Dating App Database Design

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Nowadays, there are so many ways to meet new people and find our life partner. One of the most popular ways is meeting people on dating apps. There are so many dating apps we can find in the app stores. Such as, Tinder, Bumble, Match, Facebook dating, Hinge .ect. There are dozens of them on the internet. How do we know which one is good for you to use and you can find your right person? There are different ways define "right one". Everyone has different feelings about each app, and it can be difficult to evaluate a app. So, I wanted to design this dating app database to analysis and find some helpful information from it.

For this project, my audiences will be the people who want to use date app and looking for using date app to find "right" partner. And my goal for this project is helping people to see which date app is better for you and how you start your date app will help you to find "right" partner, such as start with your profile design, your astrology sign, blood type and job types. There are so many different characters we can see from different people. Also, male and female also have different style in profile setting. From the data I collected from survey form. I found it is very interesting and the outcome was surprise me too.

I collected data from the people I know and there are 35 people filled out my survey form from google. (Here is the link to my google survey form https://docs.google.com/forms/d/e/1FAIpQLSdx0PhLwxHgnKfm0LEXUAGHLmiTSvXQSpoTciLhxx0GkBzFNQ/viewform?usp=sf_link). There are 26 questions in the survey, and I emailed to my classmate, friends, coworker and let them fill it out for me.

Here are the questions I asked in the survey:

1. First name and last name
2. Age
3. Gender
4. Occupation
5. Work type
6. Regular working schedule
7. Blood type
8. Zodiac Sign
9. Race
10. Major dating app using
11. How much time you daily spend on Dating App
12. Level you believe you can find the right person on Dating App
13. Number of pictures on profile
14. Description complete percentage
15. Relationship type looking on Dating App .
16. Interested gender ?
17. Frequency of you meet your matches in person .
18. Do you usually send message first on the Apps after you match with someone ?
19. Are you a heavy texting person (1 is the lowest and 5 is the highest)?
20. Will you send pictures when you communicating with your matches?
21. Will you send audio message when you are texting?
22. How long do you take to share your personal contact with your matches?

23. Do you prefer to meet someone has same religions?

24. Do you link your account to other social media such as Instagram ?

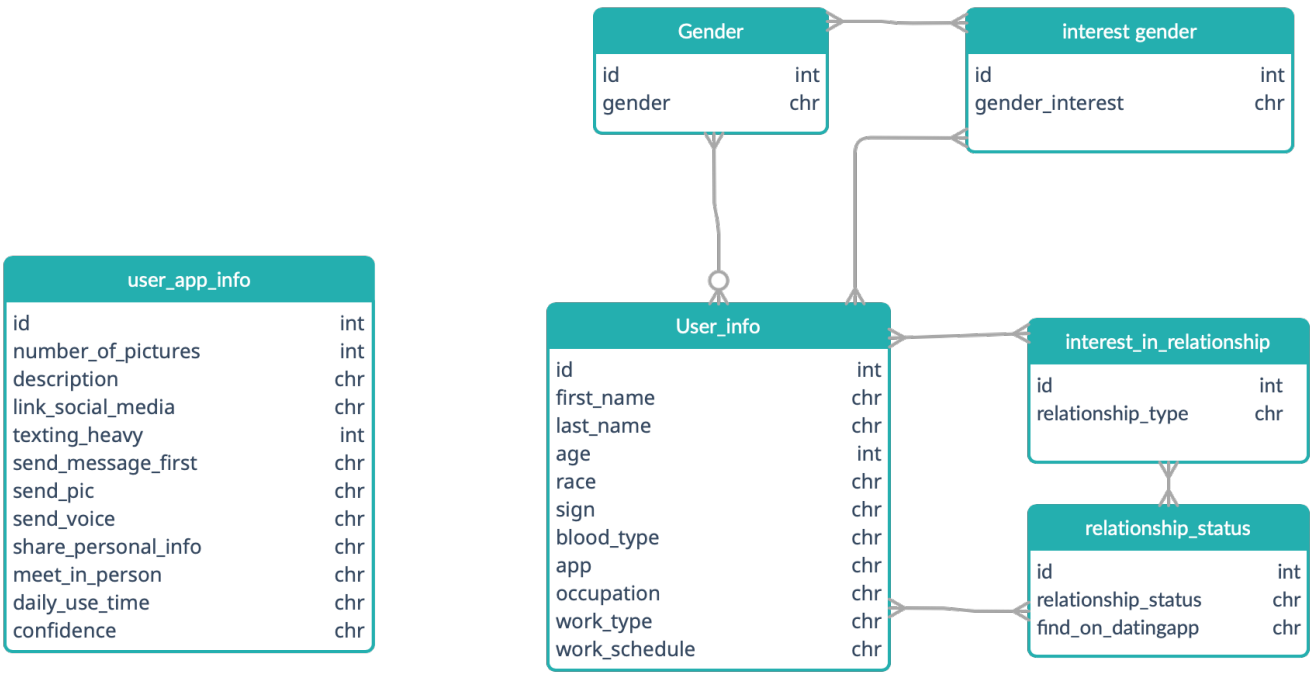
25. Your current relationship status

26. Did you find your “right” person on Dating App ?

I build up my database with these 35 responses. First, I need to clean the data. Actually, the data looked very nice, I only need to change some of them to make them easy to import into my PostgreSQL. For example, there are some people filled out the occupation as a student. Some of them filled in with capital letter ‘S’ and some of them filled in with lower case ‘s’. I need to change them into the same case because SQL is case sensitive.

From the data, I basically separated them into two parts. The first part is User information. The second part is User app information.

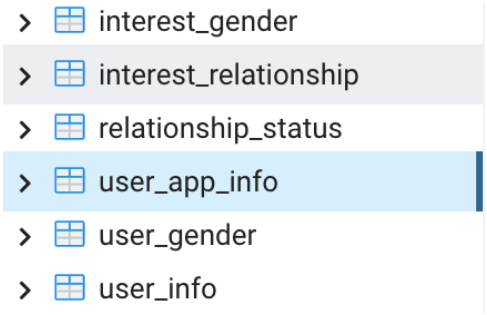
My database schema :



There are going to be Account details table include User ID, first name, last name, gender, age, sign, blood type, identity, race. register time etc. And this will be my master table. User ID will be the primary key to connect tables. I will also need the dating app desire tables, such as what you are looking for on the app and what is the gender you are looking for. Another table will be the details of your profile, such as how many pictures you put on your profile and the complete percentage of your description.

After I have my data and table design ready, I need to import my data into my PostgreSQL.

There are 6 tables in my PostgreSQL. I import the data separately. And my data looks like this:



Now, I need to see what I can find out from this database I build up.

First, I want to how the gender distribution in my database.

I run the query:

```
select gender, count(*)
from user_gender
group by gender
```

Output:

	gender text	count bigint
1	Female	18
2	Male	17

There are 18 female and 17 male in my database.

I also want to see the type of relationship people looking for group by gender.

Query:

```
select interest_relationship,gender,count(*) as number_of_user
from (Select interest_relationship,gender
from user_gender
full Join interest_relationship
on gender_id = id
) as pp
group by interest_relationship,gender
order by gender
```

Output :

	interest_relationship character varying	gender text	number_of_user bigint
1	Casual relationship	Female	5
2	Committed relationship	Female	12
3	Friendships	Female	1
4	Casual relationship	Male	9
5	Committed relationship	Male	6
6	Friendships	Male	2

From the output we can see that there are more female looking for committed relationship than male. There is a higher percentage of the male are looking for casual relationship.

I also want to see the occupation distribution in my database.

Query:

```
select occupation,count(*)
from user_info
group by occupation
```

Output:

10 of people who filled out my survey are students, and others have many different jobs.

I want to see how many people success on app by different gender

Query:

```
select gender,count(gender) as number_of_user,success_on_app
from gender_relationship
group by gender,success_on_app
order by gender
```

Output:

	gender "char" (1)	number_of_user bigint	success_on_app "char" (1)
1	F	14	n
2	F	4	y
3	M	12	n
4	M	5	y

From the output we can see there are 4 females and 5 males successed find “right” person on the Dating App. Total 9 people find “right” person for themselves on the Dating App. And there is 25% of the population find the right person on the Dating App, which is good. If there are 4 people looking for relationship on the Dating App, one of them will find the “right” person.

Now we see what dating app they are using. First, we need to find the Id who has successed find the “right” person on dating app. I am retrieving the id number on my gender_relationship table.

Query:

```
select account_id
from gender_relationship
where success_on_app ='y'
```

Output:

	account_id [PK] numeric
1	1010
2	1013
3	1016
4	1021
5	1025
6	1027
7	1028
8	1032
9	1033

Now, I want to see what Dating App they are using.

Query:

```
select dating_app, count(*) as dating_app_user
from (
select user_app_info_id,dating_app,success_on_app
from user_app_info
full join gender_relationship
on user_app_info_id=account_id
)as pp
where success_on_app='y'
group by dating_app
```

Output:

	dating_app text	dating_app_user bigint
1	Bumble	2
2	Feeld	1
3	Grindr	1
4	Hinge	4
5	Tinder	1

From the output, we can see that there are more Hinge users can find the “right” person on the Dating App. The second place is Bumble.

	dating_app text	dating_app_user bigint	gender "char" (1)
1	Bumble	2	F
2	Feeld	1	M
3	Grindr	1	M
4	Hinge	2	F
5	Hinge	2	M
6	Tinder	1	M

If we add on the distribution on gender, we can see that there is more not really big difference on gender when they are using the same Dating App. As the same time, I don’t have enough data to see if this is true or not. There is a chance that if I have more data, the result will be different.

Now I want to see how the number of pictures , daily use app time and other characters might affect the result.

Query:

```
select *
from (
select *
from user_app_info
full join gender_relationship
on user_app_info_id=account_id
)as pp
where success_on_app='y'
```

For this one we kind of select everything from the table and see the people who find “right” person how their account profile set up look like and the behalf on using Dating App look like.

Output:

	user_app_info_id numeric	dating_app text	daily_use_time text	cofidence text	numer_of_pictures numeric	description text	meet_in_person text	message_first text	texting_heavy numeric	send_picture text
1	1010	Grindr	More than 2 hours	No	3	25%	Often	No	3	yes
2	1013	Bumble	more than 30 mins less than 1 hour	Yes	7	100%	Usual	No	4	yes
3	1016	Feeld	more than 30 mins less than 1 hour	Maybe	3	75%	Usual	No	3	no
4	1021	Hinge	more than 30 mins less than 1 hour	Maybe	4	75%	Few	Yes	4	no
5	1025	Hinge	more than 30 mins less than 1 hour	Yes	6	100%	Often	Yes	4	yes
6	1027	Hinge	less than 30 mins	Maybe	4	50%	Few	Yes	1	no
7	1028	Hinge	more than 30 mins less than 1 hour	Yes	7	100%	Usual	Yes	5	yes
8	1032	Tinder	more than 30 mins less than 1 hour	Yes	7	100%	Usual	Yes	2	yes
9	1033	Bumble	less than 30 mins	Yes	2	100%	Often	Yes	4	yes

send_viocemessage text	days_share_personal_info text	link_social_media text	account_id numeric	gender "char" (1)	reletionship_type text	interested_gender "char" (1)	current_relationship text	success_on_app "char" (1)
no	less than 5 days	No	1010	M	C	M	I	y
yes	less than 5 days	yes	1013	F	C	M	I	y
yes	more than 5 days	yes	1016	M	C	F	E	y
yes	more than 5 days	No	1021	F	C	M	E	y
yes	1 day	yes	1025	M	C	F	E	y
no	less than 5 days	No	1027	M	C	F	S	y
yes	less than 5 days	yes	1028	F	C	M	E	y
yes	1 day	yes	1032	M	C	F	I	y
yes	less than 5 days	yes	1033	F	C	B	E	y

From the output, we can see most of them believe in they are going to find the “right” person for themselves on the Dating App. They often or usual meet the match in person. Majority of them text the match first and they are like texting. I also find that most of them link their social media and they have very much complected profile set up too.

It is very interesting to see they successful user Dating App use behavior looks like. Now, I want to see how their personal information looks like.

Query:

```
select *
from (
select *
from user_info
full join gender_relationship
on  user_app_infoid=account_id)
as pp
where success_on_app='y'
```

Output:

	user_app_infoid numeric	first_name text	last_name text	age numeric	occupation text	work_type text	work_schedule text	blood_type text	zodia_sign text	race text
1	1010	Taylor	g	29	Accoutant	Full time	M-F 9-5	Type O	Capricorn	Asian – A perso
2	1013	duty	dressy	20	student	Part time	M-F 9-5	Don't Know	Aries	White – A perso
3	1016	Jay	Jefferson	24	Walmart associate	Part time	M-F Night shift and Day shift	Type B	Taurus	White – A perso
4	1021	op	pdf	24	teacher	Full time	M-F 9-5	Type AB	Libra	White – A perso
5	1025	ken	m	29	warehouse manager	Full time	M-F Night shift and Day shift	Type AB	Capricorn	White – A perso
6	1027	kjhfiu	sdr	35	police officer	Full time	M-F Night shift and Day shift	Type O	Leo	Black or African
7	1028	koko	l	27	elementary teacher	Full time	M-F 9-5	Type B	Leo	White – A perso
8	1032	redder	deer	25	student	Part time	M-F Night shift and Day shift	Type O	Cancer	Asian – A perso
9	1033	ss	s	21	student	Part time	M-F Night shift and Day shift	Type O	Aries	White – A perso

From the output we can see that majority of them is Type O blood. White people is the big part of people who find “right” person on the Dating App. I want to the how the zodiac sing might have affected this outcome. But I guess there is not enough data, and we couldn’t really tell the difference. I believe if I have collected more data, I can find out more.

From this project, I create my own database and it is very interesting to see how people’s behavior on using Dating App had their personal information will affect the outcome of using Dating App. I wish I can have more data and I can discover more and show the better result.