	Child Education Tips From the Best in the Business	112
13	19	My Life, My Job, My Career	151
14	20	The Next 20 Things To Immediately Do About Science	164
15	21	Warning: These 5 Mistakes Will Destroy Your Foreign Culture	128
16	22	Who's the World's Top Expert in Buisness?	136
17	23	Kids Love Coding	116
18	24	8 Must-haves Before Embarking On Government	153
Total rows: 39 of 39		Query complete 00:00:00.082	

4. List all the articles whose author_is '11'

a. Query

```
select *  
from articles  
where author_id = '11';
```

b. Output

	article_id [PK] integer	article_name character varying	author_id integer	article_description character varying	length integer
1	8	How Indian Stock Market Can Help Youmake Your Dreams Come True	11	Aenean auctor gra...	116
2	42	Get Rid Of Hairfall Problems	11	Suspendisse pote...	148
3	50	How Physics Changed My Life for the Better	11	Curabitur in libero ...	115

Total rows: 3 of 3 Query complete 00:00:00.087 Ln 15, Col 24

5. List all the replies whose description is 'good'

a. Query

```
select *  
from replies  
where description = 'good';
```

b. Output

	replies_id [PK] integer	user_id integer	article_id integer	description character varying
1	1	51	1	good
2	33	46	33	good

Total rows: 2 of 2 Query complete 00:00:00.084

6. List all the replies whose user_id id '42'

a. Query

```
select *  
from replies  
where user_id = '42';
```

b. Output

	replies_id [PK] integer	user_id integer	article_id integer	description character varying
1	7	42	7	Etiam vel augue. ...
2	25	42	25	Aliquam non ma...
3	31	42	31	Maecenas pulvin...
4	47	42	47	Vivamus in felis ...
Total rows: 4 of 4 Query complete 00:00:00.195				

7. List all the languages whose language_id is divided by '2'

a. Query

```
select *  
from languages  
where language_id % 2 = '0'
```

b. Output












	language_id [PK] integer	language_name character varying	link character varying
1	2	English	https://www.easy...
2	4	Spanish	https://www.syst...
3	6	Tamil	https://www.easy...
4	8	French	https://www.dee...
Total rows: 4 of 4 Query complete 00:00:00.178			

8. List all the glossaries whose hard_words starts with 'F'

a. Query

```
select *  
from glossaries  
where hard_words like 'F%';
```

b. Output

       			
	glossary_id [PK] integer 	hard_words character varying 	meanings character varying 
1	21	Fasten	close or do up se...
2	22	Fathom	a unit of length e...
3	23	Fete	a celebration or f...
4	24	Fidelity	faithfulness to a ...
Total rows: 4 of 4 Query complete 00:00:00.082			

9. List all the users whose comp_id is 'NULL'

a. Query

```
select *
from users
where comp_id IS NULL
```

b. Output

	user_id [PK] integer	name character varying	gender character varying	email_id character varying	age integer	event_id integer	comp_id integer	status character varying
1	3	Audrey Gates	Female	s.foster@randat...	45	29	[null]	[null]
2	6	Stephanie Fletcher	other	d.gray@randatm...	60	28	[null]	[null]
3	7	Lindsay Garcia	Male	s.barrett@randat...	68	26	[null]	[null]
4	9	Susan Hill	other	c.higgins@randat...	40	22	[null]	[null]
5	10	Hailey Smith	Female	r.holmes@randat...	45	24	[null]	[null]
6	11	Nathaniel Wilson	Male	j.moore@randat...	42	11	[null]	[null]
7	13	John Webb	other	m.gibson@randa...	30	19	[null]	[null]
8	14	Tony Greene	Male	s.hawkins@rand...	31	2	[null]	[null]
9	15	Stephen Carpenter	Male	j.harris@randatm...	33	29	[null]	[null]
10	17	Dustin Arnold	Female	s.lloyd@randatm...	17	29	[null]	[null]
11	18	Brenda Powell	Female	e.davis@randatm...	19	26	[null]	[null]
12	19	Natalie Avila	other	t.murphy@randat...	53	15	[null]	[null]
13	20	Paul Simpson	Male	s.stevens@randa...	19	9	[null]	[null]
14	22	John Mcdonald	Female	a.moore@randat...	20	14	[null]	[null]
15	23	Melissa Elliott	Male	l.brown@randat...	36	5	[null]	[null]
16	24	Candace Anderson	Female	s.morris@randat...	70	15	[null]	[null]
17	25	Kyle Avery	Male	e.parker@randat...	40	28	[null]	[null]
18	26	Shaun Taylor	Female	s.owens@randat...	49	3	[null]	[null]
Total rows: 49 of 49		Query complete 00:00:00.177						

10. List all the replies whose user_id id 42

a. Query

```
select *  
from events  
where event_name like 'S%';
```

b. Output

	event_id [PK] integer	event_name character varying	description character varying
1	7	Spire Tech	Morbi sem mauri...
2	24	Space Simulation	Vivamus vel nulla...
3	25	Space Genius	Cum sociis natoq...
4	26	Space Studios	Suspendisse pot...
5	27	Space Digital	Quisque id justo ...
6	28	Science Bolt	Donec diam nequ...
7	29	Science Future	Nulla tempus. Vi...
8	30	Science Belief	Suspendisse acc...
Total rows: 8 of 8		Query complete 00:00:00.088	

11. List all the replies description along with username of user who replied it and article name on which user has replied

a. Query

```
select (
    select a.article_name
    from articles as a
    where a.article_id=r.article_id
) as replied_on, (
    select u.name
    from users as u
    where u.user_id=r.user_id
) as replied_by, r.description as comment
from replies as r;
```

b. Output

	replied_on character varying	replied_by character varying	comment character varying
1	How To Make More Science By Doing Less	Pebrook Metcalf	good
2	10 Incredible Coding Transformations	Brittany Pollard	Suspendisse potenti. Nullam porttitor lacus at t...
3	Believe In Your TREE Skills But Never Stop Improving	Derrick Morse	Pellentesque viverra pede ac diam. Cras pellent...
4	The Ultimate Guide To Science	Stephanie Fletcher	In congue. Etiam justo.
5	What Everyone Must Know About WOMEN EMPOWERNME...	Johnathan Oneal	need to improve
6	How To Make Science	Mark Anthony	Morbi vestibulum, velit id pretium iaculis, diam ...
7	Why Physics Is So Helpful During COVID-19	Julie Haney	Etiam vel augue. Vestibulum rutrum rutrum neq...
8	How Indian Stock Market Can Help Youmake Your Dreams ...	Anna Thompson	Donec posuere metus vitae ipsum. Aliquam no...
9	10 Key Tactics The Pros Use For Coding	Anna Thompson	Integer ac leo. Pellentesque ultrices mattis odio.
10	Government Is Your Worst Enemy	Audrey Gates	bad article
11	Stock Market Doesn't Have To Be Hard. Read These 7 Tips	Spencer Ramos	Fusce lacus purus, aliquet at, feugiat non, preti...
12	How To Buy A Science On A Shoestring Budget	Shaun Taylor	Vestibulum ante ipsum primis in faucibus orci l...
13	Coding Strategies For The Entrepreneurially Challenged	Candace Anderson	In congue. Etiam justo.
14	Believe In Your WOMEN EMPOWERMENT Skills But Never...	Henryetta Bonnet	Quisque arcu libero, rutrum ac, lobortis vel, dapi...
15	Who Else Wants To Be Successful With TREE	Brittany Pollard	add some inages
16	Albert Einstein On Science	Christine Rojas	Curabitur convallis. Duis consequat dui nec nisi...
17	Best Stock Market Tips You Will Read This Year	Audrey Gates	Mauris lacinia sapien quis libero.
Total rows: 60 of 60		Query complete 00:00:00.108	

12. List all the usernames along with their role_type

a. Query

```
select (
    select u.name
    from users as u
    where u.user_id = ur.user_id
) as username, (
    select r.role_type
    from roles as r
    where r.role_id = ur.role_id
)
from users_roles as ur
```

b. Output



	username character varying	role_type character varying
87	Toddie Sodory	author
88	Donavon Patis	author
89	Lisbeth Deignan	author
90	Donelle Seifenma...	author
91	Walker O'Lehane	author
92	Tammy Hogan	student
93	Tony Greene	student
94	Dustin Arnold	professor
95	Paul Simpson	student
96	Lindsey Rhodes	professor
97	Michael Skinner	student
98	Derrick Morse	author
99	Brittany Pollard	author
100	Michael Harper	professor
101	Brianna Perry	student
102	Shannon Webster	student
103	Carlos Hughes	professor
Total rows: 103 of 103		Query complete 00:00:00.064

13. List Total number of users for each role_type

a. Query

```
select (
    select r.role_type
    from roles as r
    where r.role_id = ur.role_id
), count(ur.user_id) as number_of_users
from users_roles as ur
group by ur.role_id;
```

b. Output

	role_type character varying 	number_of_users bigint 
1	normal	50
2	professor	5
3	student	7
4	author	41

Total rows: 4 of 4 Query complete 00:00:00.116

14. List all the users name along with name of competitions they have participated in and also their status

a. Query

```
select
u.name,u.email_id,u.gender,u.age,co.comp_name,u.status
from users as u join competitions as co
on u.comp_id = co.comp_id;
```

b. Output

	name character varying	email_id character varying	gender character varying	age integer	comp_name character varying	status character varying
1	Nicole Hughes	d.morrison@rand...	Male	50	Phying	winnner
2	Terri West	f.cooper@randat...	other	18	Vitrex	winner
3	Susan Anderson	v.nelson@randat...	Male	55	Crypfac	looser
4	Derrick Morse	b.turner@randat...	Male	15	Vitrex	looser
5	Scott Garcia	b.tucker@randat...	Male	16	iclash	winner
6	Tammy Hogan	l.barrett@randat...	Female	26	treasure	looser
7	Wendy Hines	b.payne@randat...	Male	41	Phyteam	looser
8	Brittany Pollard	t.murray@randat...	Female	18	Accessweb	looser
9	Christopher Lawr...	r.edwards@randa...	other	38	Togcod	winner
10	Madison Reid	s.miller@randat...	Male	27	Accessweb	winner
11	Mark Anthony	m.casey@randat...	Male	36	treasure	looser
12	Timothy Humphr...	f.cooper@randat...	Male	21	Vitrex	winner
13	Christine Rojas	s.sullivan@randa...	Female	54	Writcryp	winner
14	Julie Haney	l.chapman@rand...	Female	78	Cryption	looser
15	Johnathan Oneal	c.elliott@randat...	Female	20	Vitrex	winner
16	Care Neem	cneem4@ehow.c...	Male	34	Writcryp	looser
17	Henryetta Bonnet	hbonnet8@skype...	Female	54	Cryption	winner
Total rows: 21 of 21		Query complete 00:00:00.132				

15. List users name along with event name in which they have participated

a. Query

```
select u.name,u.age,u.email_id,e.event_name
from users as u
natural right outer join
events as e;
```

b. Output

	name character varying	age integer	email_id character varying	event_name character varying
1	Meaghan Rhule	17	mrhuleb@ucla.edu	fun 2019
2	Carol Lopez DVM	49	c.fowler@randatmail.com	Check Tech
3	Tony Greene	31	s.hawkins@randatmail.com	Check Tech
4	Shaun Taylor	49	s.owens@randatmail.com	World Tech
5	[null]	[null]	[null]	Berserker Tech
6	Jacob Martin	40	h.brown@randatmail.com	Techry
7	Melissa Elliott	36	l.brown@randatmail.com	Techry
8	Julie Haney	78	l.chapman@randatmail.com	Bro Tech
9	Terri West	18	f.cooper@randatmail.com	Bro Tech
10	Ashley Lane	51	m.west@randatmail.com	Spire Tech
11	Tammy Hogan	26	l.barrett@randatmail.com	Spire Tech
12	Derrick Morse	15	b.turner@randatmail.com	Spire Tech
13	Lindsey Rhodes	16	r.lloyd@randatmail.com	Reboot Tech
14	Kristin Huynh	58	d.johnson@randatmail.com	Reboot Tech
15	Lori Bell	19	m.mitchell@randatmail.com	funaroo
16	Paul Simpson	19	s.stevens@randatmail.com	funaroo
17	Nicole Hughes	50	d.morrison@randatmail.com	funaroo
Total rows: 55 of 55		Query complete 00:00:00.101		

16. List all the hard_wirds and meanings of respected articles along with article_id

a. Query

```
select
a.article_id,a.article_name,a.length,g.hard_words,g.meanings
from articles as a
natural join contains
natural join glossaries as g
order by a.article_id ASC;
```

b. Output

	article_id integer	article_name character varying	length integer	hard_words character varying	meanings character varying
1	1	How To Make More Science By Doing Less	130	Abandon	cease to support or look after someone
2	2	10 Incredible Coding Transformations	171	Abscond	leave hurriedly and secretly, typically to avoid d...
3	2	10 Incredible Coding Transformations	171	Banish	send (someone) away from a country or place ...
4	2	10 Incredible Coding Transformations	171	Abolish	formally put an end to (a system, practice, or in...
5	3	Believe In Your TREE Skills But Never Stop Improving	97	Ballad	a poem or song narrating a story in short stanz...
6	3	Believe In Your TREE Skills But Never Stop Improving	97	Abscond	leave hurriedly and secretly, typically to avoid d...
7	4	The Ultimate Guide To Science	101	Accelerate	(of a vehicle or other physical object) begin to ...
8	4	The Ultimate Guide To Science	101	Backbite	talk maliciously about someone who is not pre...
9	4	The Ultimate Guide To Science	101	Baffle	totally bewilder or perplex
10	5	What Everyone Must Know About WOMEN EMPOW...	163	Charisma	compelling attractiveness or charm that can in...
11	5	What Everyone Must Know About WOMEN EMPOW...	163	Chauvinist	a person with a prejudiced belief in his own su...
12	5	What Everyone Must Know About WOMEN EMPOW...	163	Backbite	talk maliciously about someone who is not pre...
13	5	What Everyone Must Know About WOMEN EMPOW...	163	Endure	suffer patiently
14	6	How To Make Science	148	Baffle	totally bewilder or perplex
15	7	Why Physics Is So Helpful During COVID-19	180	Ballad	a poem or song narrating a story in short stanz...
16	8	How Indian Stock Market Can Help Youmake Your D...	116	Banish	send (someone) away from a country or place ...
17	8	How Indian Stock Market Can Help Youmake Your D...	116	Abolish	formally put an end to (a system, practice, or in...
Total rows: 104 of 104		Query complete 00:00:00.135			Ln 55, Col

17. List all the article names which user has saved in library

a. Query

```
select (
    select u.name
    from users as u
    where u.user_id = l.user_id
) as username, (
    select a.article_name
    from articles as a
    where a.article_id = l.article_id
)
from libraries as l;
```

b. Output

	username character varying	article_name character varying
1	Walker O'Lehane	How To Make More Science By Doing Less
2	Dustin Arnold	Believe In Your TREE Skills But Never Stop Improving
3	Anna Thompson	What Everyone Must Know About WOMEN EMPOWERNM...
4	Lindsay Garcia	Why Physics Is So Helpful During COVID-19
5	Shannon Webster	How To Make More Science By Doing Less
6	John Mcdonald	10 Key Tactics The Pros Use For Coding
7	Nathaniel Wilson	Stock Market Doesn't Have To Be Hard. Read These 7 Tips
8	Carol Lopez DVM	How To Buy A Science On A Shoestring Budget
9	Christine Rojas	Albert Einstein On Science
10	Shannon Webster	Who Else Wants To Be Successful With TREE
11	Julie Haney	10 Key Tactics The Pros Use For Coding
12	Michael Skinner	Best Stock Market Tips You Will Read This Year
13	Derrick Morse	My Life, My Job, My Career
14	Spencer Ramos	Warning: These 5 Mistakes Will Destroy Your Foreign Cult...
15	Shaun Taylor	Kids Love Coding
16	Care Neem	My Life, My Job, My Career
17	Moselle Derle	Why Coronavirus Is the Best Time to Take up Spritual
Total rows: 50 of 50		Query complete 00:00:00.166

18. List the number of glossaries present in particular article along with the author_name who has written that article

a. Query

```
select (
    select u.name as author_name
    from users as u join articles as a1
    on u.user_id = a1.author_id and
a1.article_id = a.article_id
), a.article_name, count(g.glossary_id) as
number_of_glossaries
from articles as a
natural join contains
natural join glossaries as g
group by a.article_id
```

b. Output

	author_name character varying	article_name character varying	number_of_glossaries bigint
1	Rutter Kohrt	The Secrets To TREE	2
2	Stephanie Fletcher	The Ultimate Guide To Science	3
3	Binky Mughal	How To Deal With A Very Bad Java Or C++	2
4	Stephanie Fletcher	Government Is Your Worst Enemy	2
5	Thomasin Kealey	Physics Tools to Ease Your Daily Life	2
6	Kyle Avery	My Spritual Success Story	4
7	Susan Hill	How To Make Science	1
8	Lisbeth Deignan	Unversities Guide To Communicating Value	2
9	Margarita Ayree	Unversities Is Essential For Your Success	1
10	Kippy Bryant	Cracking The Java Or C++ Code	2
11	Nathaniel Wilson	How Physics Changed My Life for the Better	2
12	Melissa Elliott	Believe In Your WOMEN EMPOWERMENT Skills But ...	1
13	Shannon Webster	Who's the World's Top Expert in Buisness?	2
14	John Mcdonald	Coding Strategies For The Entrepreneurially Challenged	4
15	Audrey Gates	10 Incredible Coding Transformations	3
16	Kyle Avery	Albert Einstein On Science	1
17	Padget Timlett	Want More Money? Get Dreams	1
18	Brenda Powell	Stock Market Doesn't Have To Be Hard. Read These 7 ...	2
Total rows: 50 of 50		Query complete 00:00:00.137	

19. Write a function to get a articles name written by user by providing user_id

a. Query

```
drop function if exists GetallArticles(int);
create or replace function
GetallArticles(users_id int)
returns table(
    username varchar,
    age int,
    article_name varchar
)
As
$$
begin
return query
    select u.name as
username,u.age,a.article_name
    from users as u join articles as a
    on a.author_id = users_id and u.user_id =
a.author_id;
End;
$$
language plpgsql;

select *
from GetallArticles(11);

Select *
from GetallArticles(67);
```

b. Output

	username character varying	age integer	article_name character varying
1	Nathaniel Wilson	42	How Indian Stock Market Can Help Youmake You...
2	Nathaniel Wilson	42	Get Rid Of Hairfall Problems
3	Nathaniel Wilson	42	How Physics Changed My Life for the Better

	username character varying	age integer	article_name character varying
1	Donavon Patis	63	Use Coding To Make Someone Fall In Lo...

20. Trigger which checks whether age is above 15 or not

a. Query

```
drop function if exists ageValidator() cascade;
create or replace function ageValidator()
returns trigger
as
$$
begin
if(new.age < 15)
then raise exception 'Age of user should be greater than
equals to 15';
end if;
return new;
End;
$$
language plpgsql;

create or replace trigger validateAge
before insert
on users
for each row
execute function ageValidator();

insert into users(name,age)
values ('test',13);

insert into users(name,age)
values ('test1',20);
```

b. Output

For age 13:

Data output	Messages	Notifications
ERROR: Age of user should be greater than equals to 15 CONTEXT: PL/pgSQL function agevalidator() line 4 at RAISE SQL state: P0001		
Total rows: 1 of 1	Query complete 00:00:00.308	

For age 20:

Data output	Messages	Notifications
INSERT 0 1 Query returned successfully in 83 msec.		
Total rows: 1 of 1	Query complete 00:00:00.083	