Maintaining Privacy on Tinder

How to be safe on Dating Platform (DateSafe)

INDRAPRASTHA INSTITUTE *of*
INFORMATION TECHNOLOGY **DELHI**

Starting Stage 2 (After mid-sem exam)

Biggest Challenge

Now are final approach

1. We will be making a code where we can read the text from the screen.
    a. If possible we will be able to make segments from which our code can read the PII as there are specific allotted region in Tinder where name, location and bio is being displayed.
    b. If this is not possible, due to any complications.
        i. Then we will be scraping the website
        ii. Or by manually asking the user to enter the PII which they are able to see.
2. Then that text which is the PII will be saved in a .csv file.
3. Later another code will be reading the .csv file PII elements.
4. Then we will be processing those PII information to make a query for facebook search.
5. If the profile is matched then we will be showing the 2 best fit profiles.

Making Facebook query builder

As we know that Facebook has stopped the search queries to work. So, our team has observed some of the search URL's patterns which will be helping us to make a code that can give facebook URL as outcome and the input will be a FOR loop which will be reading the PII from our stored CSV file.

Like, search a person with name = Manish Kumari
https://www.facebook.com/search/people/?q=manish%20kumari

The highlighted text is fixed in the case of user (name) search.
https://www.facebook.com/search/people/?q=manish**%20**kumari

Similarly making another sort of search URL's

Another example will be what is we know that Manish Kumari lives in **Delhi**
https://www.facebook.com/search/people?q=manish%20kumari&filters=eyJjaXR5Oj
AiOiJ7XCJuYW1lXCI6XCJ1c2Vyc19sb2NhdGlvblwiLFwiYXJnc1wiOlwiMTAyMTYxOT
EzMTU4MjA3XCJ9In0%3D

So, here & implies that we have added another filter and then the furthermore part of the URL is for Delhi (code URL).

Now, we will be making a file in excel file in which all the Cities and their facebook code will be saved.

Like, for Japan it is
eyJjaXR5OjAiOiJ7XCJuYW1lXCI6XCJ1c2Vyc19sb2NhdGlvblwiLFwiYXJnc1wiOlwiMTA2NTE0MDA2MDUzMjUwXCJ9In0

(Keeping TinderGold in mind)

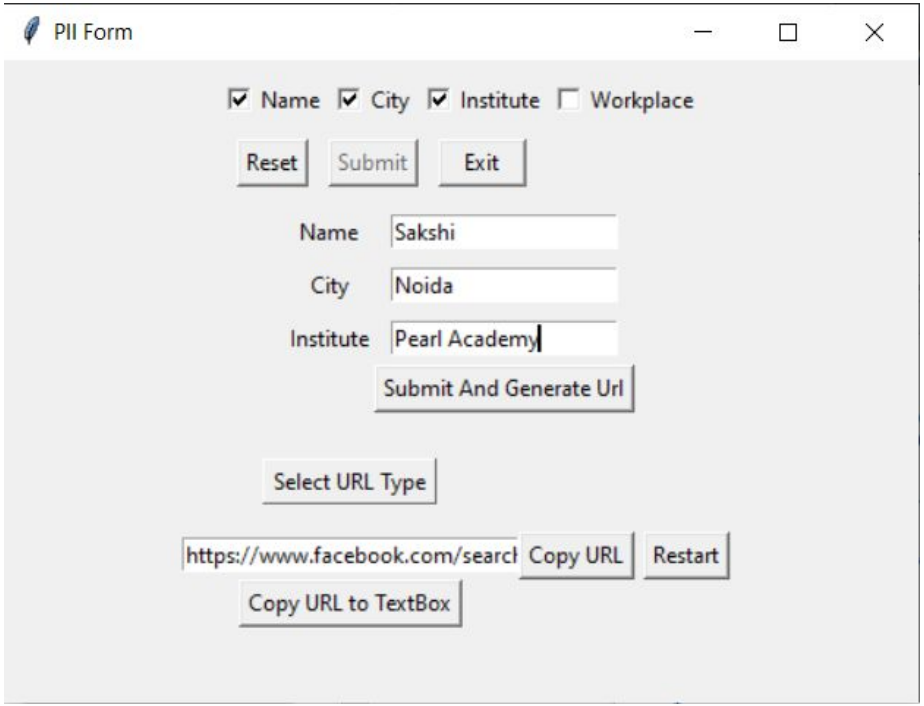
When compared with Delhi's URL
eyJjaXR5OjAiOiJ7XCJuYW1lXCI6XCJ1c2Vyc19sb2NhdGlvblwiLFwiYXJnc1wiOlwiMTAyMTYxOTEzMTU4MjA3XCJ9In0

The highlighted part of the URL is same for every city or country.

After Making Facebook query builder

Now, we will be showing the top best fit profiles that are visible after searching the URL(Facebook query) made by us.

Stage 3: MAking Facebook search URL builder



We made a python code which collects the PII from user directly, we thought of making screen reader but using screen reader will also require the user to ask certain questions.

Like, the user has to mention its location, as in profile the distance shows 1km away but after reading the screen it is not clear that the user is from Noida or Delhi.

Now making a Data set, which consists of all the cities in India

All the educational institutes whether it be school or college

All the workplaces in India

So, this dataset is made manually, which took hours but its still under process.

For some cities and Institutes which were famous, we made filter code python for that.

Challenges

The challenge is that the URL of the facebook filter changes while allotting it 2 filters.

Like, if we have a filter of Delhi having a URL (eyJjaXR5OjAiOiJ7XCJuYW1lXCI6XCJ1c2Vyc19sb2NhdGlvblwiLFwiYXJnc1wiOlwiMTAyMTYxOTEzMTU4MjA3XCJ9In0)

And a filter of IIIT Delhi(eyJzY2hvb2w6MCI6IntcIm5hbWVcIjpcInVzZXJzX3NjaG9vbFwiLFwiYXJnc1wiOlwiMjMxMzg3OTkwMjExNTcyXCJ9In0%3D)

So their combination is different. So, it is really time consuming for us to mention all the filters and making combination of them, like a person who lives in Delhi, and has IIT delhi as its institute then we have to make its combination and store it in CSV file. Similarly for all cities and institutes and workplaces.

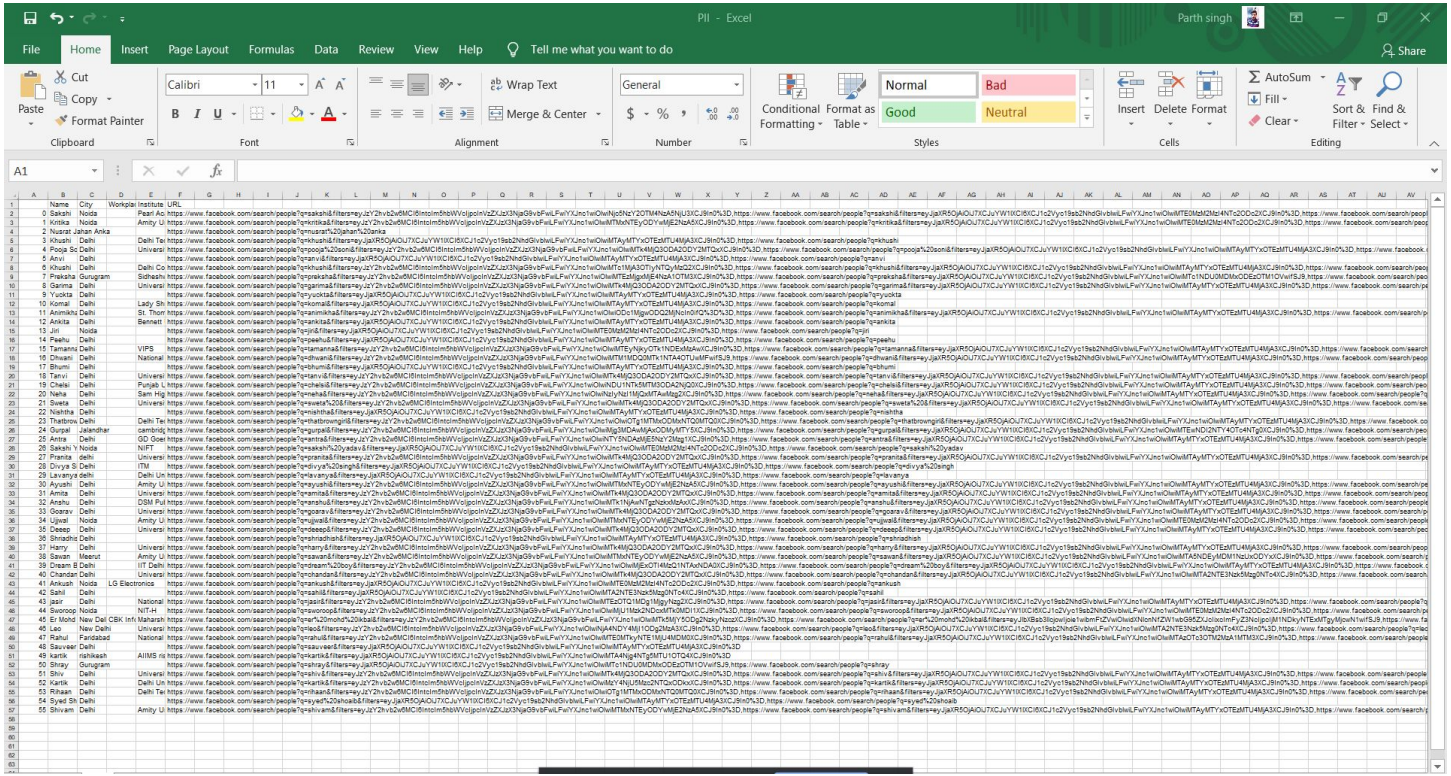
After making the Facebook Search Builder

After building it we maintained the user set of 56 user's. As instructed by PK sir.

After that we have stored all the user information in the CSV file and made the URL and tracked them.

We, also recorded the observation which is in the next slide.

PII Generated from the python code



Python code

FormGenerator.py - C:\Users\Parth Singh\Desktop\project code\PSOSM\PSOSM\FormGenera...

File Edit Format Run Options Window Help

```
                if(instituteVar.get()==1):
                        institute[len(institute)-1]=instituteEntry.get()
                resetFunc(True)

def frame2():
        frame1 = Frame(root)
        frames.append(frame1)
        frame1.pack(pady=10)
        row=0;
        col=0;

        global nameEntry
        global cityEntry
        global workplaceEntry
        global instituteEntry

        if nameVar.get()==1:
                nameLabel = Label(frame1, text="Name", pady=5).grid(row=row, col
                col+=1
                nameEntry = Entry(frame1)
                nameEntry.grid(row=row, column=col)
                col=0
                row+=1
        if cityVar.get()==1:
                cityLabel = Label(frame1, text="City", pady=5).grid(row=row, col
                col+=1
                cityEntry = Entry(frame1)
                cityEntry.grid(row=row, column=col)
                col=0
                row+=1
        if workplaceVar.get()==1:
                workplaceLabel = Label(frame1, text="Workplace", pady=5).grid(ro
                col+=1
                workplaceEntry = Entry(frame1)
                workplaceEntry.grid(row=row, column=col)
                col=0
                row+=1
        if instituteVar.get()==1:
```

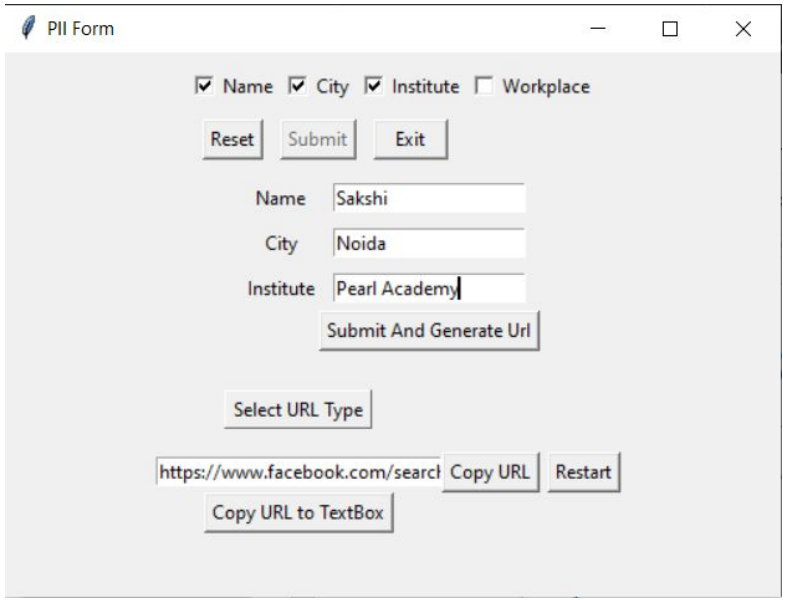
FormGenerator.py - C:\Users\Parth Singh\Desktop\project code\PSOSM\PSOSM\FormGenera...

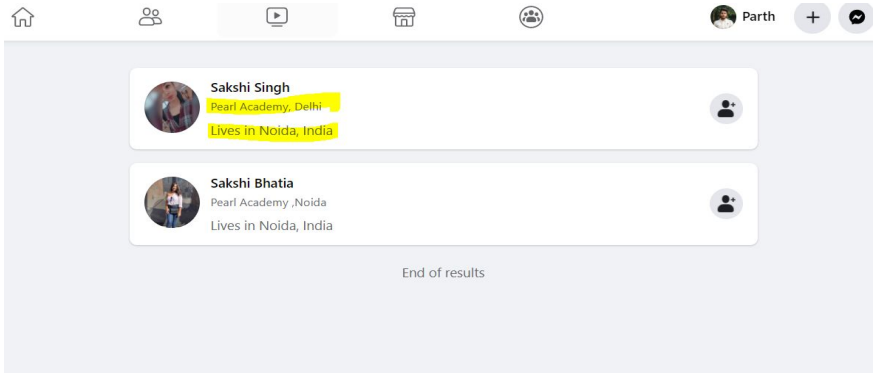
File Edit Format Run Options Window Help

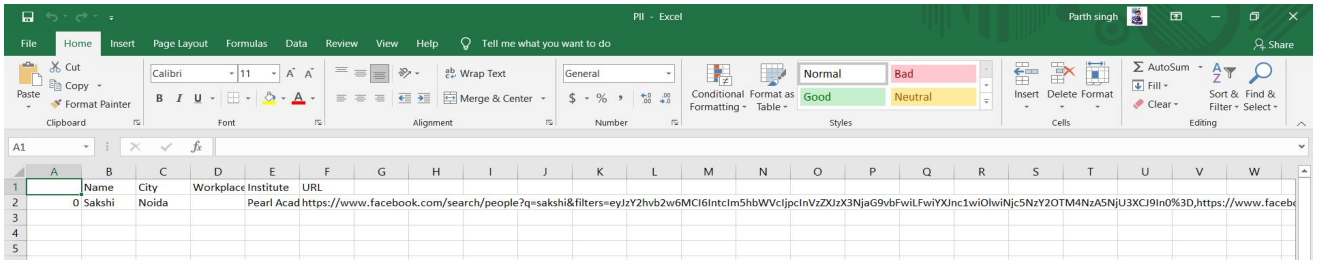
```
        list2 = dfFilters[col2].tolist()
        for i,j in zip(list1, list2):
                if i.lower()==field[len(field)-1].lower():
                        urlList.append(url+j)

def generateURL():
        global url
        url="https://www.facebook.com/search/people?q="
        space="%20"
        filters="&filters="
        nameList=nameEntry.get().lower().split(" ")
        for i in nameList:
                url += i + space
        url = url[0:len(url)-len(space)]

        urlList=[]
        if instituteVar.get()==1:
                addFilters(url+filters, urlList, "Education.csv", "Education", "
        if workplaceVar.get()==1:
                addFilters(url+filters, urlList, "Work.csv", "Work", "Key", work
        if cityVar.get()==1:
                addFilters(url+filters, urlList, "city.csv", "City", "Code", cit

        urlList.append(url)
        url = ""

        for i in urlList:
                url = url+i+","
        url = url[0:len(url)-1]
        URL.append(url)


if path.exists('PII.csv')==False:
        createCSV()
readCSV()
frames=[]

frame1()
root.mainloop()
```

Proofs


Sakshi 22
Fashion designer
Pearl Academy
Woman


PII Form
Name
City
Institute
Workplace
Reset
Submit
Exit
Name
Sakshi
City
Noida
Institute
Pearl Academy
Submit And Generate Url
Select URL Type
https://www.facebook.com/search
Copy URL
Restart
Copy URL to TextBox


Parth
Sakshi Singh
Pearl Academy, Delhi
Lives in Noida, India
Sakshi Bhatia
Pearl Academy ,Noida
Lives in Noida, India
End of results


PII - Excel
Parth singh
File
Home
Insert
Page Layout
Formulas
Data
Review
View
Help
Tell me what you want to do
Share
Paste
Cut
Copy
Format Painter
Clipboard
Calibri
11
Font
Wrap Text
Merge & Center
Alignment
General
Number
Conditional Formatting
Format as Table
Normal
Bad
Good
Neutral
Styles
Insert
Delete
Format
Cells
AutoSum
Fill
Clear
Sort & Filter
Find & Select
Editing
A1
Name
City
Workplace
Institute
URL
0
Sakshi
Noida
Pearl Acad
https://www.facebook.com/search/people?q=sakshi&filters=eyJzY2hvb2w6MCI6InRcIm5hbWVcIjpcInVzZXJzX3NjaG9vbFwiLFwiYXJnc1wiOlwiNjc5NzY2OTM4NzA5NjU3XCJ9In0%3D,https://www.faceb

Observation

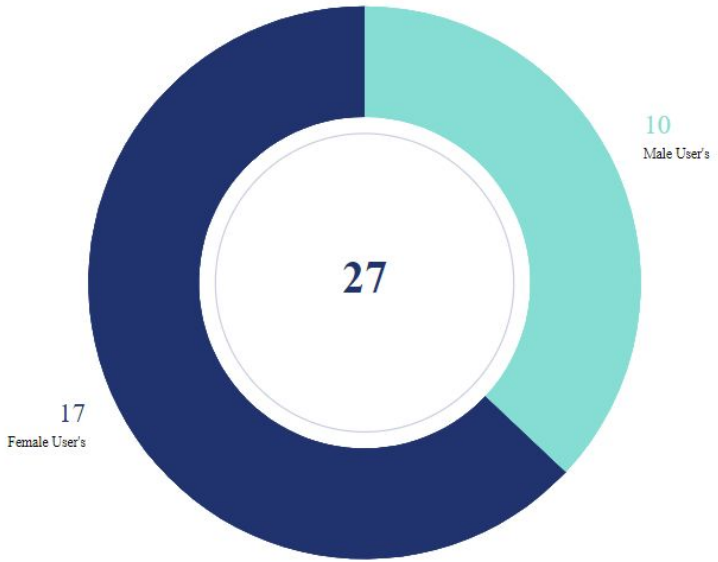
We were able to find the following ratio of the users

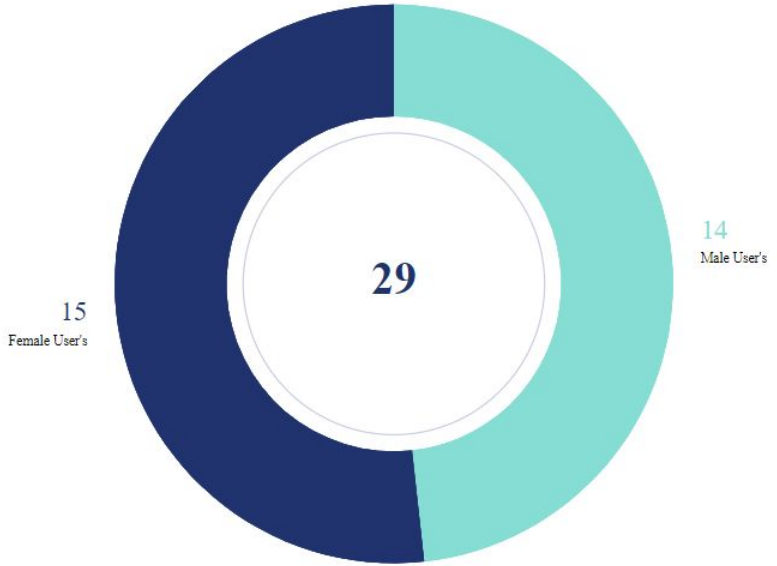
Girls: 17 out of 32 profiles (53% female)

Boys: 10 out of 24 profiles (42% male)

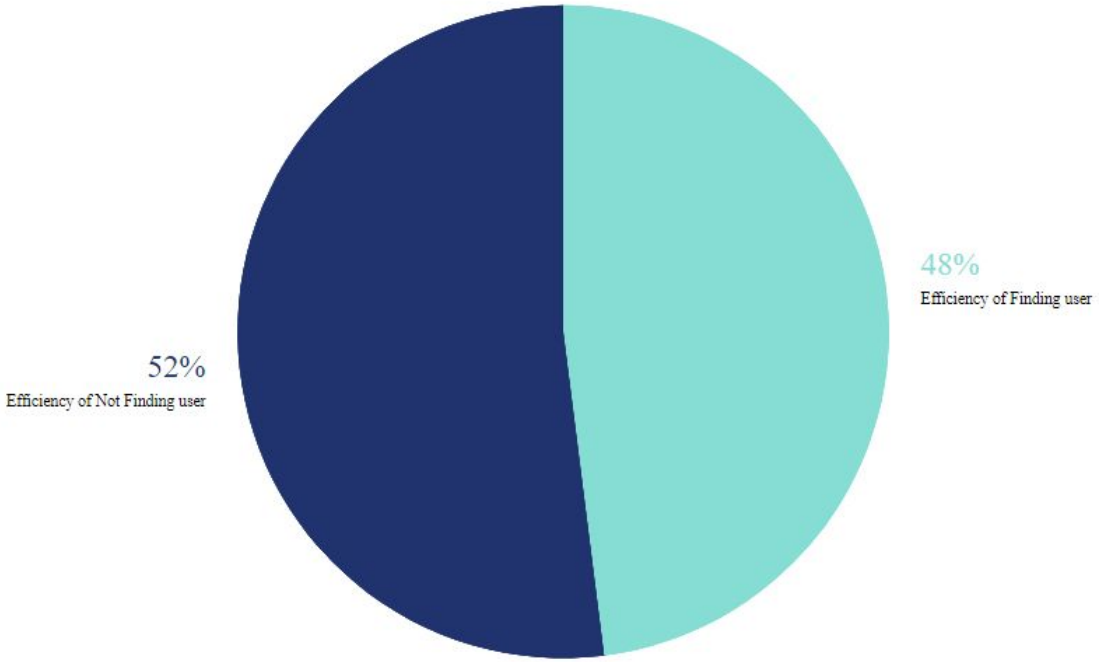
The ratio of boys are less as compared to the girls found. The major reason can be that girls tend to make themselves updated and more active on social media rather than boys.

Number of User’s Found vs Number of User’s Not Found





Efficiency


48%
Efficiency of Finding user
52%
Efficiency of Not Finding user

Goal

We will be making combinations of the two filters (education and workplace), which will make our dataset huge enough.

This will increase our accuracy.

Making our result percentage of user’s found upto 65 percent (just an assumption, it could be more or less)

New

How can anyone maintain their privacy?

If I am able to track the user’s on Tinder to their social media, its obvious that their privacy is not maintained.

User Privacy Guide

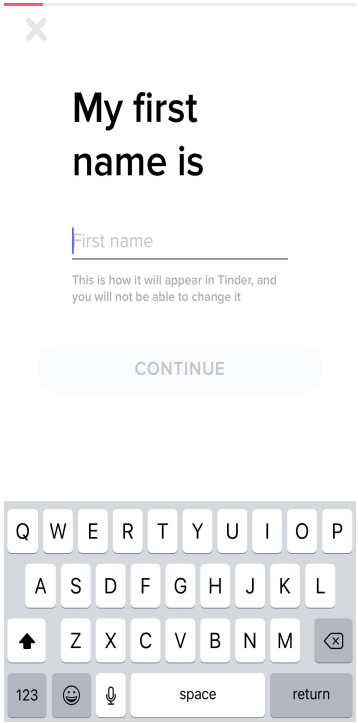
The user can maintain their privacy by following these 2 rules.

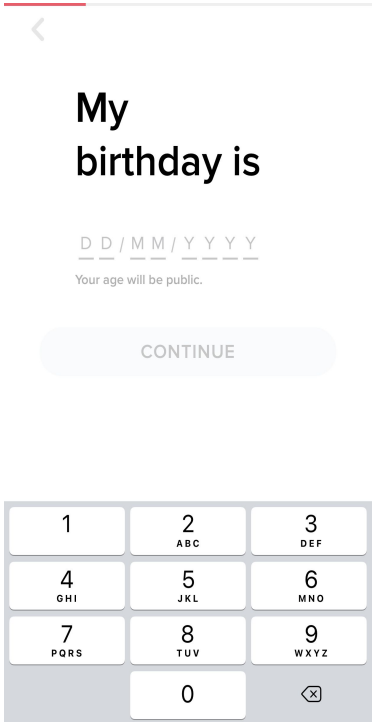
1. Pre-registration
2. After-Registration

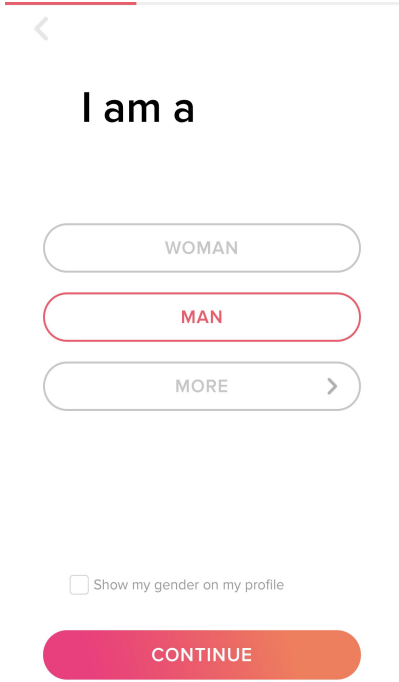
In Pre-registration, the user has to provide their PII to Tinder for profile making purpose. So, the user can even give their nicknames, their wrong age.

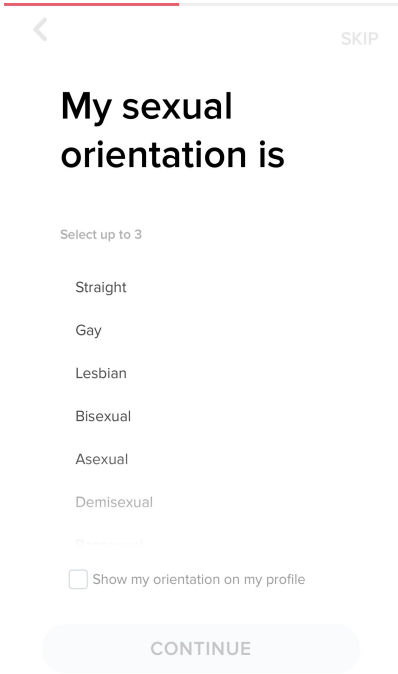
Providing with their school or institution is another mistake what user’s commit.

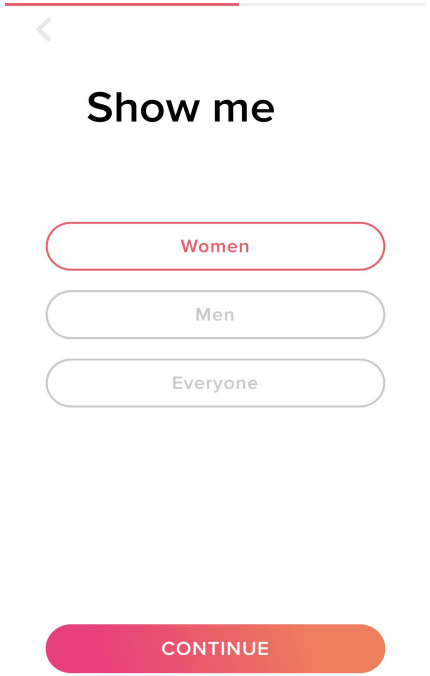
Pre-Registration: Personal Details That Tinder collects from the user

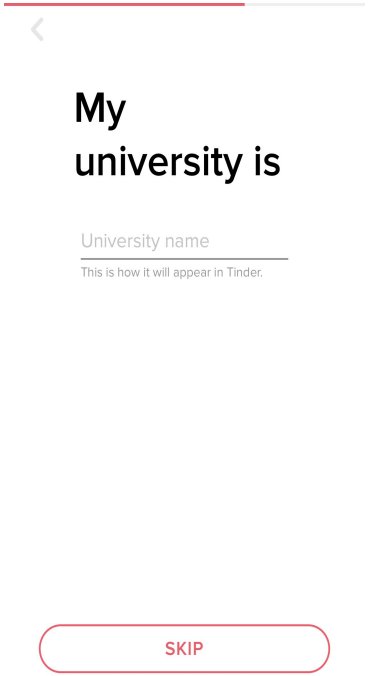


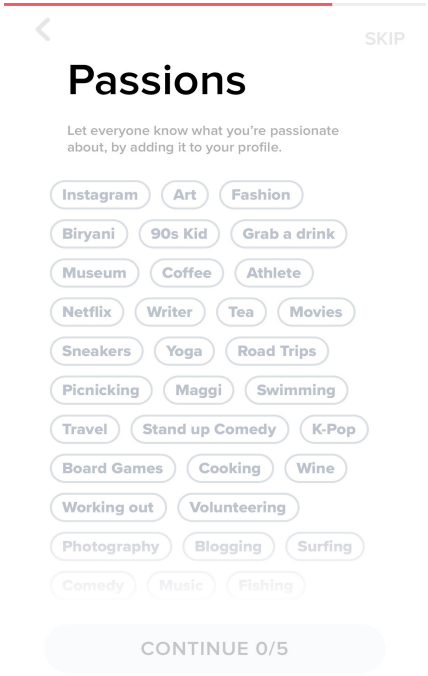







Show me
Women
Men
Everyone
CONTINUE


My university is
University name
This is how it will appear in Tinder.
SKIP


SKIP
Passions
Let everyone know what you're passionate about, by adding it to your profile.
Instagram
Art
Fashion
Biryani
90s Kid
Grab a drink
Museum
Coffee
Athlete
Netflix
Writer
Tea
Movies
Sneakers
Yoga
Road Trips
Picnicking
Maggi
Swimming
Travel
Stand up Comedy
K-Pop
Board Games
Cooking
Wine
Working out
Volunteering
Photography
Blogging
Surfing
Comedy
Music
Fishing
CONTINUE 0/5

After Registration

Here, the user needs to follow these norms.

There can be a case where amongst those 5 profiles, someone does not want anybody to track them on social media, then they should get their eyes on this.

1. Do not link the instagram, if you do not want to get recognized on social platforms easily.
2. Do not put social media handles in bio, just to avoid unwanted texts and requests.
3. Do think about your privacy when you are filling in the details that Tinder asks you to fill before setting up your profile. (Pre-Registration)
4. Try not to enter your surname. That gives the user a strong chance to get your social media handle.
5. Do not use the same profile pic(on Facebook and Instagram) that you have uploaded on Tinder.

Psychological reason for demand of this

1. Our target audience are the people who found some profile really attractive and that user wants him or her to approach directly. Rather than waiting for him or her to right wipe them.
2. Users will use our code to check whether the profile they are interested in is genuine or not. If the profile has a match on Facebook and that too with exact same PII (including education history) then there is a very very less chance of that profile to be fake.

Psychological reason for demand of this (contt.)

3. Mostly people prefer not showing themselves or their social media handles on their Tinder profile. The reason behind this can be that the user does not want to be recognized by someone known or the user does not want the opposite person to see their mutual friends on social media platforms. As sometimes, it is embarrassing for some people to commit publicly that they are on a dating site.

Maintaining Privacy on Tinder

How to be safe on Dating Platform

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