

Project Outline and Scope

'Spero' means Trust in Italian, Sperrow name comes from amalgamation of words Spero and Sparrow.

What is the problem?

Domain: Fake News

Platform: Twitter 

Problem Definition: Discourage a user from spreading potential fake news on social media platforms.

1. The credibility of posts or accounts on social media has always been a topic of concern. **Public figures** have **verified** accounts, but they **constitute only a small fraction** of the total user base on any available platform.
2. The considerable chunk is the "**Other**" crowd, and the line between what is trustworthy and what is not is blurry. An equally important question is whether you as a user might reveal more information than you intend to.
3. Flagging fake content isn't always enough and is rather challenging in real-time, as **accounts that spread such content would continue to do so**, and due to the volatile nature of such information, people would tend to follow such posts. After a while, the distinction between what is fake and what is not is no longer clear.

Motivation and Target Audience:

1. Our motivation is to **discourage the spread of fake news**. In today's world, Twitter and other social media platforms have **become a hothouse for false news dissemination**.
2. Fake news often leads to widespread violence and blinds people to see through the false stories towards "**the obvious truth**".
3. Thus our target audience is every common man. It empowers them to check the cross-check facts of a post a user comes across or is about to post.
4. This way of **encouraging a user of fact-checking themselves is the perfect balance between the spectrum** of not having a system in place at all and having a strict system censoring and removing the content entirely
5. This also should instill a **sense of responsibility** amongst the users as well, as they are given all the facts and the post they want to follow, and is left to the user's discretion whether to further share or post about it or not.

Initial Survey

How often you see fake news on social media?

124 responses

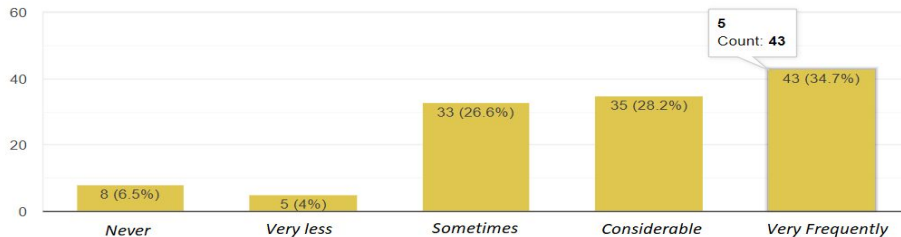


Fig 1: User Feedback on how often they encounter fake news

How likely are you to change the content of your tweet if given with facts?

40 responses

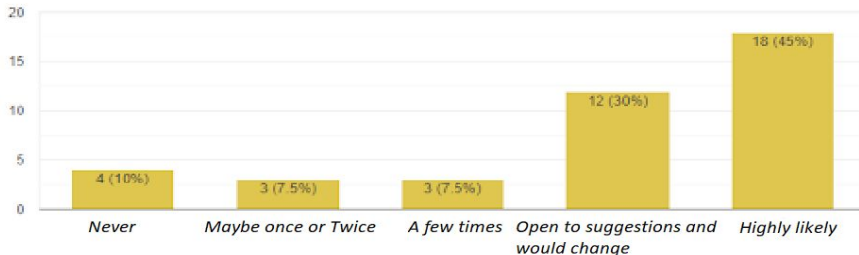


Fig 2: User Feedback on how likely they are to change what they are about to post if given with the correct facts

We surveyed **around 45-50 people** about their experience on social media, and how often people find fake news. Some of the key insights from the review are discussed below

Over **62.9% of people agree strongly** (4 more or points) with frequent **encounters with fake news on online platforms**.

Over 75% of the total number of people surveyed, said they would be more than **willing to change the content of the tweet** they are about to post **if they are presented with information about the event** they're posting about before they actually post it.

Proposed Solution:

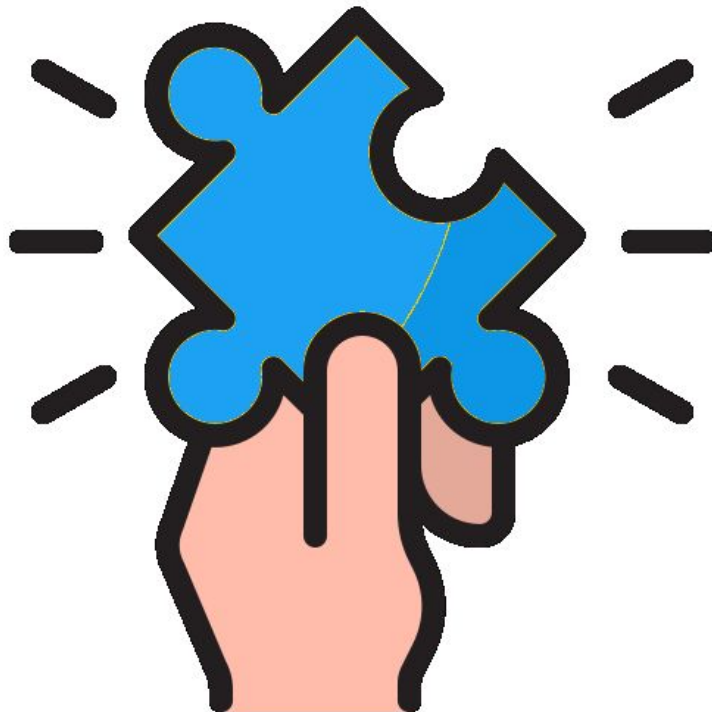
To curb the spread of fake news, we wanted to give the user a **passive nudge**.

This nudge would be in the form of **summaries of news articles corresponding to the event the user is posting about crawled from the web**.

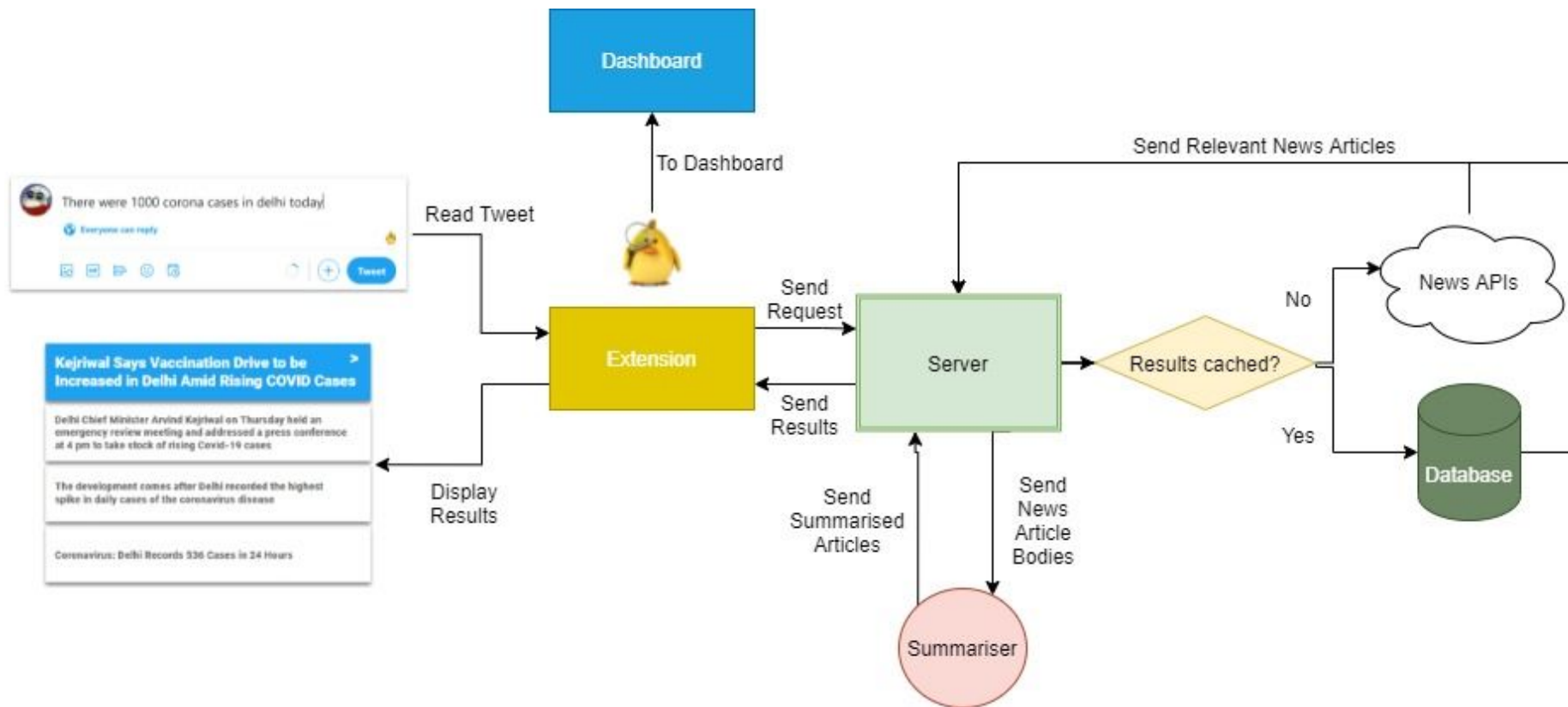
This is displayed just beneath the actual tweet the user is about to post.

That's it, the **extension does not instruct neither recommends the user certain changes, but rather just passively lays out useful facts** in an easy to read and comprehensible way.

This way, we encourage **self aware fact checking**, and since real time automated fact checking is a difficult task, the proposed solution encourages user participation in tackling an otherwise hard problem



Working of the Extension



Step by Step Process

Of Sperrow

A tweet is drafted



There were 1000 corona cases in delhi today|

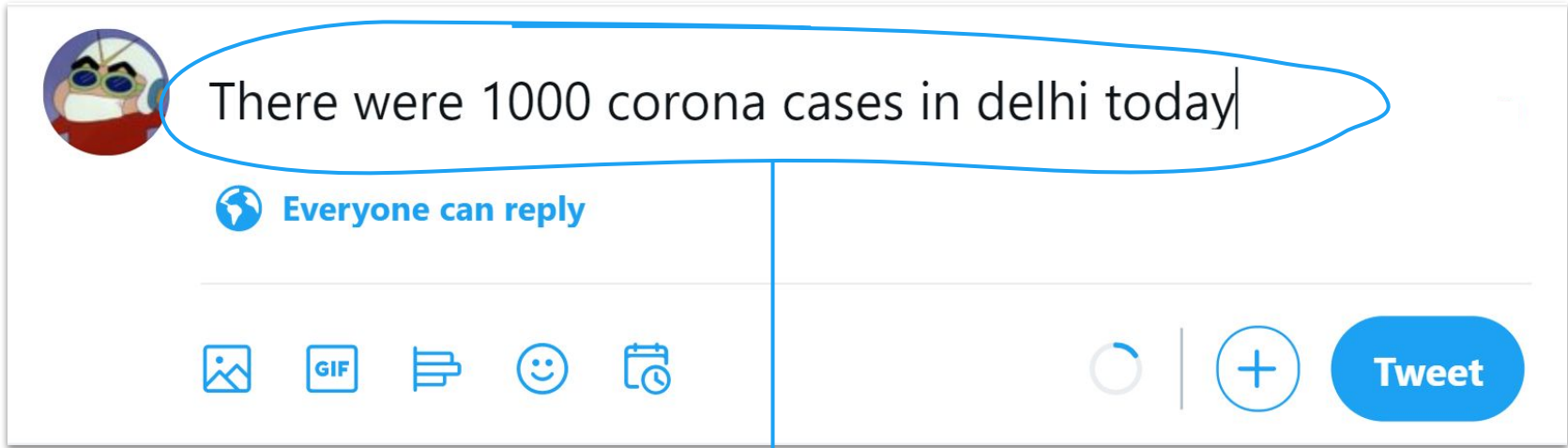


Everyone can reply



Tweet

Extension reads the contents of the tweet



Keywords



There were 1000 corona cases in delhi today



Everyone can reply



Tweet

Keywords are searched across the web



corona cases delhi



Q All

News

Shopping

Images

Maps

More

Settings

Tools

NDTV

LIVE TV

LATEST

ELECTIONS

CORONA

INDIA

VIDEO

OPINION

WORLD

CITIES

OFFBEAT

TRENDS



Advertisement

Advertisement for Zomato featuring Haldiram's Gujiya & Thandai. The banner includes the text "Gujiya & Thandai exclusively on zomato", "ORDER NOW", and "Milne ka Meetha Bahana". It also shows images of the food and a box of Thandai Kesaria.

corona cases delhi

GO

Advertisement

Big Story



Advertisement for Zomato featuring Haldiram's Gujiya & Thandai. The banner includes the text "Gujiya & Thandai" and shows images of the food and a box of Thandai Kesaria.

Kejriwal Says Vaccination Drive to be Increased in Delhi Amid Rising COVID Cases | Highlights

The meeting will be attended by Delhi Health Minister Satyendar Jain, the health secretary and other officials, wherein it's expected that some interim measures could be announced.

Updated: March 18, 2021 4:18 PM IST

By India.com News Desk

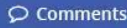
Edited by Ritu Singh



Share



Tweet



Comments



Delhi Chief Minister Arvind Kejriwal is expected to hold an emergency review meeting on Thursday/Source: PTI

Top articles from reliable websites are fetched

New Delhi: Delhi Chief Minister Arvind Kejriwal on Thursday held an emergency review meeting and addressed a press conference at 4 pm to take stock of rising Covid-19 cases in the national capital. The meeting was attended by Delhi Health Minister Satyendar Jain, the health secretary and other officials. The development comes after Delhi recorded the highest spike in daily cases of the coronavirus disease (Covid-19) in more than two months, as per an ANI report. [Also Read - Coronavirus: Delhi Records 536 Cases in 24 Hours; Centre Says Pandemic Now in Tier II, III Cities | Key Points](#)

Reliable - Predetermined sources such as News Websites/ Verified handles etc.

Title of the Article is fetched

**Title : Kejriwal Says Vaccination
Drive to be Increased in Delhi
Amid Rising COVID Cases**

Kejriwal Says Vaccination Drive to be Increased in Delhi Amid Rising COVID Cases | Highlights

The meeting will be attended by Delhi Health Minister Satyendar Jain, the health secretary and other officials, wherein it's expected that some interim measures could be announced.

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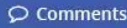
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Share



Tweet



Comments



Delhi Chief Minister Arvind Kejriwal is expected to hold an emergency review meeting on Thursday/Source: PTI

These are the key facts from the article

New Delhi: Delhi Chief Minister Arvind Kejriwal on Thursday held an emergency review meeting and addressed a press conference at 4 pm to take stock of rising Covid-19 cases in the national capital. The meeting was attended by Delhi Health Minister Satyendar Jain, the health secretary and other officials. The development comes after Delhi recorded the highest spike in daily cases of the coronavirus disease (Covid-19) in more than two months, as per an ANI report. [Also Read - Coronavirus: Delhi Records 536 Cases in 24 Hours; Centre Says Pandemic Now in Tier II, III Cities | Key Points](#)

Key facts are highlighted and extracted

New Delhi: Delhi Chief Minister Arvind Kejriwal on Thursday held an emergency review meeting and addressed a press conference at 4 pm to take stock of rising Covid-19 cases in the national capital. The meeting was attended by Delhi Health Minister Satyendar Jain, the health secretary and other officials. The development comes after Delhi recorded the highest spike in daily cases of the coronavirus disease (Covid-19) in more than two months, as per an ANI report. [Also Read - Coronavirus: Delhi Records 536 Cases in 24 Hours; Centre Says Pandemic Now in Tier II, III Cities | Key Points](#)




Extractive Text Summarisation

Body of the Article


- 1. Delhi Chief Minister Arvind Kejriwal on Thursday held an emergency review meeting and addressed a press conference at 4 pm to take stock of rising Covid-19 cases**
- 2. The development comes after Delhi recorded the highest spike in daily cases of the coronavirus disease**
- 3. Coronavirus: Delhi Records 536 Cases in 24 Hours**


**A number of such
articles are fetched
and summarised**






A summary of the relevant article(s) is displayed just beside the tweet about to be posted





There were 1000 corona cases in delhi today|

 Everyone can reply



 | 

Tweet

Kejriwal Says Vaccination Drive to be Increased in Delhi Amid Rising COVID Cases >

Delhi Chief Minister Arvind Kejriwal on Thursday held an emergency review meeting and addressed a press conference at 4 pm to take stock of rising Covid-19 cases

The development comes after Delhi recorded the highest spike in daily cases of the coronavirus disease

Coronavirus: Delhi Records 536 Cases in 24 Hours

**What if someone, by mistake is going to post
false information about some event??**

In the summary, he will get to know about facts and news related to his tweet, hence can correct her/his information.

Don't match, but now user know that he is entering some false information



India Won match by 7 wickets, Ishan and Kohli played wonderful knocks.

India beat England by 7 wickets in 2nd T20I in Ahmedabad to level series 1-1 . Captain Virat Kohli top-scored with 73 not out from 49 balls with 5 fours and 3 sixes . Debutant Ishan Kishan scored 56 off just 32 balls in his first International match

India rode on superb knocks from captain Virat Kohli and debutant Ishan Kishan to gun down 165 in 17.5 overs to win by 7 wickets in the 2nd T20I in Ahmedabad.

India vs England: Sehwag also underlined the fact that a performance like from the top-order batter takes the pressure off other players in the team.

Articles based on the most searched topics are summarised and presented on the User dashboard

#Corona

Kejriwal Says Vaccination Drive to be Increased in Delhi Amid Rising COVID Cases >

Delhi Chief Minister Arvind Kejriwal on Thursday held an emergency review meeting and addressed a press conference at 4 pm to take stock of rising Covid-19 cases

The development comes after Delhi recorded the highest spike in daily cases of the coronavirus disease

Coronavirus: Delhi Records 536 Cases in 24 Hours

#Lockdown

Covid-19: 1-day lockdown in Bhopal, Indore and Jabalpur on March 21 >

the Madhya Pradesh government on Friday announced a one-day lockdown in three cities - Indore, Bhopal and Jabalpur - on March 21

These three cities have been chosen because the positivity rate is more than 5 per cent here, a home department official said

Indore and Bhopal have been under night curfew since March 15 (which is in place from 10pm to 6am). Only essential services - ration shops and eateries - are allowed to function during this period

#Earthquake

Strong earthquake shakes Japan; USGS says 7.2 >

Japan on Saturday experienced a strong earthquake that shook buildings in the capital, Tokyo, and triggered a tsunami warning for the country's northeast coast

The U.S. Geological Survey put the strength at magnitude 7.2

Its epicenter was off the coast of Miyagi prefecture, which was heavily damaged during the huge earthquake and tsunami of 2011

#ImranKhan

Pakistan PM Imran Khan tests positive for Covid-19 days after taking Chinese vaccine dose >

Pakistan Prime Minister Imran Khan tested positive for Covid-19 on Saturday, two days after he took the first shot of a Covid-19 vaccine developed by China

Imran Khan took the first dose of Chinese coronavirus vaccine Sinopharm.

Pakistan's Ministry of National Health Services has issued a statement saying Imran Khan was not fully vaccinated when he contracted the virus

Evaluation

The extension in action (picture from one of our users)

The screenshot shows the Twitter home page interface. The left sidebar contains navigation links: Home, Explore, Notifications, Messages, Bookmarks, Lists, Profile, and More. A blue 'Tweet' button is located below the 'More' link. The main content area is titled 'Home' and displays a tweet from a user with a blacked-out profile picture. The tweet text reads: 'Dhoni's parents are covid negative'. Below the tweet, there is a section titled 'MS Dhoni's parents, father Pan Singh and mother Devika Devi, have been admitted to a private hospital after testing positive for Covid-19. The level of oxygen content of the duo is currently within the prescribed limits. Dhoni is currently in Mumbai playing for Chennai Super Kings in the IPL.' Below this text is a 'Dashboard' tab. The right sidebar features a search bar, a 'What's happening' section with trending topics like 'Indian Premier League - LIVE', '#GetWellSoonPM', and '#Murderer_Modi', and a 'Who to follow' section with a user named '@MWLOrg'.

Home

Dhoni's parents are covid negative

Everyone can reply

MS Dhoni's parents, father Pan Singh and mother Devika Devi, have been admitted to a private hospital after testing positive for Covid-19. The level of oxygen content of the duo is currently within the prescribed limits. Dhoni is currently in Mumbai playing for Chennai Super Kings in the IPL.

Dashboard

Apr 23

Dhoni's parents admitted to a hospital at Ranchi. #dhoniparents #Dhoni #CovidIndia

Apr 23

Bitcoin went below 50k dollars, crypto's worst phase. #Bitcoin #cryptocurrency

Apr 23

UAE stops flights from India due to record COVID cases. #travelban #WearMask

Apr 22

EC bans election rallies, roadshows in Bengal amid Covid surge #StayHome #StaySafeStayHealthy #COVIDEmergency2021

Search Twitter

What's happening

Indian Premier League - LIVE

IPL2021: Sunrisers Hyderabad take on Delhi Capitals in Chennai

Trending in India

#GetWellSoonPM

85.5K Tweets

Politics · Trending

#Murderer_Modi

Trending with #मोदी_का_सोदमर_मोदी, #indianeedoxygen

Indian Premier League · 3 hours ago

IPL2021: CSK's Ravindra Jadeja records the most expensive 20th over in IPL

Trending with Vintage RCB, #jadeja

EFL Cup Final - LIVE

Carabao Cup Final: Manchester City vs Tottenham Hotspur

Trending with #CarabaoCupFinal, #MCITOT

Show more

Who to follow

رابطة العالم الإسلامي @MWLOrg

Follow

Promoted

Metrics for Evaluation

1. Number of times changes were made in the tweet being posted based on the summary given (**M1**)
2. The number of times the given summary was relevant to what is being posted (**M2**)
3. The number of posts made by the people using the extension (**M3**)
4. How useful was the dashboard for the users (out of 5) (**M4**)

User ID	Age	Gender	Duration Used (Days)	M1	M2	M3	M4
P1	20	M	5	5	8	10	4
P2	46	F	3	0	0	0	3.5
P3	16	M	3	2	2	3	4.5
P4	28	F	5	4	6	6	4
P5	20	M	4	3	4	4	4

Key Insights from the feedbacks

1. **1** Person did not post at all :(
2. Rest **4** did post, and **86%** of the time the summary given to them was relevant.
3. Mostly irrelevant summaries are displayed for Personal Tweets.

1. Out of the times the summary was relevant **70%** times users changed what they were about to post.
2. The average rating the web app got was **4**, thus most users found the web app to be complimenting the way the extension helped them post more aware content.
3. All the 5 users used the web app **3-5 times during the period** but most found the installation process have to be cumbersome. Due to resources crunch, we can' host it right now (Models have embeddings of 2+ GBs). This problem can be solved as we move forward and get resources.

1. The one person that did not post anything :(and forgot about the extension was aged **above 40**. They did not use Twitter that often and thus their activity reflects this. This can be the general case given most elder people are not that into posting regularly
2. **3** that did make more than 1 average post per day were between **20-30 years** old
3. Only **1** person changed all his tweets given the summary. The age of this participant was 16, it could be because they were told to use the app in a way, so they did so, but otherwise it can also be the age that they might believe in what they read from a news site.

Feedback From Users

“Nice tool!, Helped me to fact check info. I deliberately feeded few wrong info, still tool was able to show me correct picture of overall argument. Suggestion: It is still not detailing the minute things about my tweet, and showing broad picture, maybe you can work on that”

“I really enjoyed this tool. But it still seems like under development. Requires significant effort to setup tool on system. Idea seems very useful to me. It would be great if you host this system, and make installation easy”

“Need work on UI. Once UI is settled, tool has potential to serve community and make people aware. It is not forcing me saying whatever I have written is false, suggesting me the whole content, which is good subtle nudge for user, fresh way to tackle fake news.”

“New concept for me, still digesting, How useful it can be? Still a question for me. But I believe this tool can be leveraged into something very interesting. Also setup is tough, please host it before going for large test. Setup requires effort”

Some of the tweets that were changed



[Redacted] · Apr 21




Oxygen tank leak at Nashik hospital, 22 die. [#COVID19India](#) [#WearMask](#)



[Redacted] · Apr 23



Bitcoin went below 50k dollars, crypto's worst phase. [#Bitcoin](#) 
[#cryptocurrency](#)



[Redacted] · 22h



348 deaths in the last 24 hours in Delhi, the horrifying scenario of COVID is upon us, the only thing we can do is stay at home, wash hands, use sanitisers and wear masks. I request everyone to adhere to these protocols
[#COVID19](#) [#DelhiCovid](#) [#CovidIndia](#)



*These screenshots were given by the people who were using the app. The usernames have been blurred out as in the feedback we agreed not to disclose the handles

Drawbacks in the Evaluation

1. The method only evaluates people who are capable of setting up and running the entire code base.
2. The observation period was only 5 days long
3. Only a few people participated in the evaluation, so the results may be biased.
4. The period of observation was very small, and so doesn't represent actual use cases.

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Data Handling
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