DATING APPLICATION DATABASE PROJECT

Submitted by
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Programme and Section B.TECH CSE K21PD
Course Code INT306

Under the Guidance of
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CERTIFICATE

This is to certify that SUYASH PARWAR and DIVYA SHRIVASTAVA bearing Registration no. 12100435 AND 12100501 respectively have completed INT306 project titled, DATING APPLICATION DATABASE PROJECT under my guidance and supervision. To the best of my knowledge, the present work is the result of his/her original development, effort, and study.

Tanima Thakur
Department of Computer Science and Engineering
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Date: 09-11-2022

<u>DECLARATION</u>

We, SUYASH PARWAR and DIVYA SHRIVASTAVA, student of B.TECH CSE under CSE/IT Discipline at, Lovely Professional University, Punjab, hereby declare that all the information furnished in this project report is based on my own intensive work and is genuine.

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<u>Acknowledgement</u>

We would like to express our profound gratitude to Mrs. Tanima Thakur of the Computer Science and Engineering department, for her contributions to the completion of our project titled DATING APPLICATION DATABASE MANAGEMENT SYSTEM. We would like to express our special thanks to our mentor for his/her time and the efforts he/she provided throughout the year. Your useful advice and suggestions were really helpful to us during the project's completion. In this aspect, we are eternally grateful to you. We would like to acknowledge that this project was completed entirely by us and not by someone else.

Signature

Suyash Parwar, Divya Shrivastava

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INTRODUCTION

A database is an organised collection of data that can be modified, retrieved, or updated. Data, DBMS, and applications associated with them together form the database concept. The data, stored in the database, is in the row and column format, which is called a table. Every website, which needs us to sign up, uses a database. There is no internet without databases.

For instance, a dating application will have to keep the information about its users, including ID, full name, birthday, gender, etc. The dating application will also need to keep the details of the administration. The details that the dating application has, can be stored in a database of any name, or if it is just the User details, then it can be named User. All such details should be in a structured format, such as tables, in a hierarchy.

Database systems are meant to handle an extensive collection of information. Management of data involves both defining structures for the storage of information and providing mechanisms that can do the manipulation of stored information. Moreover, the database system must ensure the safety of the information stored, despite system crashes or attempts at unauthorised access.

OBJECTIVES

The main objective of the project is to design a database for an online dating application. The primary objective of this project is to study the functioning of the DBMS and how it can be used to create databases for real-world applications. The DBMS manages the data; the database engine allows data to be accessed, locked, and modified; and the database schema defines the database's logical structure. These three foundational elements help provide concurrency, security, data integrity, and uniform data administration procedures.

The DBMS provides a centralised view of data that can be accessed by multiple users from multiple locations in a controlled manner. A DBMS can limit what data end users see and how they view the data, providing many views of a single database schema. End users and software programs are free from having to understand where the data is physically located or on what type of storage medium it resides because the DBMS handles all requests.

ABOUT SQL AND PL/SQL USED IN PROJECT

Introduction

A database for a dating application has many tables, views and complex relationships. Although there could be numerous tables with complex relationships amongst them, our design is a bit straightforward but was sufficient to give us the idea of how real world database design should look like.

We created four tables in this database which we thought were essential to the system. Through PL/SQL, we wrote scripts which enabled basic CRUD operation via GUI. In total, we wrote five scripts each of which performs a task which is essential to an online dating application.

Tables

Users Table

The table stores the following columns:
- Id - Primary Key
- Name
  - first_name
  - middle_name
  - last_name
- Login/Signup Credentials
  - phone
  - otp - One time password
  - otp_exp_time - OTP Expiry time
- Email_id
- Session Token
  - access_token
  - refresh_token

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
USERS	ID	NUMBER	22	-	0	1	-	-	-
	FIRST_NAME	VARCHAR2	255	-	-	-	-	-	-
	MIDDLE_NAME	VARCHAR2	255	-	-	-	✓	-	-
	LAST_NAME	VARCHAR2	255	-	-	-	-	-	-
	PHONE	VARCHAR2	255	-	-	-	-	-	-
	EMAIL_ID	VARCHAR2	255	-	-	-	✓	-	-
	ACCESS_TOKEN	VARCHAR2	255	-	-	-	-	-	-
	REFRESH_TOKEN	VARCHAR2	255	-	-	-	-	-	-
	OTP	NUMBER	22	-	0	-	✓	-	-
	OTP_EXP_TIME	DATE	7	-	-	-	✓	-	-

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SQL Command

```
3   CREATE TABLE Users (
4       id INT,
5       first_name VARCHAR(255) NOT NULL,
6       middle_name VARCHAR(255),
7       last_name VARCHAR(255) NOT NULL,
8       phone VARCHAR(255) NOT NULL unique,
9       email_id VARCHAR(255),
10      access_token VARCHAR(255) NOT NULL,
11      refresh_token VARCHAR(255) NOT NULL,
12      otp INT,
13      otp_exp_time DATE
14  );
```

Records of the Users Table

ID	FIRST_NAME	MIDDLE_NAME	LAST_NAME	PHONE	EMAIL_ID	ACCESS_TOKEN	REFRESH_TOKEN	OTP	OTP_EXP_TIME
10	Manthan	-	Ror	+9183727091283	manthann@gmail.com	rcty87y4b38yr32r3i47rr34!2@	qy347yc7ybycqiue@3xnbc2*9	932394	11/06/2002
11	Anshuman	-	Choudhary	+9189727091083	anshuman@gmail.com	rcty87y4b38yr32r3i47rr34!2@	qy347yc7ybycqiue@3xnbc2*9	100394	11/06/2022
12	Karitikey	-	Pandya	+9134727091083	pandya90@gmail.com	rcty87y4b38yr32r3i47rr34!2@	qy347yc7ybycqiue@3xnbc2*9	100394	01/16/2022
14	Ananya	-	Yadav	+9134727591083	ananya@gmail.com	rcty87y4b38yr32r3i47rr34!2@	qy347yc7ybycqiue@3xnbc2*9	100394	06/16/2022
15	She	-	Hulk	+9134727099083	hulk@gmail.com	rcty87y4b38yr32r3i47rr34!2@	qy347yc7ybycqiue@3xnbc2*9	100394	10/26/1991
17	Liv	Pénélope	Gorghetto	+7-724-910-3704	lgorghetto0@addtoany.com	8bd0795e-8beb-4d12-8c46-5a086ae61930	485b9e14-3c01-421e-b9a6-947fe8c15949	104336	10/06/2012
18	Gerald	Fèi	Bourgaize	+86-809-679-2325	gbourgaize1@yahoo.co.jp	e511b1ec-e327-4a69-8834-d621ed70c94e	5c466f18-1f49-44ca-9752-ee95a7e9a071	822053	01/12/2052
19	Tommie	Kévina	Mahmood	+599-199-130-5662	tmahmood2@jugem.jp	fc120c40-8d36-4480-a186-eb7cbff0f90b	a41ae358-6515-4066-9946-4da4d4d4b28f	942431	03/06/2009
22	Audrye	-	Gueny	+504-188-597-7506	agueny3@cdbaby.com	b71fd047-84ac-4212-8353-ac395bb83601	f1401c97-19d6-4b1e-9fa6-7176ebacc7bd	287309	06/06/2009
24	Adriane	Gisèle	oldey	+7-291-294-9037	aoldey5@yelp.com	d59c3790-aa9e-48c2-9874-b64073923be8	b6cab755-333c-42ee-89fb-ca6da30610fd	110516	03/06/2006
25	Thomasina	-	Offer	+86-269-377-9205	-	b5d79af3-d8dc-44e8-9bd6-111653ea68d9	512d14b8-509f-479c-b476-1482dea5eeb8	476328	03/06/2005
26	Crissy	Esbjörn	Egdale	+63-559-456-5929	cegdale7@studiopress.com	0a7112b2-7b36-4859-98bb-a6eca7ea6c2e	1374eb20-a539-45c7-bc7c-a30bbe7ce771	438255	03/12/2016
27	Cammie	Maïlis	Gosney	+58-636-949-8328	cgosney8@google.com.au	b3f61a2f-0ca5-47f1-93d7-66b60d8e098a	7bde3066-8210-4892-b97d-71cec24dc5a0	855077	03/06/2009
28	Clayson	-	Thomke	+261-962-458-5652	cthomke9@usnews.com	fe05e3c7-3f73-4bc0-b571-630cf855e2c3	0648e371-ffa0-4c2e-9e0e-477f87641a26	321662	03/06/2009
29	Horacio	-	Brundrett	+86-857-854-5365	hbrundrettb@mac.com	dddb4fc3-6f0c-485f-a1d5-79eb51f950c6	7f638434-8245-4fcc-a776-8640305628e0	895861	03/06/2021
30	Hilly	Göran	Cridge	+62-249-902-5013	hcridgec@w3.org	9f7a193c-aa96-40d8-8586-94403277f27c	8f6a2740-93d5-470b-adbf-fb93aaac59db	900659	03/06/2021
31	Saunderson	Bénédicte	Leggen	+62-198-291-3413	sleggend@state.tx.us	2b0b4765-a1e5-4c87-8aa1-673a4a80f79e	17a09102-8205-451d-854f-85eca1ee4412	981655	03/06/2009
34	Torie	Léonore	Crosse	+7-603-530-6430	tcrossee@shinystat.com	02f22c25-ac4e-41b0-bff6-6d2b5b74262d	cd298cab-c698-43b6-989e-534b5a2d8ab4	947822	08/06/2019
35	Adella	-	Tourmell	+86-576-717-6527	atourmellf@state.gov	ac2265b9-05de-4f25-949d-3c54d8dfd020	427033c4-2eee-4399-83df-b32d7f3bfb6c	638095	07/06/2022
36	Anica	-	Carbery	+62-306-663-4444	acarberyg@reuters.com	be116f18-39fa-4cf3-a070-613989077055	688ec8d5-c3fb-42a6-b5f2-18b8068d602f	185243	09/06/2011
37	Filide	-	Keningley	+261-289-324-8341	fkeningleyh@liveinternet.ru	d79beefd-3e32-4454-815e-dca8db933dd7	b281539c-2ba2-47cd-bac0-680748519a1a	490959	03/06/2017
38	Faber	-	Isham	+370-908-110-8937	-	2a518282-8cf0-412e-b87b-26fe3f5c1068	dfd458fd-ae48-444c-89a8-b0057331b39c	579638	03/06/2009
39	Johny	-	Loomis	+372-590-554-2323	jloomisj@marketwatch.com	725f7ab2-333c-46d6-94ce-5624455b0ded	d59f2c37-4c2c-4f11-bdb2-0cd9b9cce289	677288	03/06/2009
40	Thaddus	Bérénice	Verne	+48-974-536-2511	tvernek@ucsd.edu	8c8c7ccd-ed47-4102-b7ea-013a06cd0e06	65962c7c-1c62-470f-a176-c3447487319f	450831	03/06/2009
41	Salaidh	-	Bointon	+62-744-519-0367	sbointonl@smugmug.com	8cbb2730-2bf3-4f8e-b878-6b95d9c84d70	8cc32e16-82fb-4385-9989-26b91a305baf	301888	03/06/2009
42	Lucia	Frédérique	Dobrovolski	+242-391-893-9646	-	dbe49869-45ba-4f34-87dc-7b415bfdff4c	c7271533-b359-4606-981b-e653a7894d96	886014	03/06/2009
43	Berri	-	Treker	+62-690-950-0000	btrekern@hubpages.com	c942d131-8ecc-48f4-9a97-66ef78535545	b4a70966-f5c4-46ba-a47e-8b39bc46e4e2	966143	03/06/2009
44	Juana	-	West	+51-960-315-5502	jwesto@mapy.cz	fbaab81e-746e-497c-a075-0f9cb29d70c9	02645ed2-f9a2-4e21-af76-866f30fa0c82	934348	03/06/2002
45	Starla	-	Bavidge	+92-164-376-0120	sbavidgep@jiathis.com	7f5ae8ee-8eb3-4ba0-90e3-74bc6c7b65fd	e7941066-521e-4706-825f-cec9a4c6034a	714098	03/06/2009
46	Hayley	-	Trowler	+380-102-590-6344	htrowlerq@wp.com	f5002ea9-8b87-42ff-afbf-0954ee3be544	6c6be764-c0ba-4d73-83c5-39e7e9077850	780756	03/06/2009
47	Eberto	Göran	Mytton	+1-419-252-9168	emyttonr@webeden.co.uk	931f5d7e-b1e8-4408-aec9-0b1e711000c9	0700b322-5419-4e7f-9682-7c19e95954c9	552638	03/06/2019
48	Val	-	Bagwell	+62-394-619-9468	vbagwells@shutterfly.com	b572ee43-b1e1-4966-b1d9-6c738ea6773d	9be6df2d-69bf-4c52-a0c3-9e55f990d1b4	840836	03/06/2008
49	Floris	-	Baythrop	+86-267-651-3658	fbaythropt@wp.com	eb4d623b-48aa-48f6-8e8b-7e2709f0806e	375e8745-9bb5-4f0f-988b-0b37e75fe91d	831748	03/06/2012
50	Emilio	-	Kegg	+7-137-917-1121	ekeggu@photobucket.com	343689c2-b60e-4970-8465-1e2017d9a643	a9cfa01f-d4ec-4b44-b847-53cf18470ba2	971688	03/06/2022
51	Clemence	-	Metheringham	+351-777-959-0167	cmetheringhamv@google.ru	858be752-39c2-4095-acb5-2a67cd1e2ed9	d586ee29-334e-4654-a25d-5890d14b474d	465109	03/06/2009
52	Urson	-	Peascod	+86-944-506-9466	upeascodw@state.gov	eb18cae7-38cb-4924-972c-5c235d50291f	0958db44b-0f59-4bf8-b75b-a79755bc7ee0	496013	03/06/2009
53	Devy	-	Randles	+380-715-320-3864	drandlesx@cnet.com	a73d4a47-425e-4b0c-af45-027ca835015f	c073152f-bf1a-44a2-a6df-0ac3cf9cdf5d	114647	03/06/2022
54	Roselin	-	Yushmanov	+237-939-548-5231	ryushmanovy@tripod.com	d1e95d3f-d352-4726-a1ae-8c07dd7ad938	75d7046a-4746-4949-8bd4-375076cad260	403316	09/06/2009

User Info Table

The table stores the following columns:

- id - Primary Key
- birthday
- gender
- sexual_orientation
- show_profille_type
- location_latitude
- location_longitude
- distance_range
- bio
- Pronouns

Description of the UserInfo Table

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
USERINFO	ID	NUMBER	22	-	0	1	-	-	-
	BIRTHDAY	DATE	7	-	-	-	-	-	-
	GENDER	VARCHAR2	255	-	-	-	-	-	-
	SEXUAL_ORIENTATION	VARCHAR2	255	-	-	-	-	-	-
	SHOW_PROFILE_TYPE	VARCHAR2	255	-	-	-	-	-	-
	AGE	NUMBER	22	-	0	-	-	-	-
	LOCATION_LATITUDE	FLOAT	126	126	-	-	-	-	-
	LOCATION_LONGITUDE	FLOAT	126	126	-	-	-	-	-
	DISTANCE_RANGE	NUMBER	22	-	0	-	✓	10	-
	BIO	VARCHAR2	255	-	-	-	✓	-	-
	PRONOUNS	VARCHAR2	255	-	-	-	✓	-	-
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SQL Command

```sql
16  CREATE TABLE UserInfo (
17      id INT PRIMARY KEY,
18      birthday DATE NOT NULL,
19      gender VARCHAR(255) NOT NULL CHECK(gender in ('MEN', 'WOMEN', 'OTHER')),
20      sexual_orientation VARCHAR(255) NOT NULL,
21      show_profile_type VARCHAR(255) NOT NULL CHECK(show_profile_type in ('MEN', 'WOMEN', 'EVERYONE')),
22      age INT NOT NULL CHECK(age >= 18),
23      location_latitude FLOAT NOT NULL,
24      location_longitude FLOAT NOT NULL,
25      distance_range INT DEFAULT 10,
26      bio VARCHAR(255),
27      pronouns VARCHAR(255),
28      FOREIGN KEY(id) REFERENCES Users(id)
29  );
```

Records of the UserInfo Table

ID	BIRTHDAY	GENDER	SEXUAL_ORIENTATION	SHOW_PROFILE_TYPE	AGE	LOCATION_LATITUDE	LOCATION_LONGITUDE	DISTANCE_RANGE	BIO	PRONOUNS
1	07/23/2003	MEN	Straight	WOMEN	19	28.074649	119.141473	20	integer ac neque duis bibendum morbi non quam nec dui luctus rutrum nulla tellus in sagittis dui vel nisl duis ac nibh fusce	they/them
4	11/27/1993	MEN	Queer	WOMEN	28	33.9717649	36.6579649	21	in eleifend quam a odio in hac habitasse platea dictumst maecenas ut massa quis augue luctus tincidunt nulla mollis molestie lorem quisque ut erat curabitur gravida nisi at nibh in	ze/hir
9	08/26/1994	OTHER	Bicurious	MEN	28	27.406721	114.715117	25	nullam varius nulla facilisi cras non velit nec nisi vulputate nonummy maecenas tincidunt lacus at velit vivamus vel nulla eget eros	xe/xem
10	03/09/2001	MEN	Aromatic	WOMEN	21	7.3410628	134.4771596	24	pellentesque quisque porta volutpat erat quisque erat eros viverra eget congue eget semper rutrum nulla nunc purus phasellus in felis	she/her
11	03/30/2002	MEN	Gay	MEN	20	24.8560587	67.2164016	30	semper rutrum nulla nunc purus phasellus in felis donec semper sapien a libero nam dui proin leo odio porttitor id consequat in consequat ut nulla sed accumsan felis ut at	she/her
12	08/23/2001	OTHER	Asexual	MEN	21	-6.7455152	111.2293563	5	vel augue vestibulum rutrum rutrum neque aenean auctor gravida sem praesent id massa id nisl venenatis lacinia aenean sit amet justo	per/per
14	08/29/1994	OTHER	Aromatic	EVERYONE	28	2.2155425	99.0349977	1	integer ac neque duis bibendum morbi non quam nec dui luctus rutrum nulla tellus in sagittis dui vel nisl duis ac nibh fusce lacus purus aliquet at feugiat non	he/him
15	08/22/2001	OTHER	Straight	MEN	21	39.612728	113.497098	28	elit proin risus praesent lectus vestibulum quam sapien varius ut blandit non interdum in ante vestibulum ante ipsum primis in faucibus orci luctus et	ze/hir
17	06/19/2001	WOMEN	Straight	MEN	21	31.298974	120.585289	92	a nibh in quis justo maecenas rhoncus aliquam nisi quis tortor id nulla ultrices aliquet maecenas leo odio condimentum id luctus nec molestie sed	she/her
18	09/14/2002	OTHER	Bisexual	EVERYONE	20	43.0602104	16.1828781	3	eros suspendisse accumsan tortor quis turpis sed ante vivamus tortor duis mattis egestas metus aenean fermentum donec ut mauris eget massa tempor convallis nulla neque libero convallis	per/per
19	07/24/1996	WOMEN	Gay	MEN	26	-2.4659779	28.817249	40	ut erat id mauris vulputate elementum nullam varius nulla facilisi cras non velit nec nisi vulputate nonummy maecenas tincidunt lacus at velit vivamus vel nulla	ve/ver
22	11/15/2002	WOMEN	Bisexual	WOMEN	19	42.676258	123.500137	42	vel enim sit amet nunc viverra dapibus nulla suscipit ligula in lacus curabitur at ipsum ac tellus semper interdum mauris ullamcorper purus sit amet nulla quisque	they/them
24	02/22/2002	WOMEN	Lesbian	WOMEN	20	49.9792606	15.2092621	100	id pretium iaculis diam erat fermentum justo nec condimentum neque sapien placerat ante nulla justo aliquam quis turpis eget elit sodales scelerisque mauris	zie/hir
25	04/26/1996	OTHER	Bisexual	MEN	26	43.6943099	2.0376775	43	condimentum neque sapien placerat ante nulla justo aliquam quis turpis eget elit sodales scelerisque mauris sit amet eros suspendisse accumsan tortor quis turpis sed ante vivamus	per/per
26	04/20/1999	MEN	Bisexual	WOMEN	23	37.955893	23.7020975	30	sapien quis libero nullam sit amet turpis elementum ligula vehicula consequat morbi a ipsum integer a nibh in quis justo	she/her
27	09/11/2003	WOMEN	Straight	WOMEN	19	41.2658376	-8.6729604	27	eu massa donec dapibus duis at velit eu est congue elementum in hac habitasse platea dictumst morbi vestibulum velit id pretium iaculis diam erat fermentum	ve/ver
28	11/22/1999	MEN	Queer	EVERYONE	22	5.4238154	-75.8185314	20	sagittis nam congue risus semper porta volutpat quam pede lobortis ligula sit amet eleifend pede libero quis orci nullam molestie nibh in lectus pellentesque	per/per
29	10/21/1998	MEN	Lesbian	MEN	24	-8.5388252	115.402367	61	cubilia curae duis faucibus accumsan odio curabitur convallis duis consequat dui nec nisi volutpat eleifend donec ut dolor morbi vel	she/her
30	11/25/1998	OTHER	Straight	MEN	23	-6.820816	108.1992015	97	bibendum morbi non quam nec dui luctus rutrum nulla tellus in sagittis dui vel nisl duis ac nibh fusce lacus purus aliquet at	per/per
31	12/12/2000	OTHER	Lesbian	WOMEN	21	40.8950649	45.1378873	20	molestie hendrerit at vulputate vitae nisl aenean lectus pellentesque eget nunc donec quis orci eget orci vehicula condimentum curabitur in libero ut massa volutpat convallis morbi	he/him
34	03/26/1996	OTHER	Asexual	MEN	26	10.0698222	124.5514906	29	augue a suscipit nulla elit ac nulla sed vel enim sit amet nunc viverra dapibus nulla suscipit ligula in lacus curabitur at ipsum ac	zie/hir
35	12/16/1993	MEN	Demisexual	MEN	28	38.234501	115.519278	20	consectetur adipiscing elit proin risus praesent lectus vestibulum quam sapien varius ut blandit non interdum in ante vestibulum ante ipsum primis in faucibus orci luctus	he/him
36	10/22/2004	MEN	Pansexual	MEN	18	.0074415	37.0722303	20	vel augue vestibulum rutrum rutrum neque aenean auctor gravida sem praesent id massa id nisl venenatis lacinia aenean sit amet justo morbi ut odio cras	ze/hir
37	06/01/1994	OTHER	Demisexual	WOMEN	28	16.0544068	108.2021667	10	non lectus aliquam sit amet diam in magna bibendum imperdiet nullam orci pede venenatis non sodales sed tincidunt eu felis fusce posuere felis sed lacus morbi sem mauris	she/her
38	06/10/1995	OTHER	Asexual	EVERYONE	27	13.6224855	100.8512816	20	proin eu mi nulla ac enim in tempor turpis nec euismod scelerisque quam turpis adipiscing lorem vitae mattis nibh ligula nec sem duis	per/per
39	10/07/2004	OTHER	Lesbian	WOMEN	18	14.5704544	121.0244464	97	morbi quis tortor id nulla ultrices aliquet maecenas leo odio condimentum id luctus nec molestie sed justo pellentesque viverra pede ac diam cras pellentesque volutpat	she/her
									tempus sit amet sem fusce consequat nulla nisl nunc nisl duis bibendum felis sed interdum venenatis turpis enim blandit mi in portitor pede justo	

Swipes Table

The table stores the following columns:

- id - Primary Key
- swiped_by - Foreign Key (References Users Table id)
- swiped_to - Foreign Key (References Users Table id)
- swipe_type - Accepts two values only (LIKE or SUPERLIKE)
- is_accepted
- is _blocked
- swiped_on
- blocked_on

Description of the Swipes Table

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
SWIPES	ID	NUMBER	22	-	0	1	-	-	-
	SWIPED_BY	NUMBER	22	-	0	-	-	-	-
	SWIPED_TO	NUMBER	22	-	0	-	-	-	-
	SWIPE_TYPE	VARCHAR2	255	-	-	-	-	-	-
	IS_ACCEPTED	NUMBER	22	-	0	-	✓	0	-
	IS_BLOCKED	NUMBER	22	-	0	-	✓	0	-
	SWIPED_ON	DATE	7	-	-	-	-	-	-
	BLOCKED_ON	DATE	7	-	-	-	✓	-	-
									1 - 8

SQL Command

```sql
31   CREATE TABLE Swipes (
32       id INT,
33       swiped_by INT NOT NULL,
34       swiped_to INT NOT NULL,
35       swipe_type VARCHAR(255) NOT NULL CHECK(swipe_type in ('LIKE', 'SUPERLIKE')),
36       is_accepted INT DEFAULT 0,
37       is_blocked INT DEFAULT 0,
38       swiped_on DATE NOT NULL,
39       blocked_on DATE,
40       PRIMARY KEY(id),
41       FOREIGN KEY(swiped_by) REFERENCES Users(id),
42       FOREIGN KEY(swiped_to) REFERENCES Users(id)
43   );
```

Records of the Swipes Table

ID	SWIPED_BY	SWIPED_TO	SWIPE_TYPE	IS_ACCEPTED	IS_BLOCKED	SWIPED_ON	BLOCKED_ON
2	24	61	LIKE	1	1	04/22/2022	08/22/2022
3	64	36	SUPERLIKE	1	0	04/16/2022	-
4	59	54	LIKE	0	0	09/07/2022	-
5	65	68	SUPERLIKE	0	0	04/19/2022	-
6	46	41	SUPERLIKE	1	1	02/15/2022	04/05/2022
7	18	60	LIKE	1	1	06/27/2022	11/01/2022
8	4	9	LIKE	0	0	06/24/2022	-
9	63	43	LIKE	0	1	07/03/2022	01/12/2022
10	12	11	LIKE	1	0	09/02/2022	-
11	54	50	LIKE	1	1	06/02/2022	01/13/2022
12	64	42	LIKE	0	1	09/14/2022	08/21/2022
13	44	61	LIKE	1	0	10/23/2022	-
15	45	1	SUPERLIKE	1	0	11/06/2022	-
16	9	61	LIKE	0	1	03/13/2022	09/29/2022
17	17	35	LIKE	1	0	01/26/2022	-
18	46	49	LIKE	1	1	06/07/2022	03/03/2022
19	22	63	SUPERLIKE	0	1	05/20/2022	04/07/2022
20	9	63	SUPERLIKE	1	0	11/21/2021	-
28	44	34	SUPERLIKE	0	0	06/23/2022	-
29	34	39	SUPERLIKE	1	1	12/04/2021	05/23/2022
30	43	40	SUPERLIKE	1	1	11/14/2021	11/24/2021
31	53	1	LIKE	0	0	11/27/2021	-
32	22	34	LIKE	0	1	04/24/2022	06/15/2022
33	61	4	SUPERLIKE	0	1	12/12/2021	07/07/2022
34	9	63	SUPERLIKE	1	1	04/05/2022	03/15/2022

Reports Table

The table stores the following columns:

- id - Primary Key
- reporter_id - Foreign Key (References Users table id)
- reported_to - Foreign Key (References Users table id)
- remarks
- report_date
- is_resolved
- resolved_by
- resolved_on
- resolve_remark

Description of the Reports Table

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
REPORTS	ID	NUMBER	22	-	0	1	-	-	-
	REPORTER_ID	NUMBER	22	-	0	-	-	-	-
	REPORTED_ID	NUMBER	22	-	0	-	-	-	-
	REMARKS	VARCHAR2	255	-	-	-	-	-	-
	REPORT_DATE	DATE	7	-	-	-	-	-	-
	IS_RESOLVED	NUMBER	22	-	0	-	✓	0	-
	RESOLVED_BY	VARCHAR2	255	-	-	-	✓	-	-
	RESOLVED_ON	DATE	7	-	-	-	✓	-	-
	RESOLVE_REMARK	VARCHAR2	255	-	-	-	✓	-	-

1 - 9

SQL Command

```sql
45   CREATE TABLE Reports (
46       id INT,
47       reporter_id INT NOT NULL,
48       reported_to INT NOT NULL,
49       remarks VARCHAR(255) NOT NULL,
50       report_date DATE NOT NULL,
51       is_resolved INT DEFAULT 0,
52       resolved_by VARCHAR(255),
53       resolved_on DATE,
54       resolve_remark VARCHAR(255),
55       PRIMARY KEY(id),
56       FOREIGN KEY(reporter_id) REFERENCES Users(id),
57       FOREIGN KEY(reported_to) REFERENCES Users(id)
58   );
```

Records of the Reports Table

ID	REPORTER_ID	REPORTED_ID	REMARKS	REPORT_DATE	IS_RESOLVED	RESOLVED_BY	RESOLVED_ON	RESOLVE_REMARK
1	11	67	in blandit ultrices enim lorem ipsum dolor sit amet consectetuer adipiscing elit	11/18/2022	0	-	-	-
2	60	49	donec diam neque vestibulum eget vulputate ut ultrices vel augue vestibulum ante ipsum primis	08/29/2022	0	-	-	-
3	26	56	erat eros viverra eget congue eget semper rutrum nulla nunc purus phasellus in felis	10/22/2022	1	Perkin Filby	09/11/2022	nisl nunc nisl duis bibendum felis sed interdum
4	66	62	posuere nonummy integer non velit donec diam neque vestibulum eget vulputate	06/22/2022	0	-	-	-
5	51	26	a ipsum integer a nibh in quis justo maecenas	01/22/2022	1	Oona Staggs	02/04/2022	bibendum morbi non quam nec dui luctus rutrum nulla tellus in sagittis dui vel
6	9	51	consequat in consequat ut nulla sed accumsan felis ut at dolor quis odio	03/24/2022	1	Judie Dobbings	04/03/2022	pede justo eu massa donec dapibus duis at velit eu est congue elementum in
7	45	9	quisque ut erat curabitur gravida nisi at nibh in hac habitasse platea dictumst aliquam	06/23/2022	0	-	-	-
8	46	36	nulla ac enim in tempor turpis nec euismod scelerisque quam turpis adipiscing lorem	03/15/2022	1	Kariotta Frascone	06/28/2022	in hac habitasse platea dictumst maecenas ut massa quis augue
9	64	25	dictumst aliquam augue quam sollicitudin vitae consectetuer eget rutrum	02/11/2022	1	Mariana Gabriely	09/08/2022	in blandit ultrices enim lorem ipsum dolor sit
11	26	17	elit proin risus praesent lectus vestibulum quam sapien varius ut	02/10/2022	1	Ham Jurkiewicz	03/23/2022	sed ante vivamus tortor duis mattis egestas metus aenean fermentum
12	19	28	mauris lacinia sapien quis libero nullam sit amet	06/12/2022	0	-	-	-
13	11	26	tincidunt in leo maecenas pulvinar lobortis est phasellus sit amet	03/11/2022	1	Isak Wyldbore	11/11/2021	nulla suspendisse potenti cras in purus eu magna vulputate luctus cum sociis natoque
18	34	25	fusce lacus purus aliquet at feugiat non pretium quis	02/28/2022	1	Britte McCoy	11/11/2021	orci eget orci vehicula condimentum curabitur in libero ut
19	4	43	duis bibendum felis sed interdum venenatis turpis enim	05/07/2022	0	-	-	-
20	27	26	dictumst maecenas ut massa quis augue luctus tincidunt	07/23/2022	1	Helaine Blaxall	10/13/2022	nec molestie sed justo pellentesque viverra pede ac diam cras pellentesque
21	27	26	dictumst maecenas ut massa quis augue luctus tincidunt	07/23/2022	1	Helaine Blaxall	10/13/2022	nec molestie sed justo pellentesque viverra pede ac diam cras pellentesque

PL/SQL Scripts

We made in total five programs which perform the operations which we found critical to the system. Following are listed the scripts and corresponding description.
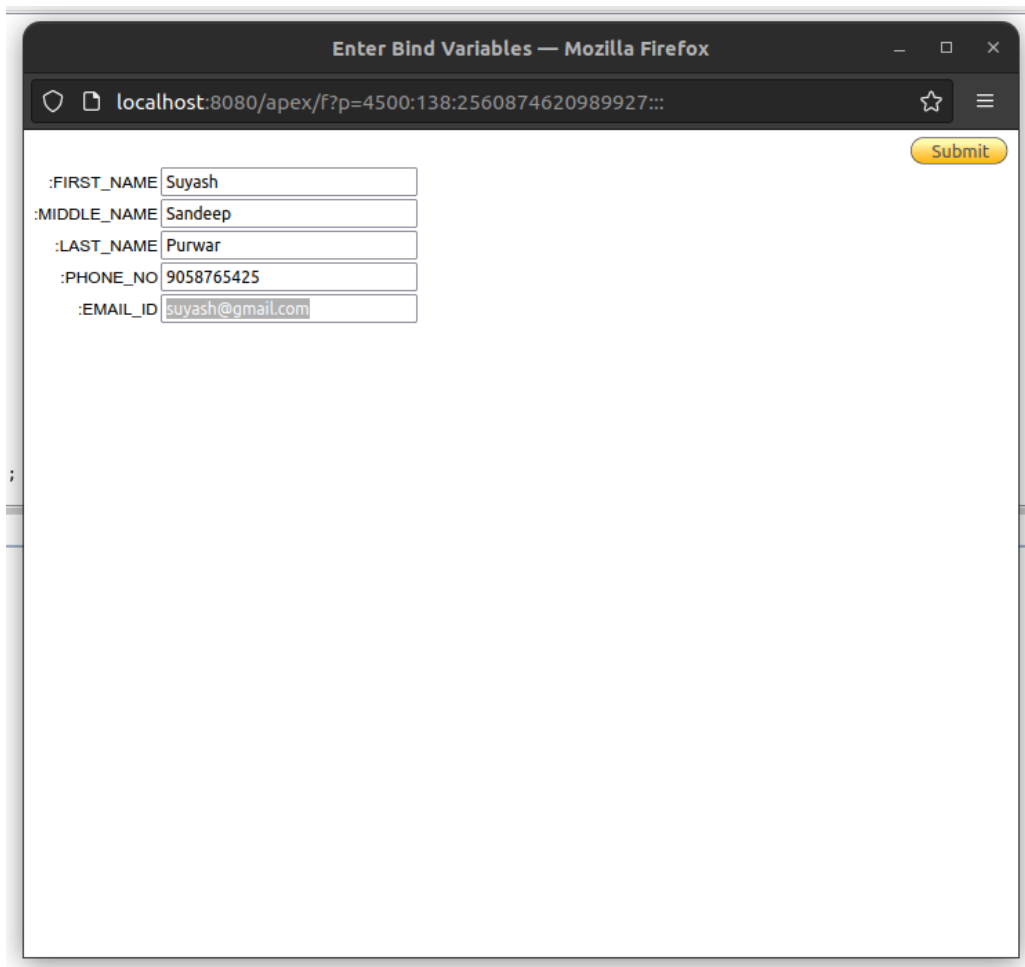
Account Creation Program

This program provides the user a GUI interface to create a record in the Users table.

Code

```
DECLARE
    first_name VARCHAR(255) := :First_Name;
    middle_name VARCHAR(255) := :Middle_Name;
    last_name VARCHAR(255) := :Last_Name;
    phone_no VARCHAR(255) := :Phone_No;
    email_id VARCHAR(255) := :Email_Id;
    otp INT(6);
    otp_exp_time DATE;
BEGIN
    otp := 239202;
    otp_exp_time := sysdate;
    INSERT INTO Users(
        first_name,
        middle_name,
        last_name, phone,
        email_id,
        access_token,
        refresh_token,
        otp,
        otp_exp_time
    ) VALUES (
        first_name,
        middle_name,
        last_name,
        phone_no,
        email_id,
        'a#4rd5gi!gh9jkh7#',
        'fh#6ytf6$6fgf%gd@G',
        otp,
    otp_exp_time);
    dbms_output.put_line(first_name || ', your account is created!');
END;
```

Output

Suyash, your account is created!
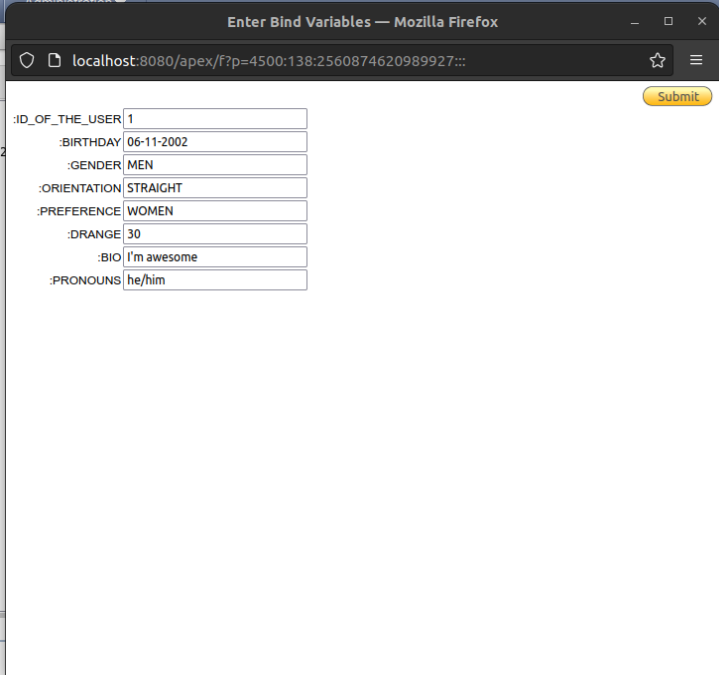
1 row(s) inserted.

0.01 seconds

Account Onboarding Program

This program provides the user an interface to add in details in the UserInfo table.

Code

```
1   DECLARE
2       fname VARCHAR(255);
3       user_id INT := :ID_of_the_user;
4       birthday DATE := :birthday;
5       gender VARCHAR(255) := :gender;
6       sexual_orientation VARCHAR(255) := :orientation;
7       profile_preference VARCHAR(255) := :preference;
8       age INT;
9       location_latitude FLOAT;
10      location_longitude FLOAT;
11      distance_range INT := :drange;
12      bio VARCHAR(255) := :bio;
13      pronouns VARCHAR(255) := :pronouns;
14  BEGIN
15      SELECT months_between(TRUNC(sysdate), to_date('2002-10-11','YYYY-MM-DD'))/12 INTO age FROM dual;
16      location_latitude := 23.344223;
17      location_longitude := -0.233434;
18      INSERT INTO UserInfo (
19          id,
20          birthday,
21          gender,
22          sexual_orientation,
23          show_profile_type,
24          age,
25          location_latitude,
26          location_longitude,
27          distance_range,
28          bio,
29          pronouns) VALUES (
30          user_id,
31          birthday,
32          gender,
33          sexual_orientation,
34          profile_preference,
35          age,
36          location_latitude,
37          location_longitude,
38          distance_range,
39          bio,
40          pronouns
41      );
42      SELECT first_name INTO fname FROM Users WHERE id=user_id;
43      dbms_output.put_line(fname || ', your details and preferences are saved.');
44  END;
45
```

Output

Show Users Program

This program shows the potential candidates for dating based on the details provided in the previous program. It reads the User and UserInfo table to curate a list of candidates.

Code

```
1   DECLARE
2       user_id INT := :Your_ID;
3       user_age UserInfo.age%TYPE;
4       preference UserInfo.show_profile_type%TYPE;
5
6       CURSOR cur_user IS
7           SELECT
8               Users.id,
9               first_name,
10              middle_name,
11              last_name,
12              age,
13              bio,
14              pronouns,
15              location_latitude,
16              location_longitude
17          FROM UserInfo
18          JOIN Users ON Users.id = UserInfo.id
19          WHERE age > user_age-5 AND user_age+5 > age
20          AND gender = preference;
21
22          v_user cur_user%ROWTYPE;
23  BEGIN
24      SELECT age INTO user_age FROM UserInfo WHERE id=user_id;
25      SELECT show_profile_type INTO preference FROM UserInfo WHERE id=user_id;
26
27      OPEN cur_user;
28      LOOP
29          FETCH cur_user INTO v_user;
30          EXIT WHEN cur_user%NOTFOUND;
31          dbms_output.put_line('------------------------------------------');
32          dbms_output.put_line('ID: ' || v_user.id);
33          dbms_output.put_line('Full Name: ' || v_user.first_name || ' ' || v_user.middle_name || ' ' || v_user.last_name);
34          dbms_output.put_line('Pronouns: ' || v_user.pronouns);
35          dbms_output.put_line('Age: ' || v_user.age);
36          dbms_output.put_line('Bio: ' || v_user.bio);
37          dbms_output.put_line('------------------------------------------');
38      END LOOP;
39      CLOSE cur_user;
40  END;
```

Output

Output (List of potential candidate for dating based on the user preferences)

```
----------------------------------------
ID: 19
Full Name: Tommie Kévina Mahmood
Pronouns: ve/ver
Age: 26
Bio: ut erat id mauris vulputate elementum nullam varius nulla facilisi cras non velit nec nisi vulputate nonummy maecenas tincidunt lacus at velit vivamus vel nulla
----------------------------------------
----------------------------------------
ID: 40
Full Name: Thaddus Bérénice Verne
Pronouns: xe/xem
Age: 23
Bio: tempus sit amet sem fusce consequat nulla nisl nunc nisl duis bibendum felis sed interdum venenatis turpis enim blandit mi in porttitor pede justo eu massa donec dapibus duis at
----------------------------------------
----------------------------------------
ID: 51
Full Name: Clemence  Metheringham
Pronouns: xe/xem
Age: 26
Bio: cum sociis natoque penatibus et magnis dis parturient montes nascetur ridiculus mus etiam vel augue vestibulum rutrum rutrum neque aenean auctor gravida
----------------------------------------
----------------------------------------
ID: 55
Full Name: Mada  Menpes
Pronouns: they/them
Age: 23
Bio: orci luctus et ultrices posuere cubilia curae mauris viverra diam vitae quam suspendisse potenti nullam porttitor lacus at turpis donec posuere metus vitae ipsum aliquam non
----------------------------------------
----------------------------------------
ID: 59
Full Name: Coraline Marie-françoise Pendre
Pronouns: she/her
Age: 22
Bio: ultrices posuere cubilia curae donec pharetra magna vestibulum aliquet ultrices erat tortor sollicitudin mi sit amet lobortis sapien sapien non mi integer ac neque duis bibendum morbi non
----------------------------------------
----------------------------------------
ID: 60
Full Name: Ransell Kù Ranger
Pronouns: ze/hir
Age: 25
Bio: vel ipsum praesent blandit lacinia erat vestibulum sed magna at nunc commodo placerat praesent blandit nam nulla integer pede justo lacinia eget tincidunt eget
----------------------------------------

Statement processed.

0.00 seconds
```
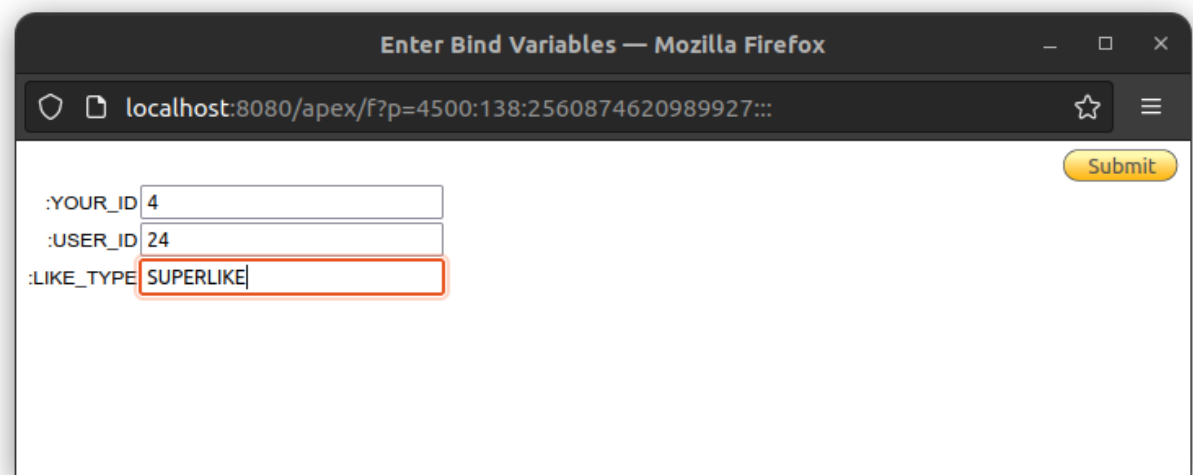
Swipe Users Program

This program allows users to like/swipe the user for dating.

Code

```sql
DECLARE
    your_id INT := :Your_ID;
    user_id INT := :User_ID;
    your_name VARCHAR(255);
    user_name VARCHAR(255);
    like_type VARCHAR(255) := :Like_Type;
    is_accepted INT := 0;
    is_blocked INT := 0;
    swiped_on DATE := sysdate;
BEGIN
    INSERT INTO Swipes (
        swiped_by,
        swiped_to,
        swipe_type,
        is_accepted,
        is_blocked,
        swiped_on,
        blocked_on
    ) VALUES (
        your_id,
        user_id,
        like_type,
        is_accepted,
        is_blocked,
        swiped_on,
        NULL
    );
    SELECT first_name INTO user_name FROM Users WHERE id=user_id;
    SELECT first_name INTO your_name FROM Users WHERE id=your_id;
    dbms_output.put_line(your_name || ', you have ' || like_type || 'D ' || user_name || ' successfully!');
END;
/
```

Output

Shubham, you have SUPERLIKED Adriane successfully!

1 row(s) inserted.
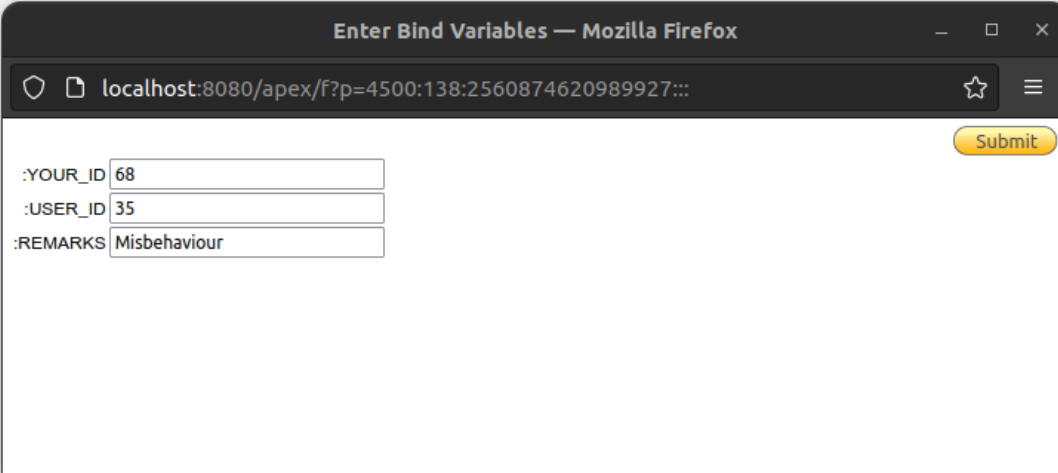
0.01 seconds

Report Users Program

This allows the user to report the other user for any kind of misbehaviour.

Code

```
1   DECLARE
2       your_id INT := :Your_ID;
3       user_id INT := :User_ID;
4       your_name VARCHAR(255);
5       user_name VARCHAR(255);
6       remarks VARCHAR(255) := :Remarks;
7       report_date DATE := sysdate;
8       is_resolved INT := 0;
9   BEGIN
10      INSERT INTO Reports (
11          reporter_id,
12          reported_to,
13          remarks,
14          report_date,
15          is_resolved,
16          resolved_by,
17          resolved_on,
18          resolve_remark
19      ) VALUES (
20          your_id,
21          user_id,
22          remarks,
23          report_date,
24          is_resolved,
25          NULL,
26          NULL,
27          NULL
28      );
29      SELECT first_name INTO user_name FROM Users WHERE id=user_id;
30      SELECT first_name INTO your_name FROM Users WHERE id=your_id;
31      dbms_output.put_line(your_name || ', you have successfully filed a report against ' || user_name || '!');
32  END;
```
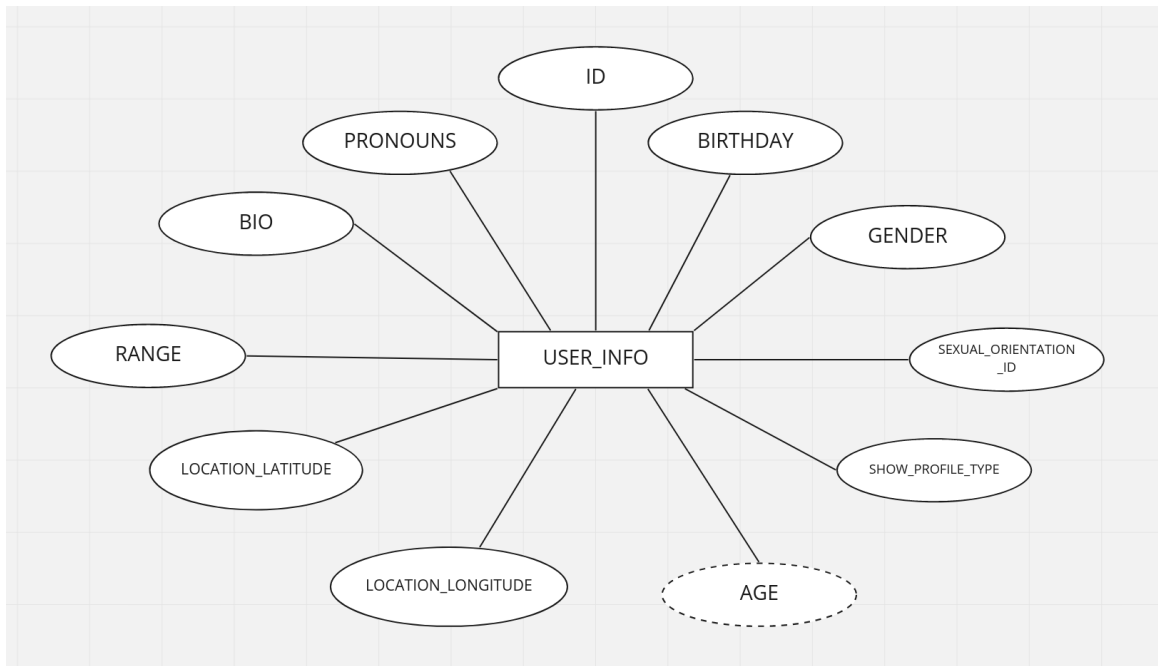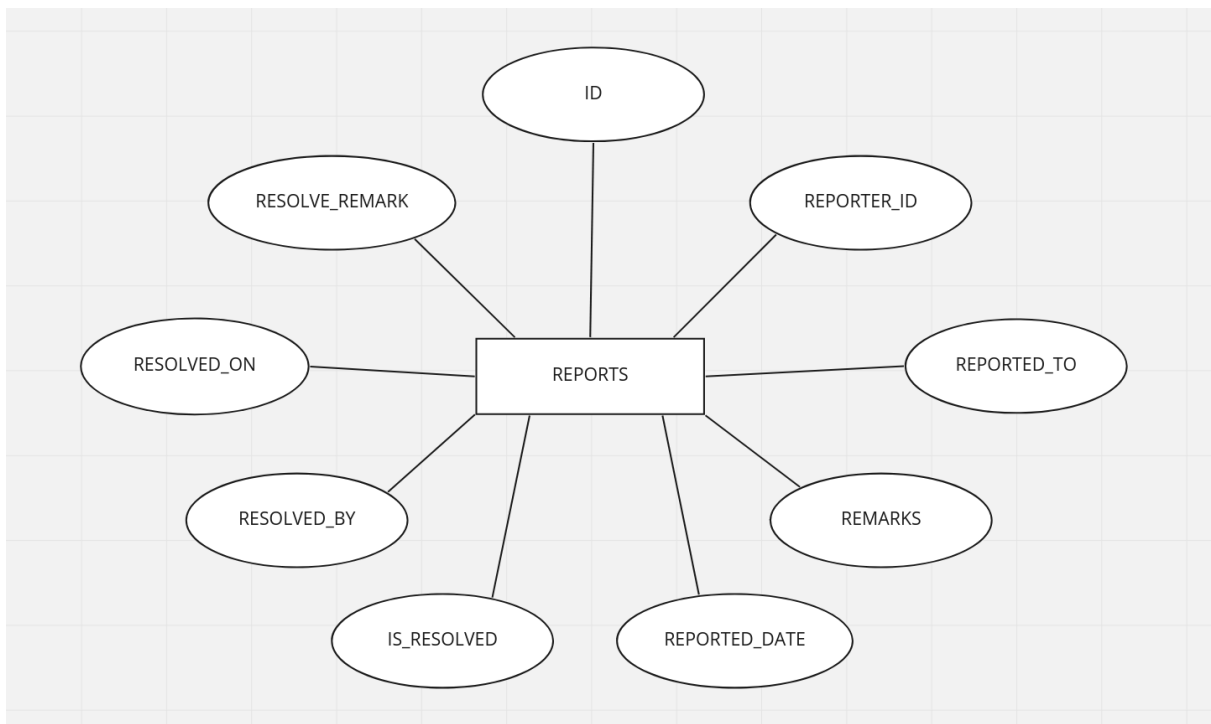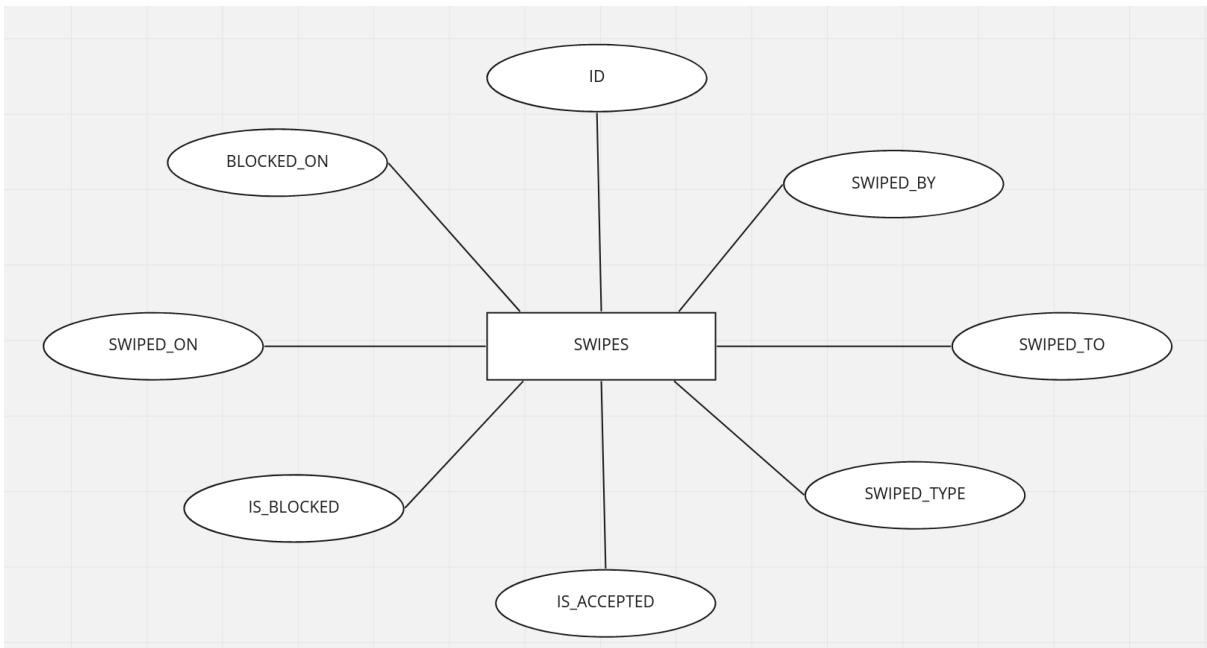
Output

ER DIAGRAMS

USER'S TABLE
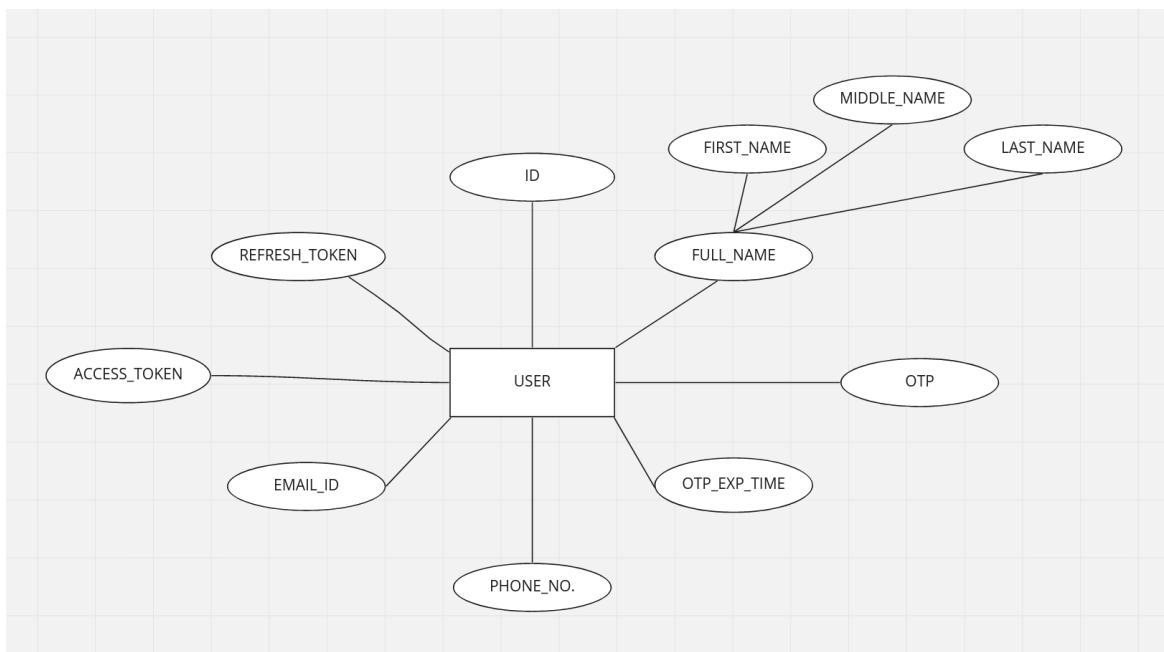
USER INFO TABLE
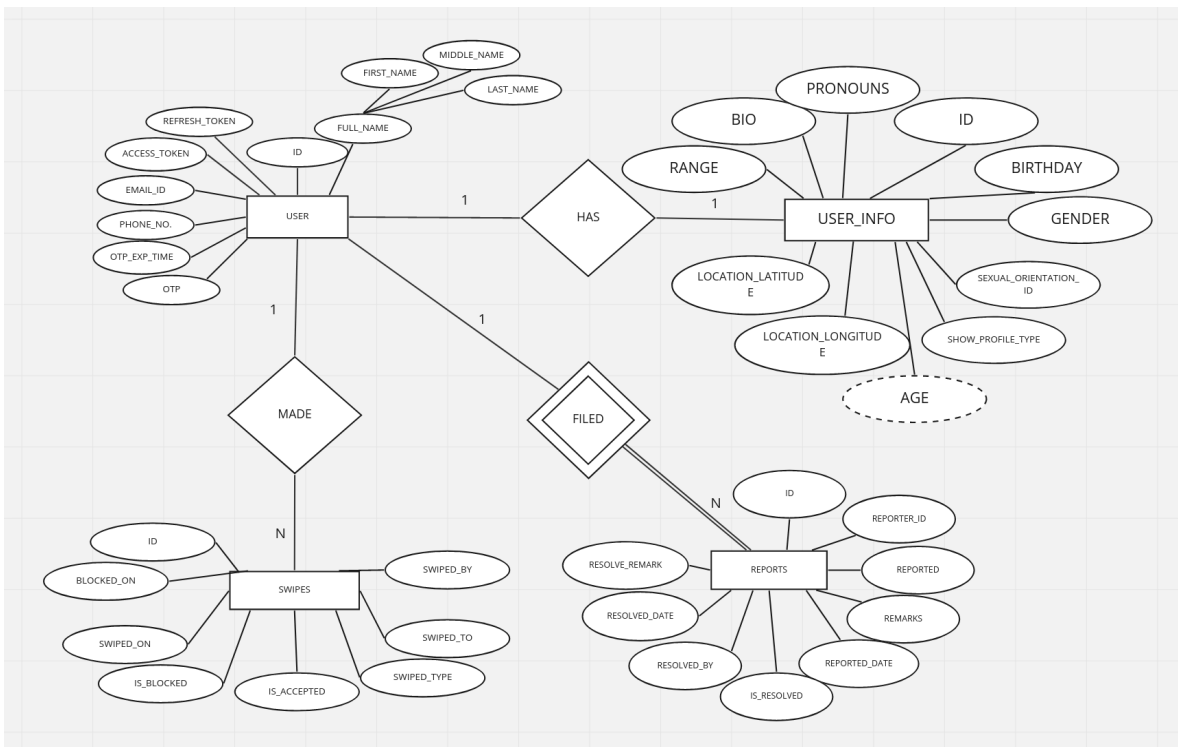
REPORT TABLE

SWIPES TABLE

ER DIAGRAM OF THE SYSTEM

Results and Discussion

In this project, we learned how DBMS enables the efficient and organized storage of data. We learned how data is actually structured, joined, and divided to create a database design that allows us to write efficient and fast queries.

The database of actual online dating applications consists of numerous tables of very complex relationships and joins. Although our design was far from being considered complete, it served its purpose well of learning and familiarising with actual database systems and their applications.

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