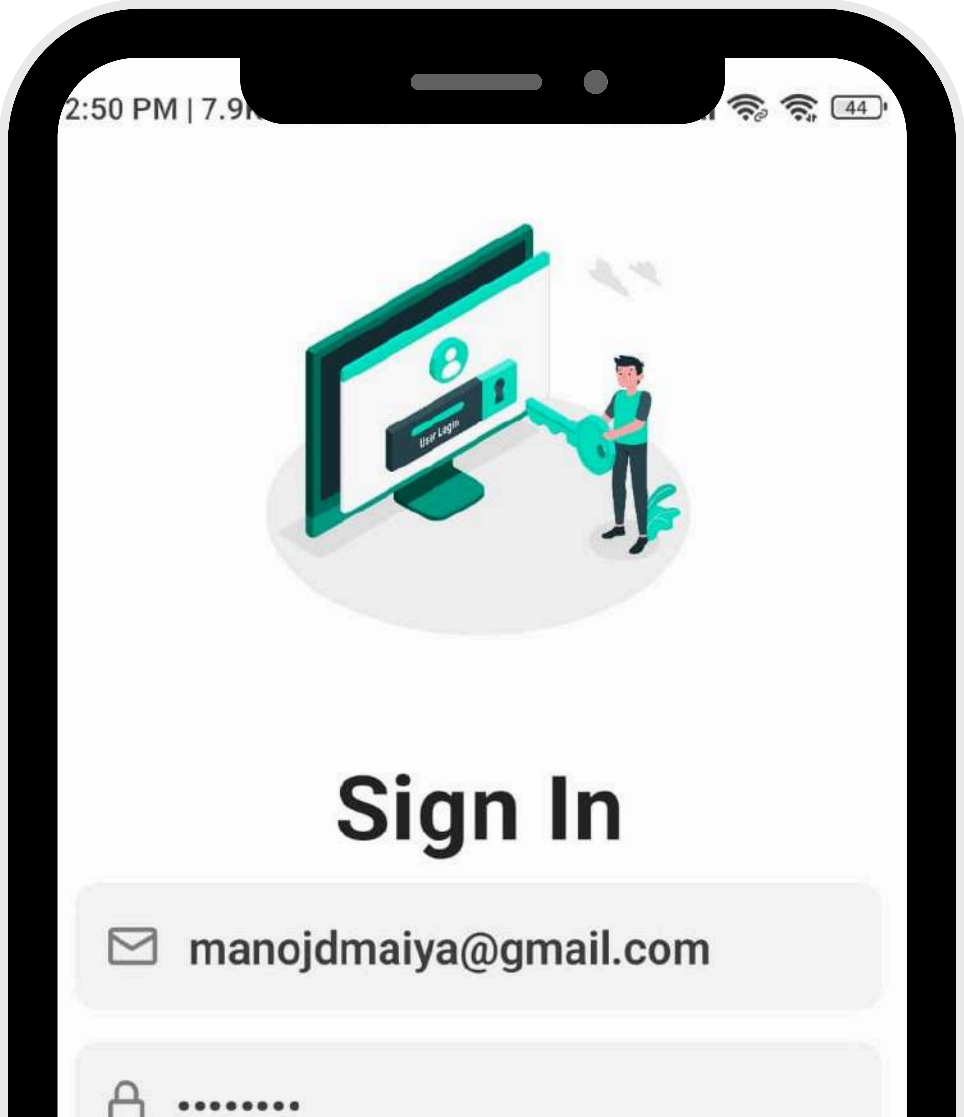
CHAT APP WITH SPAM DETECTION

Presented by group 83


2:50 PM | 7.9

Sign In

manojdmaiya@gmail.com

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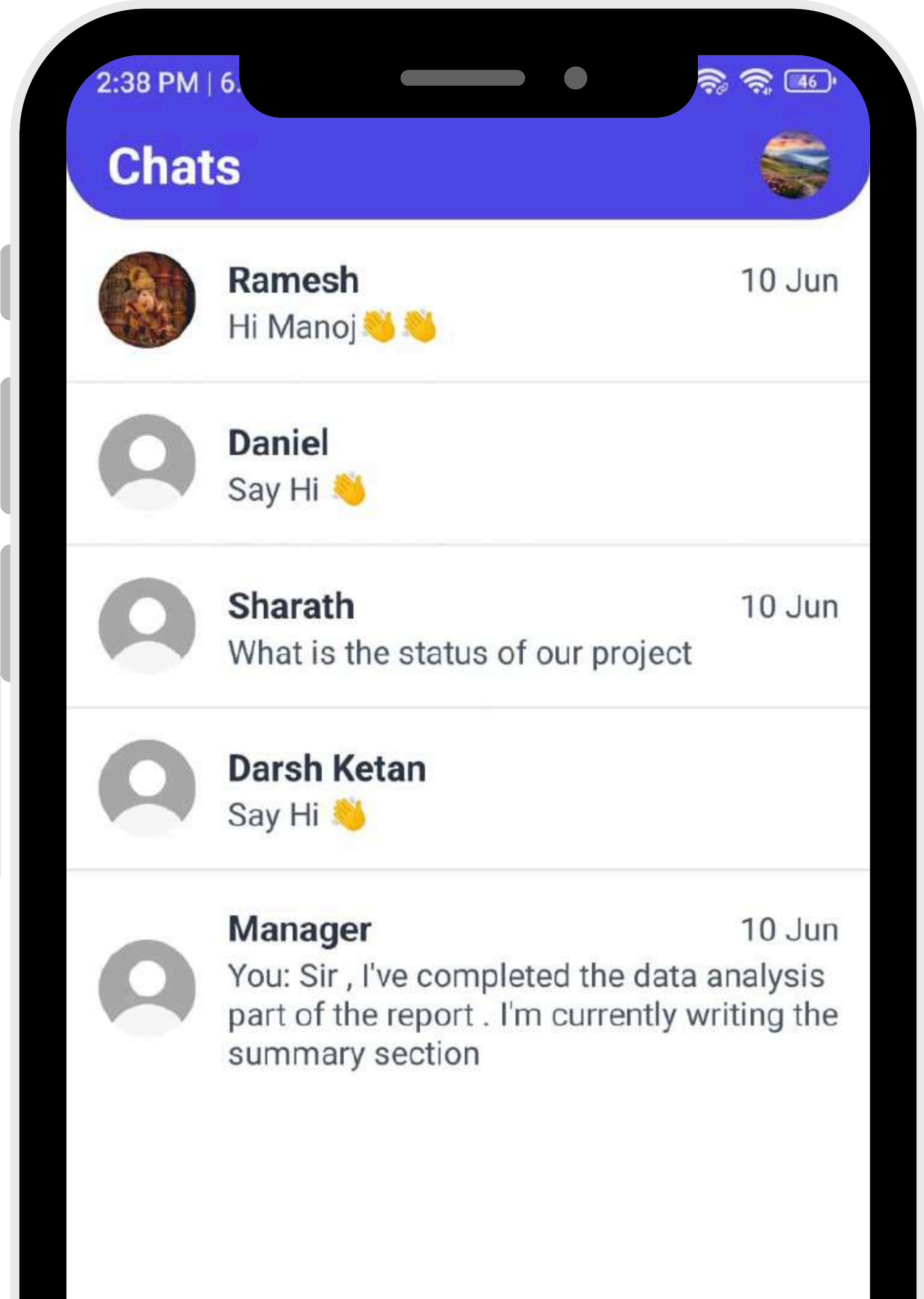

2:38 PM | 6.

Chats

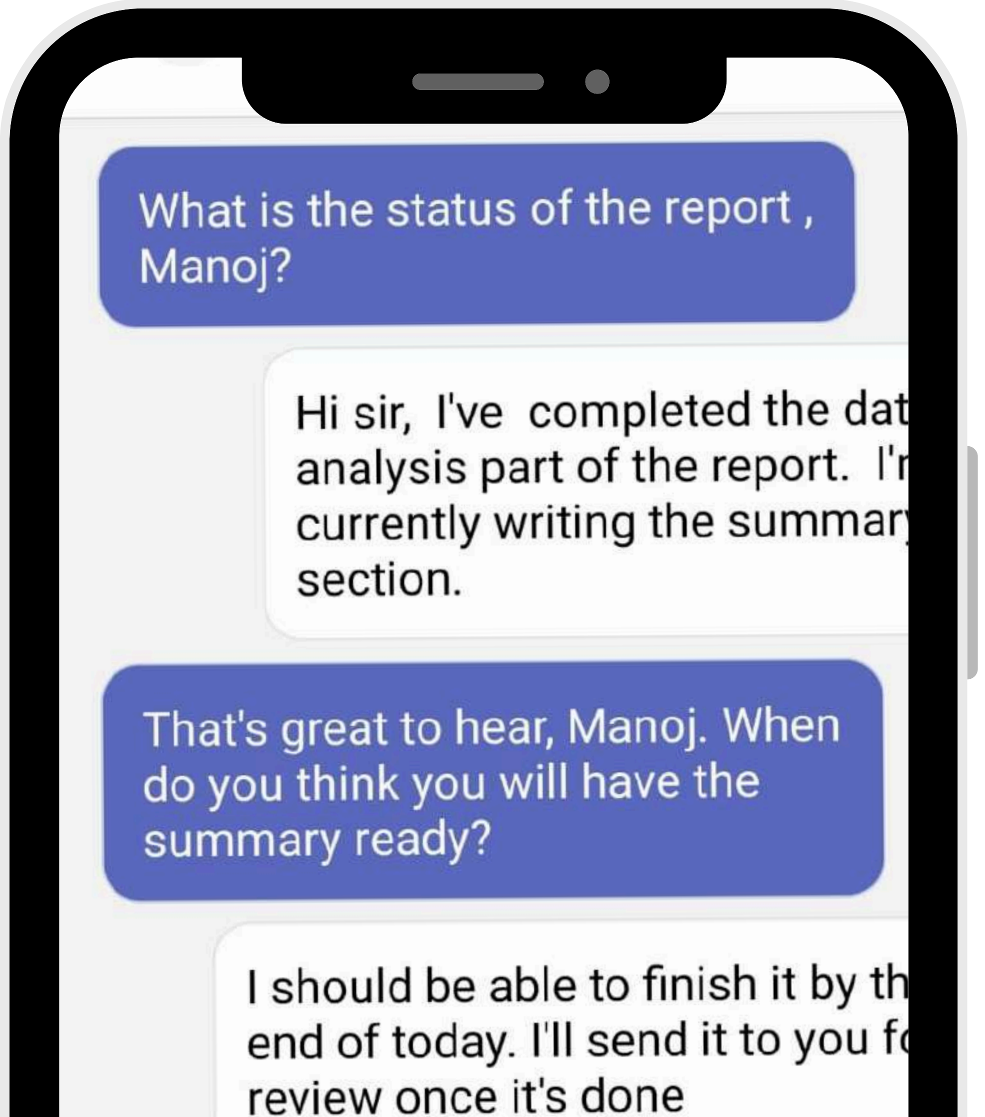
Ramesh 10 Jun
Hi Manoj👋👋

Daniel
Say Hi 👋

Sharath 10 Jun
What is the status of our project

Darsh Ketan
Say Hi 👋

Manager 10 Jun
You: Sir , I've completed the data analysis part of the report . I'm currently writing the summary section


What is the status of the report , Manoj?

Hi sir, I've completed the dat analysis part of the report. I'r currently writing the summar section.

That's great to hear, Manoj. When do you think you will have the summary ready?

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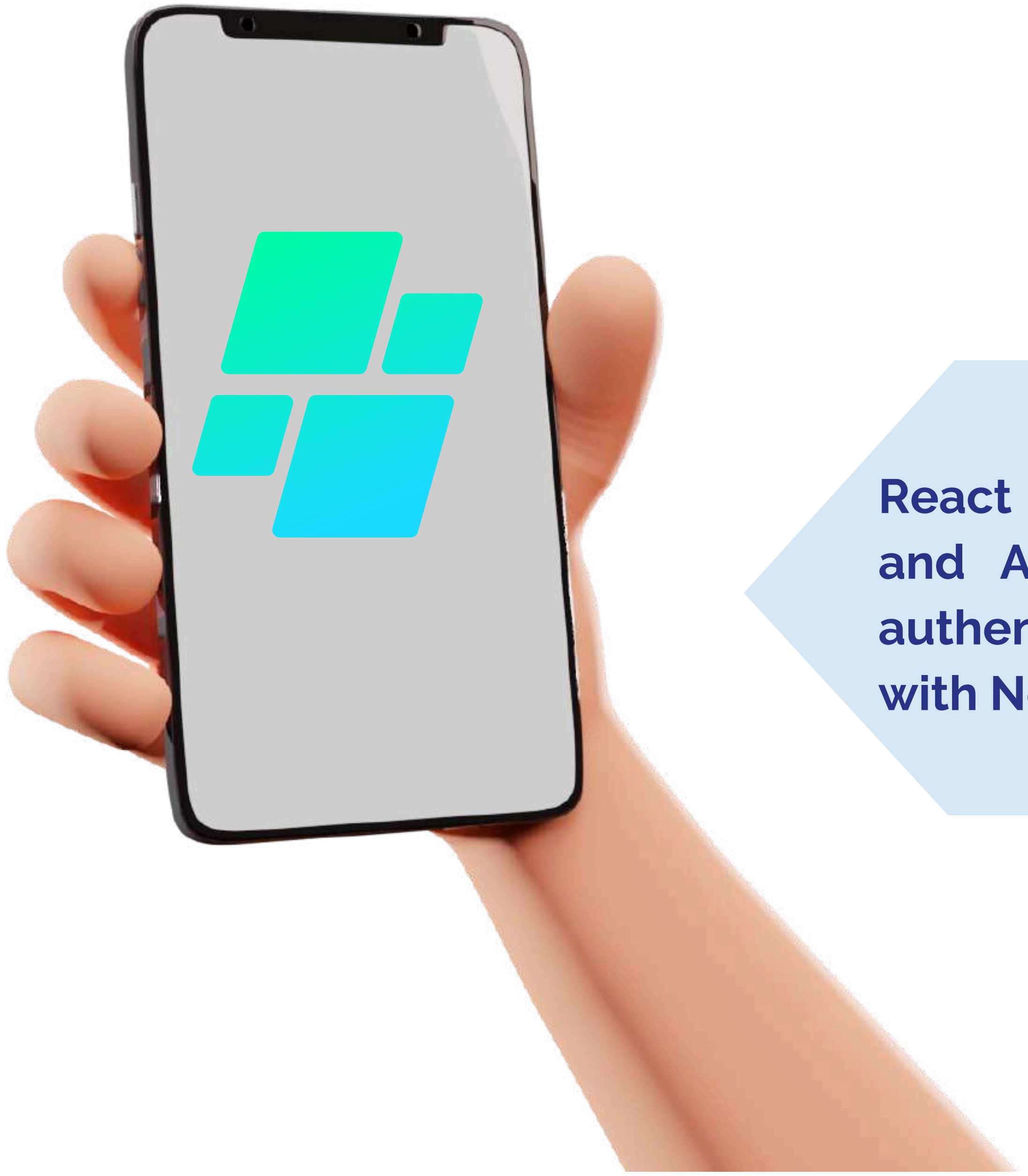
Introduction



01

React Native and machine learning can create a conversation app with spam detection, merging mobile development with advanced data handling.

02

React Native enables a cross-platform interface for iOS and Android, supporting real-time messaging. User authentication and message storage can be managed with Node.js, Express, and Firebase Firestore.

03

Machine learning models in TensorFlow can filter spam, hosted on a server and accessible via an API for enhanced user safety.

Literature Review

1. Paper [1]: Randell's *The Soul of Internet covers the history and development of the internet, discussing social media applications and featuring interviews with key figures.
2. Paper [2]: Intel Hyper Threading Technology* explains multithreading, comparing CPU performance with single and multiple threads. It is used in our project for concurrent tasks.
3. Paper [3]: Michael Hauben describes the social impact of the internet and introduces the concept of 'Netizen,' noting the popularity of chat applications.
4. Paper [4]: Richard Stevens Unix Network Programming* provides essential information on using sockets and Network APIs for network programming in our project.
5. Paper [5]: Vincent Cerf and Robert Kahn's guide on the TCP protocol emphasizes its importance for reliable data transfer, crucial for our application.

Meet The Group

MANOJ D MAIYA
(01JCE21CS061)

SHARATH HK
(01JCE21CS090)

DARSH KHETAN
(01JST21CS031)

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1 OBJECTIVES

2 WORK PLAN

3 DESIGN TECHNOLOGIES

4 MODEL SNAPSHOTS

5 FUTURE ENHANCEMENTS

OBJECTIVES

Objective 01

Develop a chat app using React Native for a unified experience across iOS and Android devices.

Objective 02

Implement instant messaging with Firebase Realtime Database to enhance user engagement and responsiveness.

Objective 03

Integrate machine learning and NLP to detect spam messages, improving the user experience.

WORK PLAN

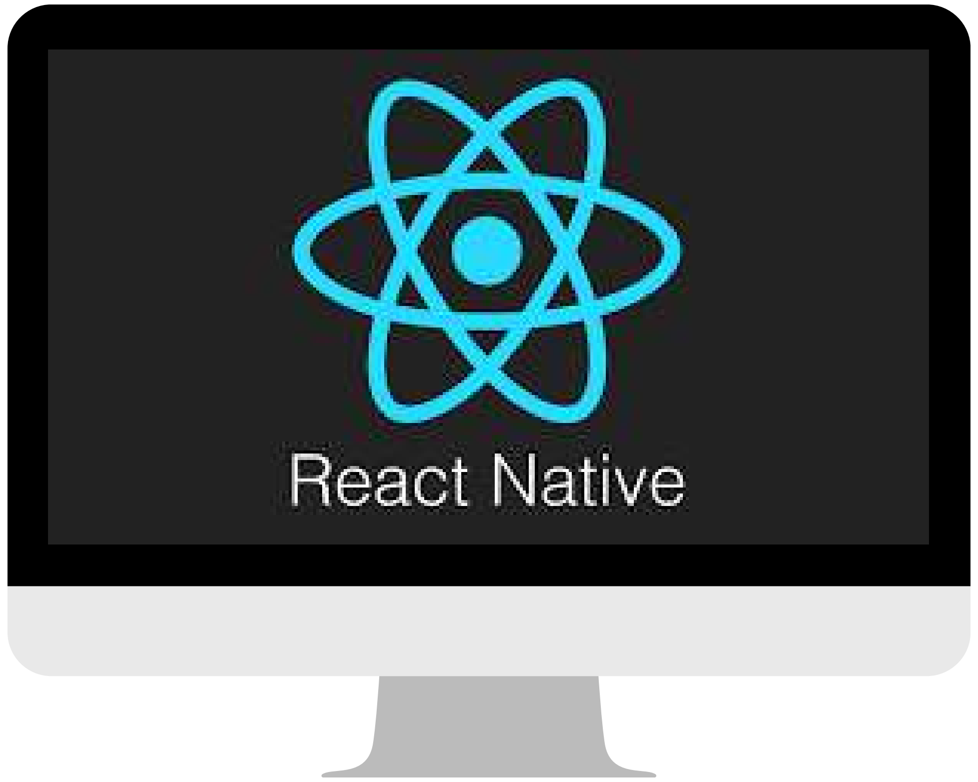
March
Learning Phase

April
Project Setup and Initial Development

May
Firebase authentication integrate spam detection algorithms

June
Testing

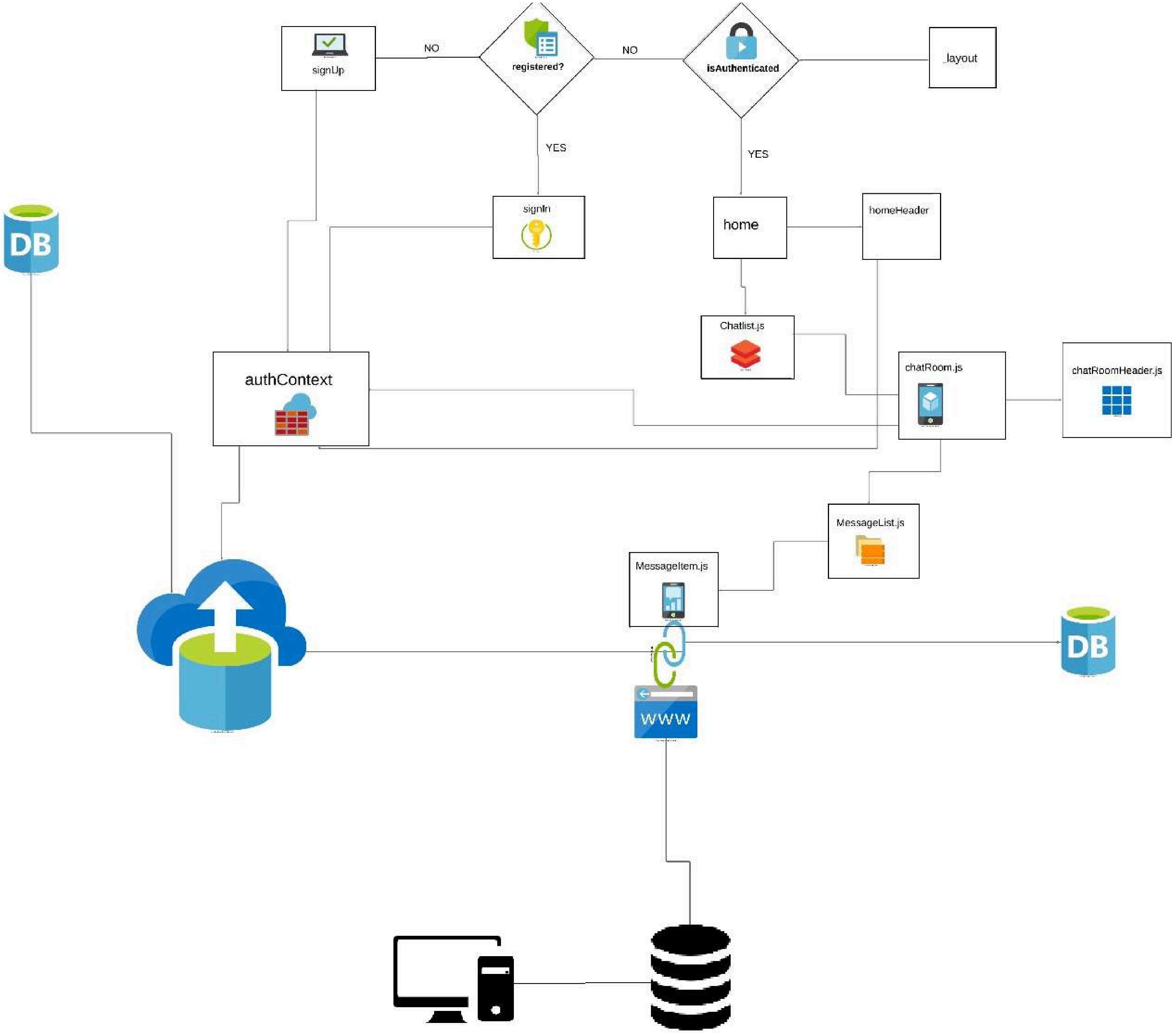
Design Technologies



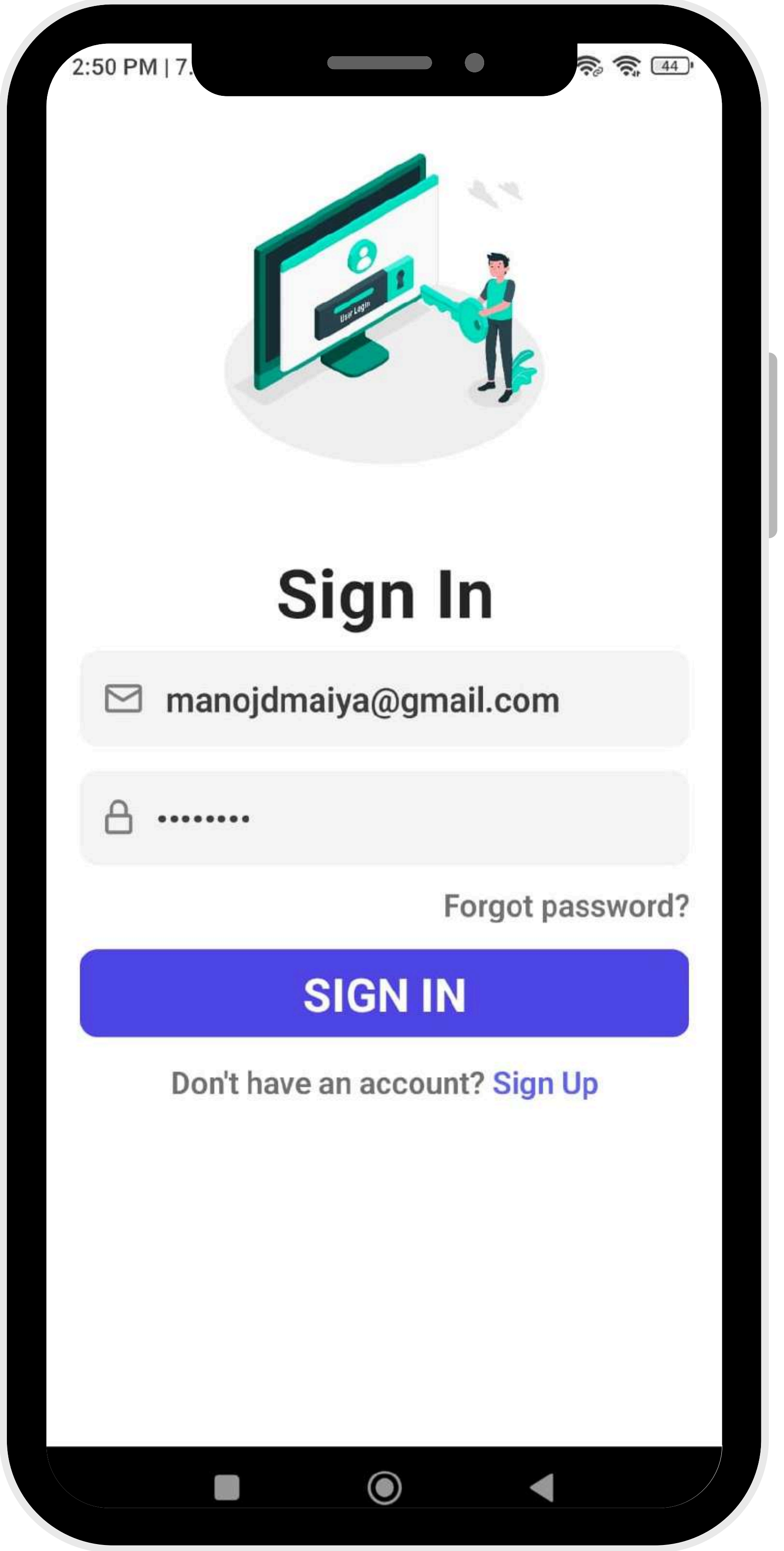
FIREBASE
PRAMUDITHA MADURA

MACHINE LEARNING

SYSTEM DESIGN



MODEL SNAPSHOTS



Sign In

manojdmaiya@gmail.com

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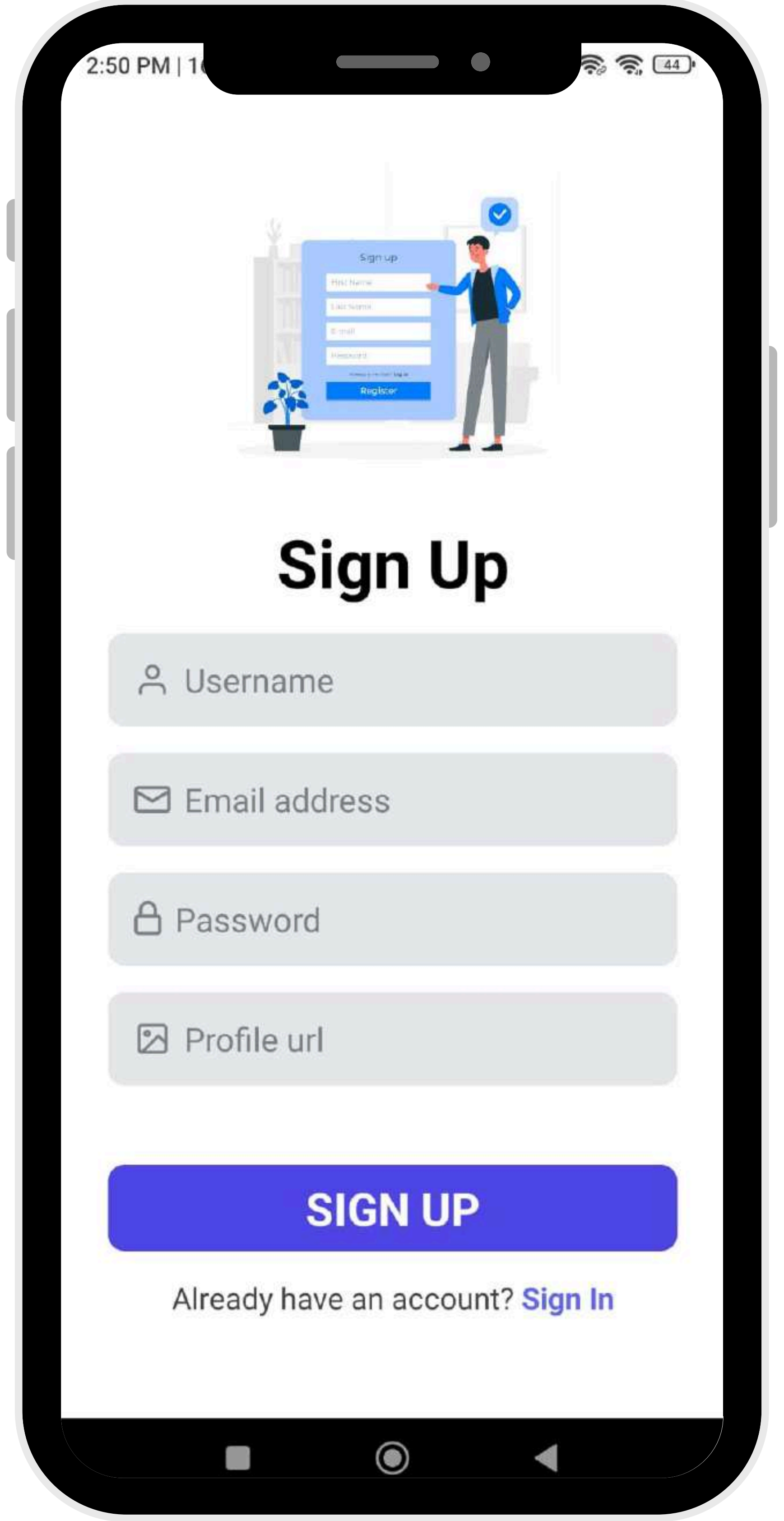
Forgot password?

Don't have an account? Sign Up



Sign Up

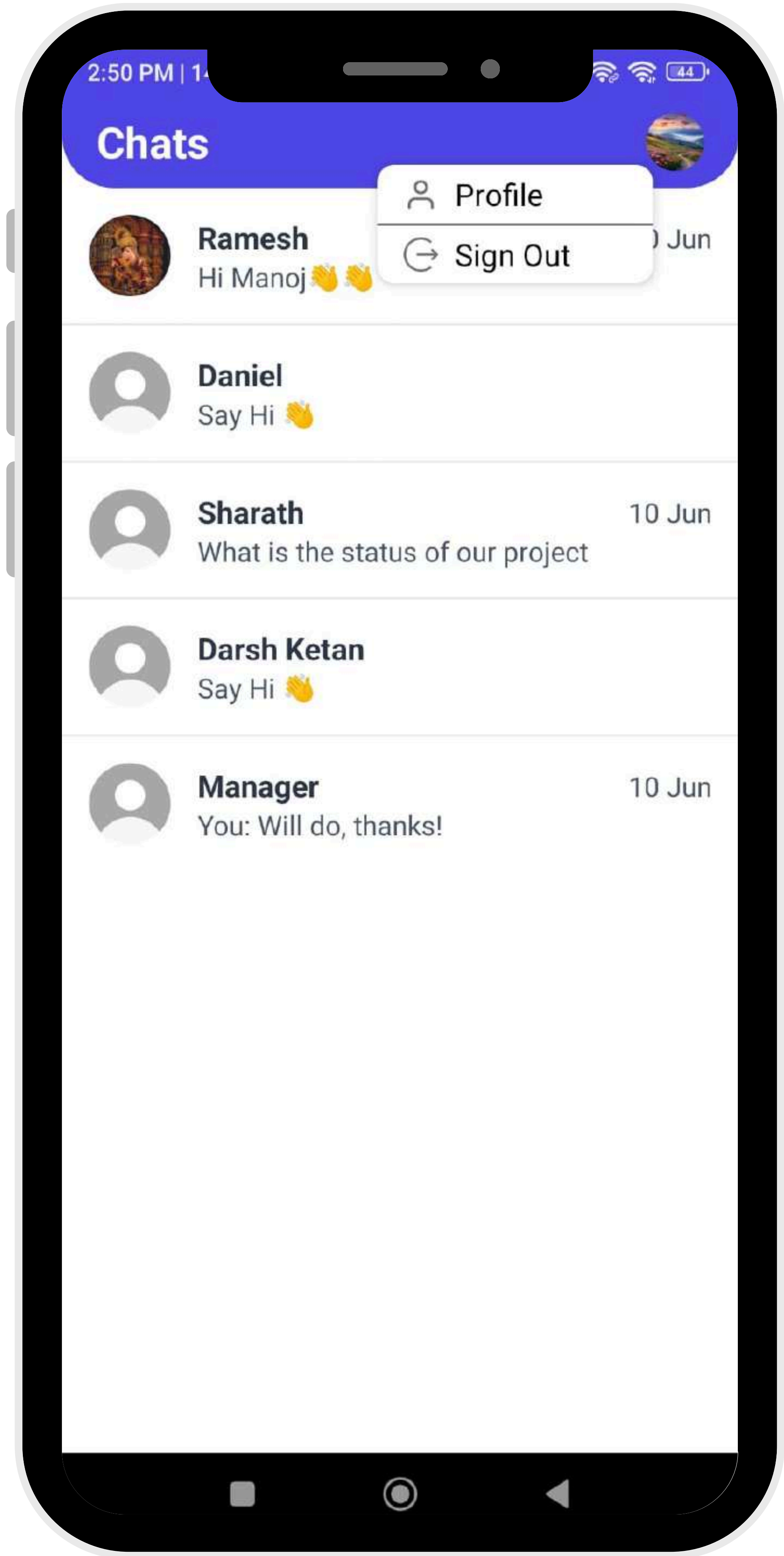
Username

Email address

Password

Profile url

Already have an account? Sign In



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Hi Manoj 👋 👋

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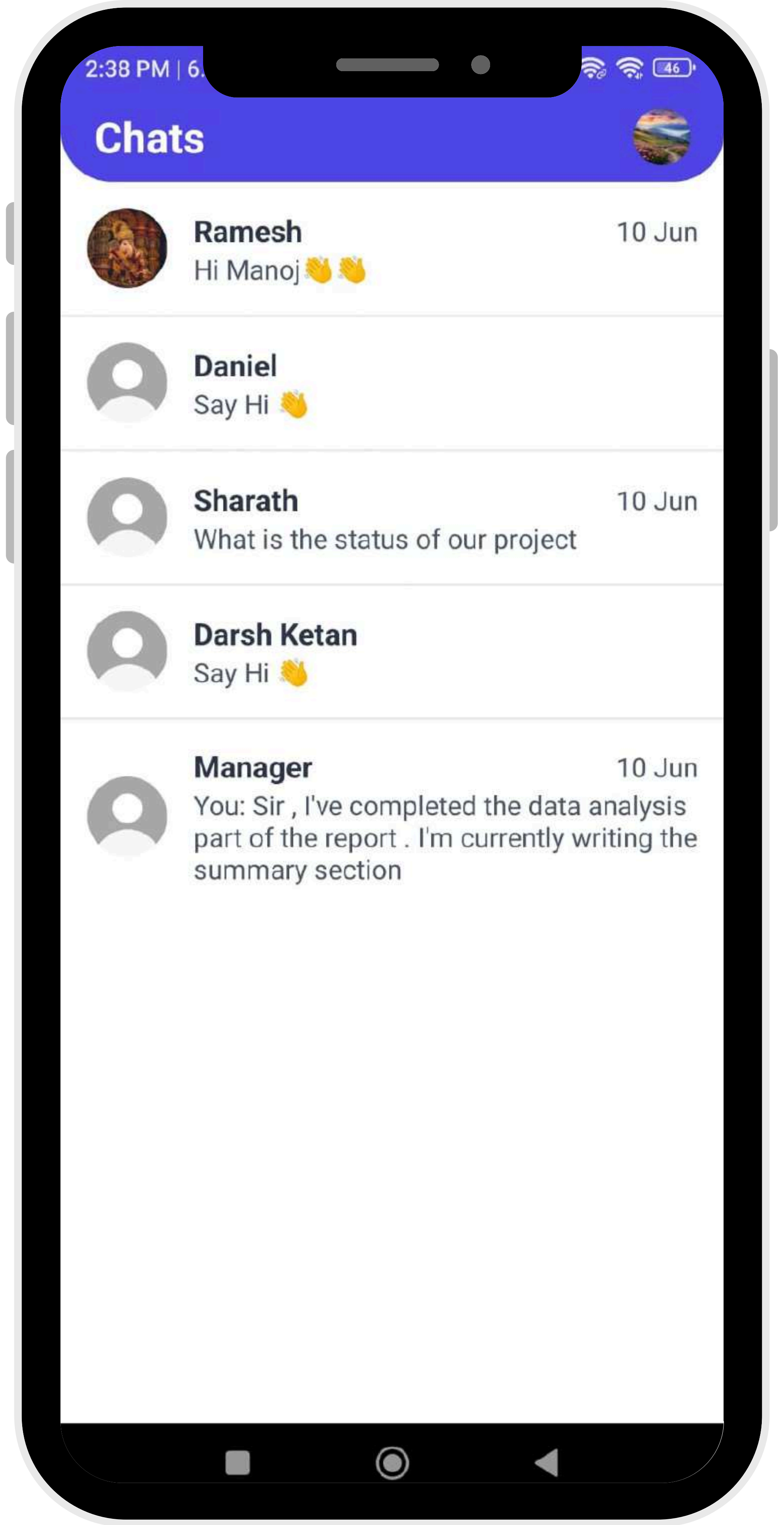
You: Will do, thanks!



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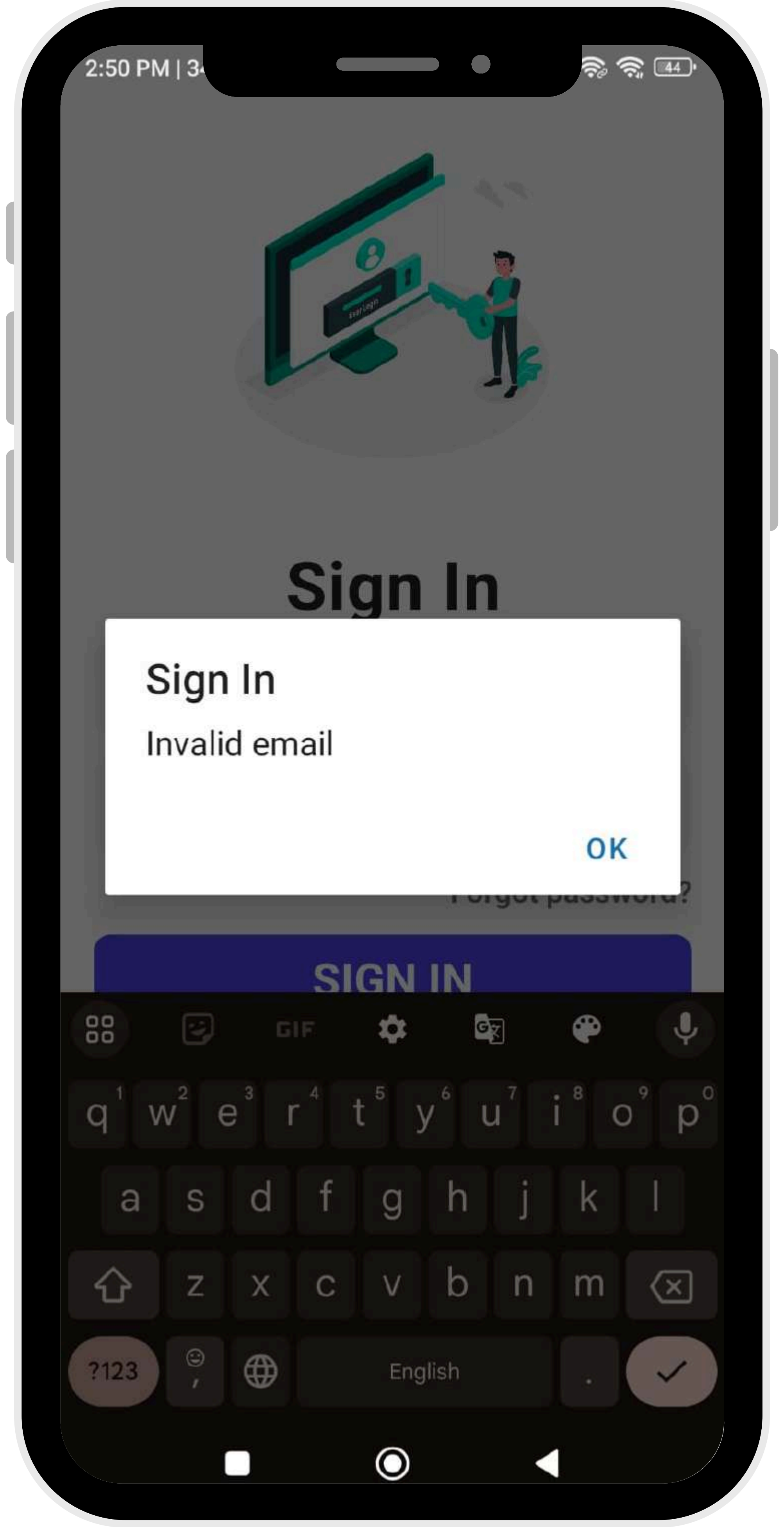


Sign In

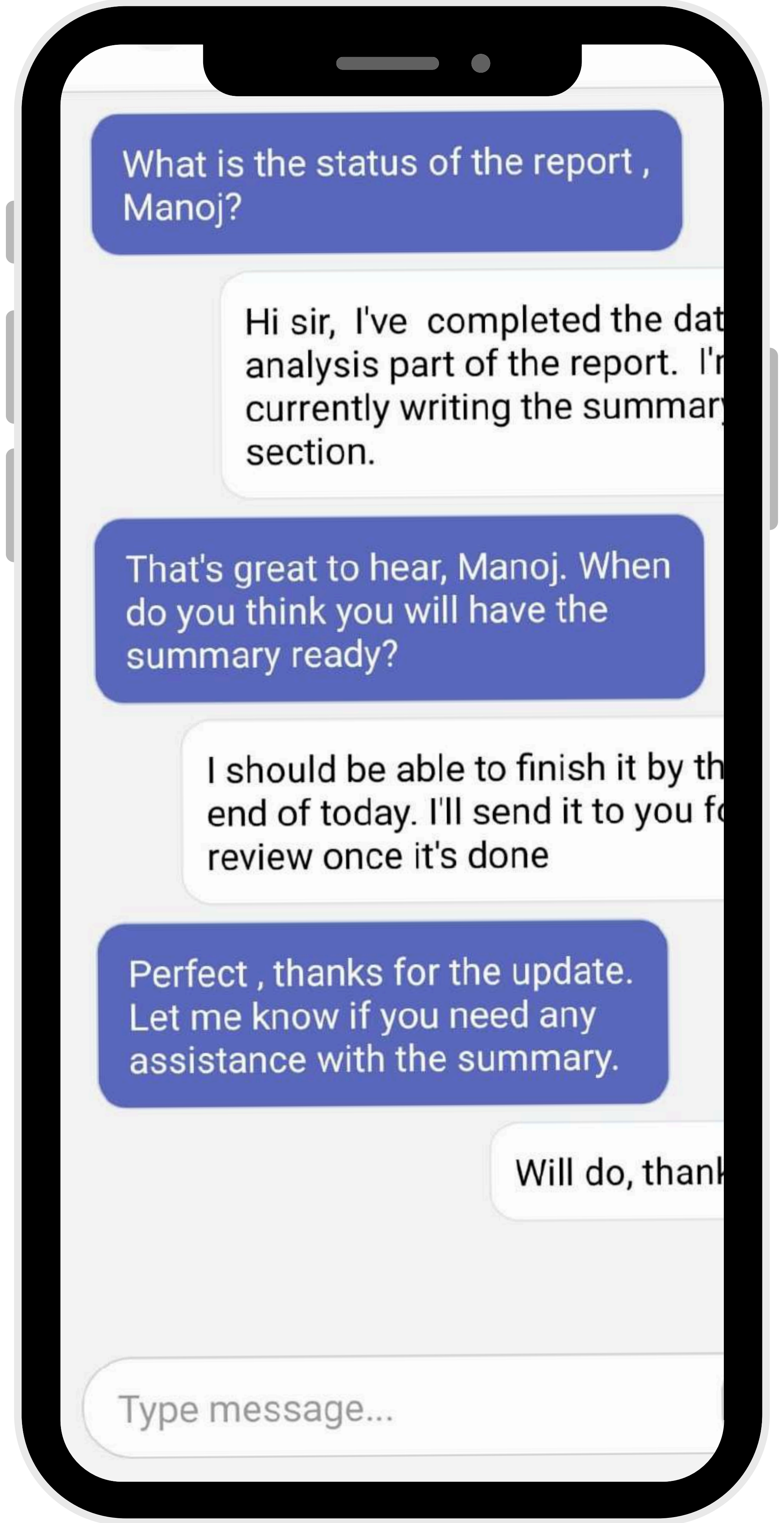
Sign In

Invalid email

OK

Forgot password?

SIGN IN



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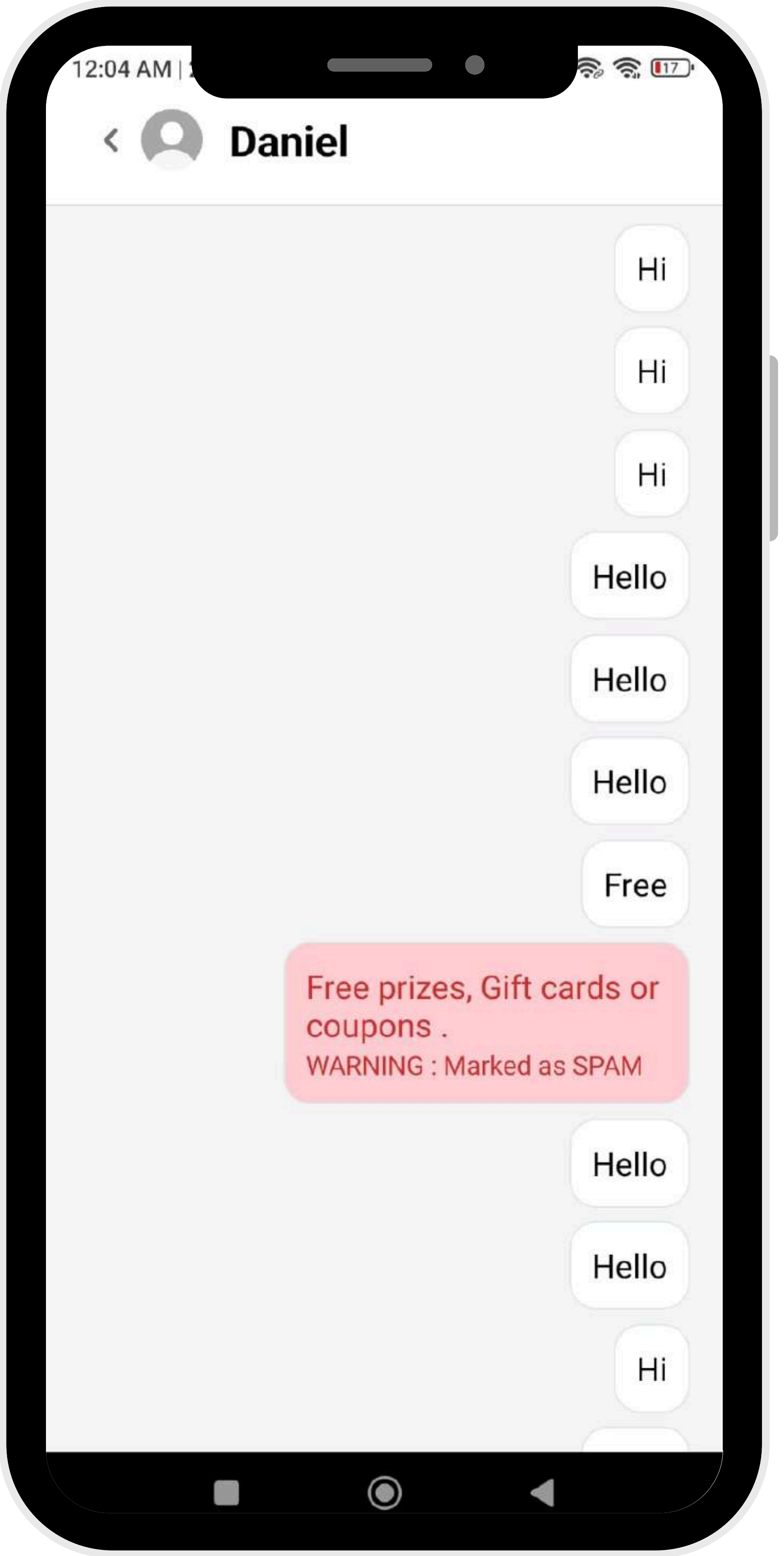
Perfect , thanks for the update. Let me know if you need any assistance with the summary.

Will do, thank

Type message...



12:04 AM |

Daniel

Hi

Hi

Hi

Hello

Hello

Hello

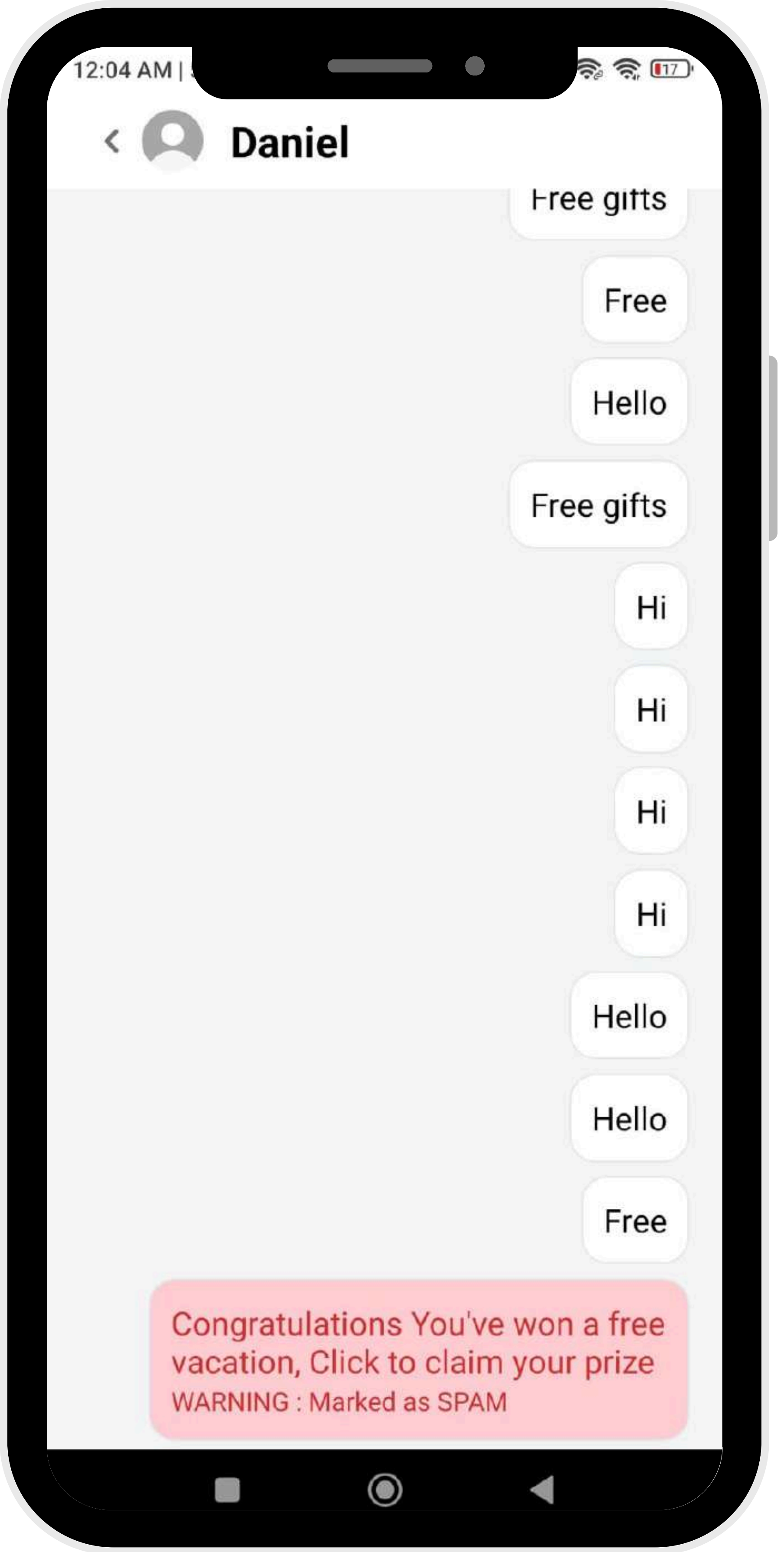
Free

Free prizes, Gift cards or coupons .
WARNING : Marked as SPAM

Hello

Hello

Hi



12:04 AM |

Daniel

Free gifts

Free

Hello

Free gifts

Hi

Hi

Hi

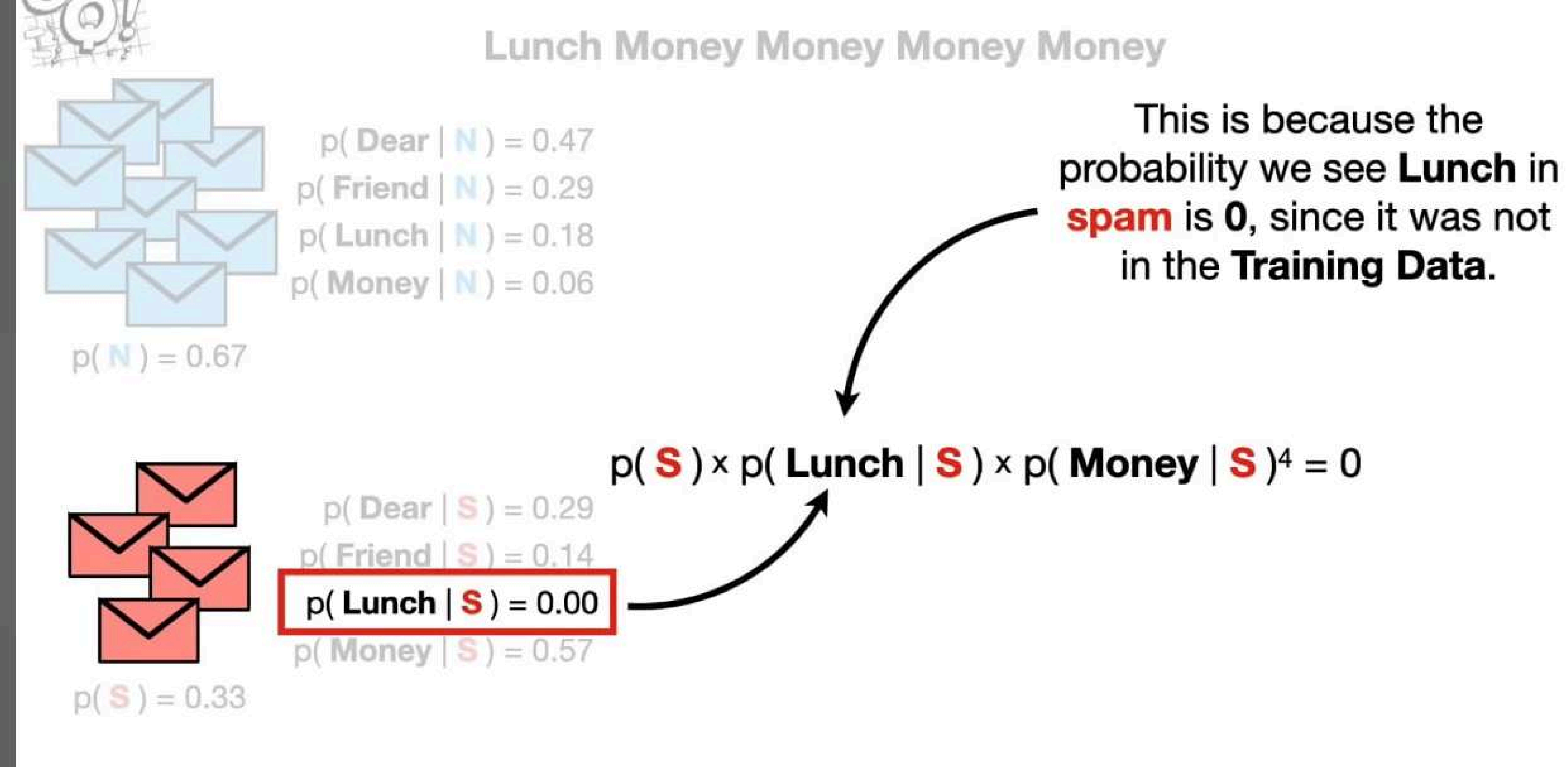
Hi

Hello

Hello

Free

Congratulations You've won a free vacation, Click to claim your prize
WARNING : Marked as SPAM



Lunch Money Money Money Money

p(**Dear** | N) = 0.47
p(**Friend** | N) = 0.29
p(**Lunch** | N) = 0.18
p(**Money** | N) = 0.06

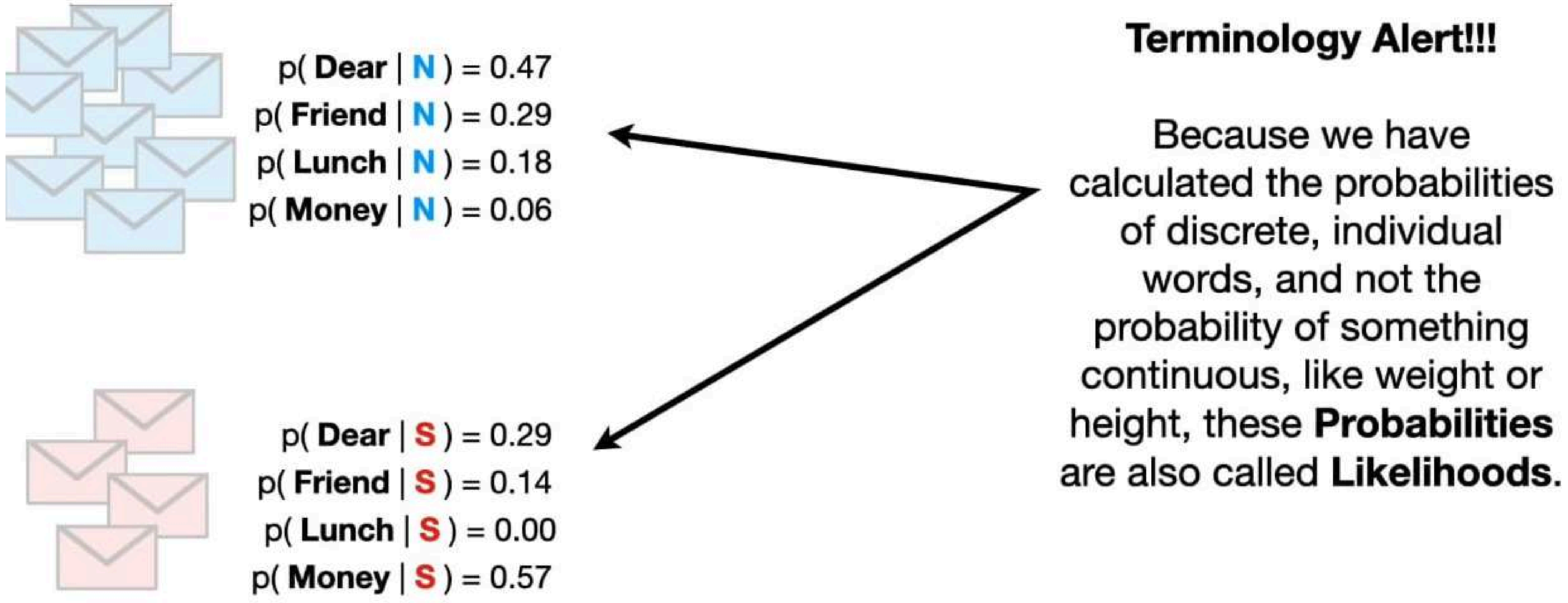
p(N) = 0.67

This is because the probability we see **Lunch** in **spam** is **0**, since it was not in the **Training Data**.

$$p(S) \times p(\textbf{Lunch} \mid S) \times p(\textbf{Money} \mid S)^4 = 0$$

p(**Dear** | S) = 0.29
p(**Friend** | S) = 0.14
p(**Lunch** | S) = 0.00
p(**Money** | S) = 0.57

p(S) = 0.33



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p(**Dear** | S) = 0.29
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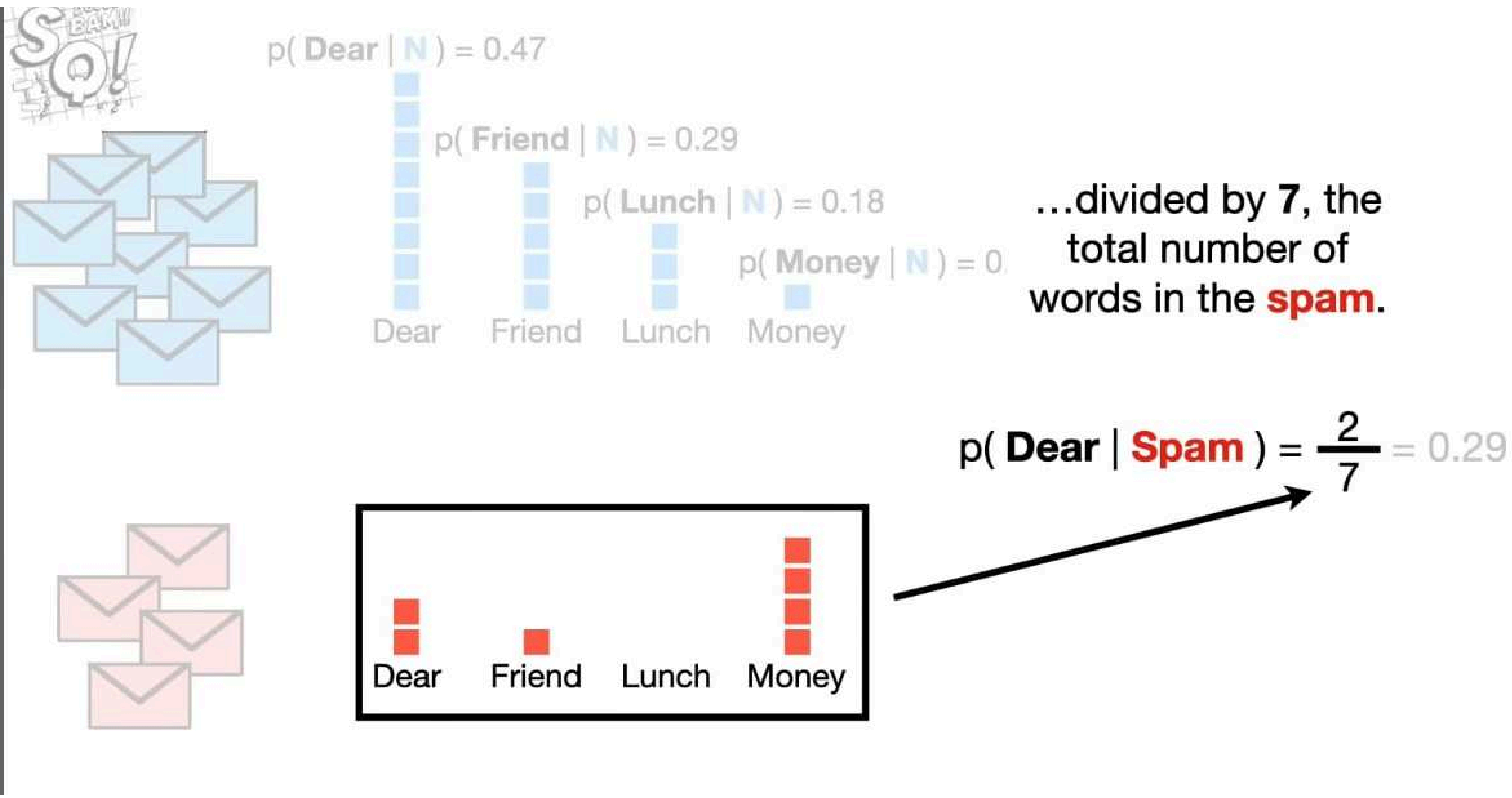
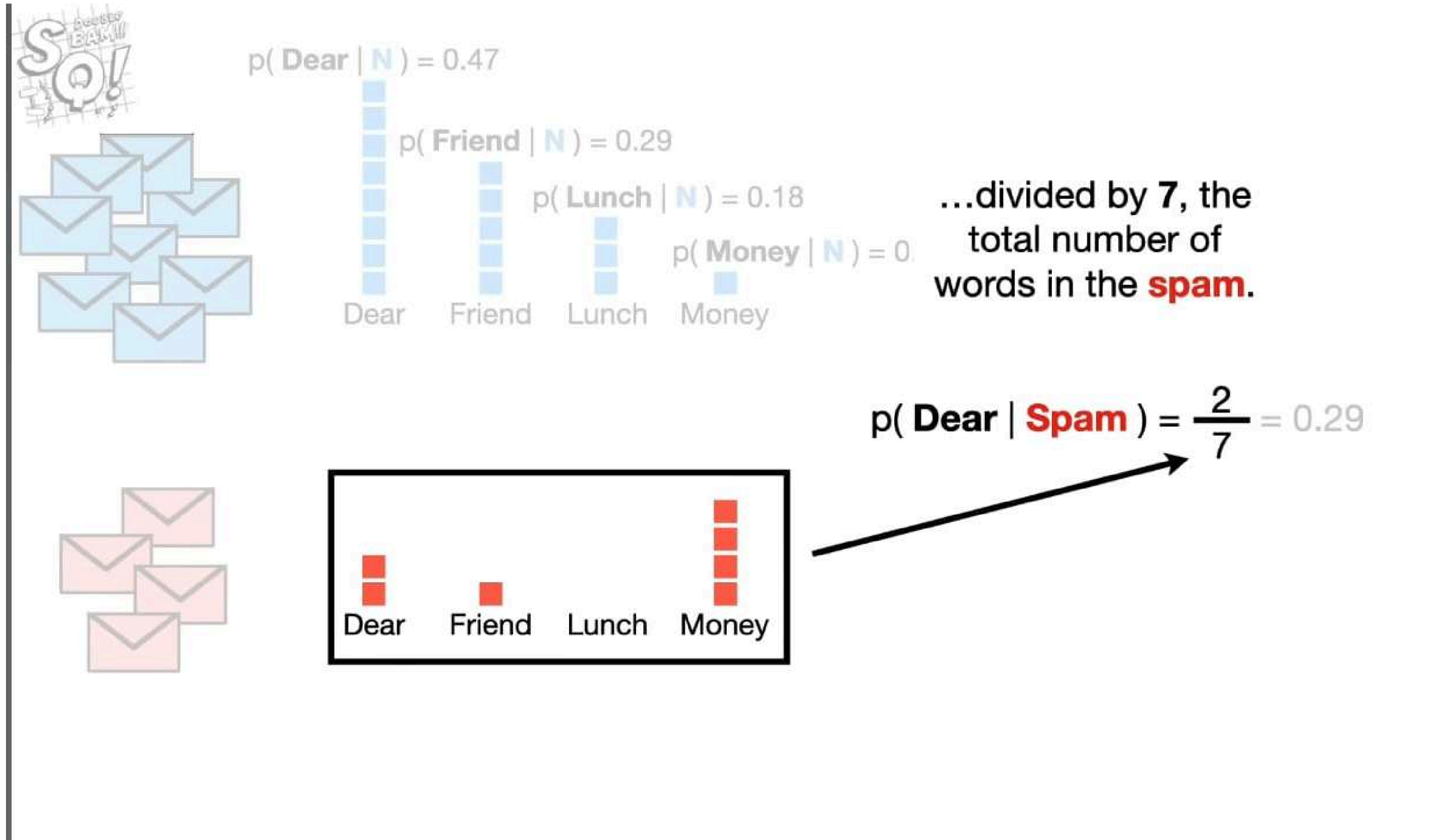
Terminology Alert!!!

Because we have calculated the probabilities of discrete, individual words, and not the probability of something continuous, like weight or height, these **Probabilities** are also called **Likelihoods**.



…divided by **7**, the total number of words in the **spam**.

$$p(\textbf{Dear} \mid \textbf{Spam}) = \frac{2}{7} = 0.29$$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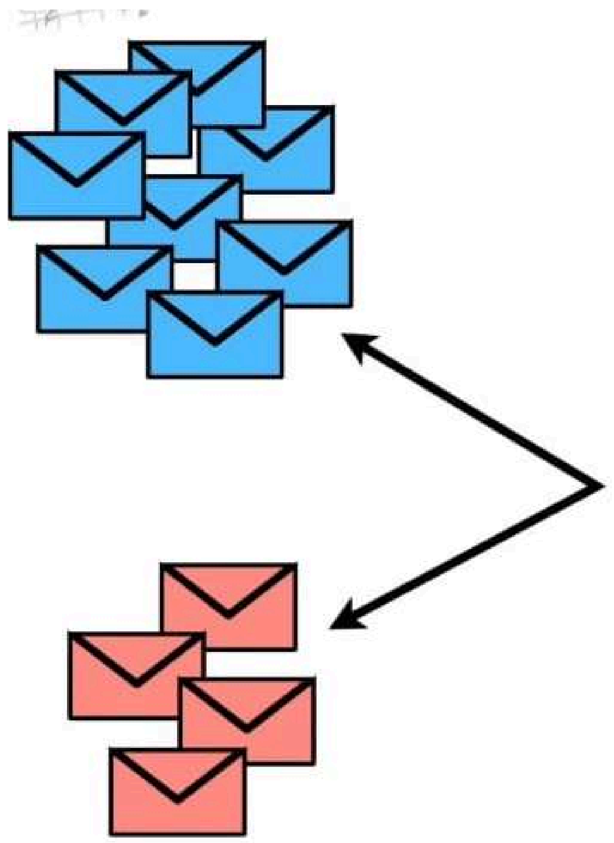
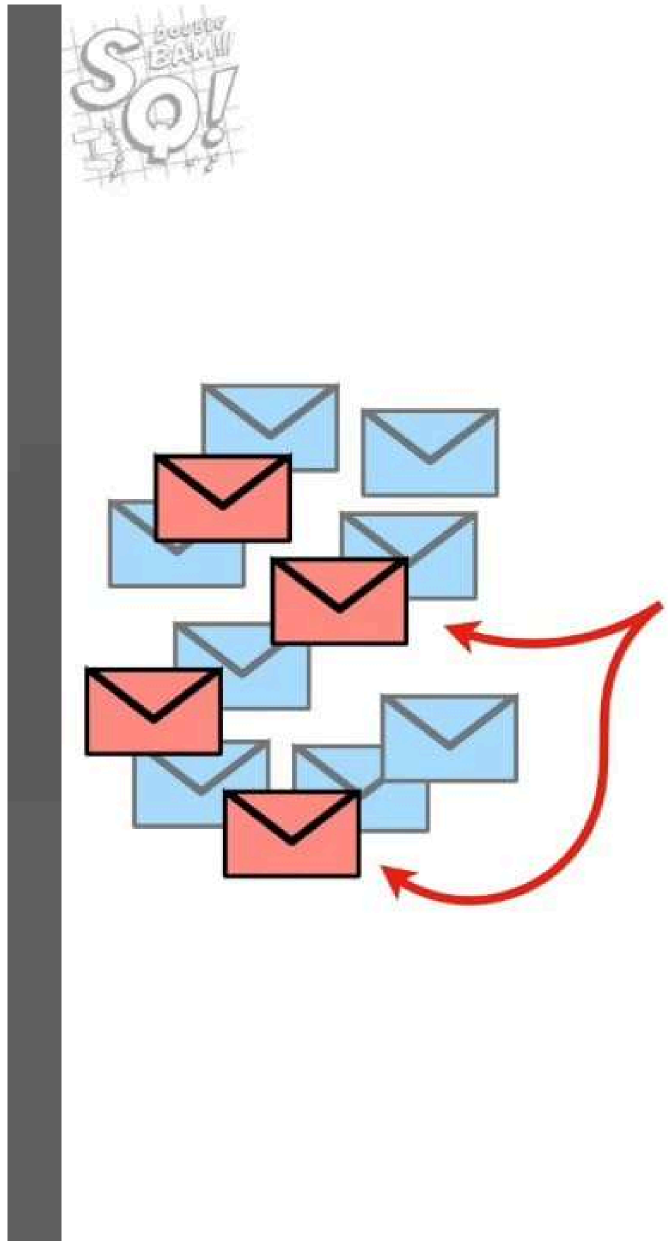


…and we wanted to filter out the **spam** messages.



…and we also received **spam** (unwanted messages that are usually scams or unsolicited advertisements)…

FUTURE ENHANCEMENTS

Personalized Spam Detection

Biometric Authentication

Chatbots and AI Assistants

Cross-platform Compatibility

CONCLUSION

In conclusion, our chat application project using React Native and Firebase has created a modern, cross-platform communication platform. React Native enables seamless communication across iOS and Android, with real-time message delivery powered by Firebase. Secure user authentication and spam detection enhance user safety and experience. Our intuitive, user-centric design ensures ease of use, while scalability and performance optimization provide a foundation for future growth. Continuous feedback integration fosters improvement. We remain committed to embracing emerging technologies to meet our users' evolving needs.

REFERENCES

[1] Modupe, A., Olugbara, O. O., & Ojo, S. O. (2014). Filtering of Mobile Short Messaging Communication Using Latent Dirichlet Allocation with Social Network Analysis. In G.-C. Yang, S.-I. Ao, & L. Gelman (Eds.), Transactions on Engineering Technologies: Special Volume of the World Congress on Engineering 2013 (pp. 671–686). Springer Science & Business.

[2] Shirani-Mehr, H. (2013). SMS Spam Detection using Machine Learning Approach.

[3] Abdulhamid, S. M., et al. (2017). A Review on Mobile SMS Spam Filtering Techniques. IEEE Access, 5, 15650–15666.

[4] Aski, A. S., & Sourati, N. K. (2016). Proposed Efficient Algorithm to Filter Spam Using Machine Learning Techniques. Pacific Science Review. Natural Science and Engineering, 18(2), 145–149.

[5] Narayan, A., & Saxena, P. (2013). The Curse of 140 Characters: Evaluating The Efficacy of SMS Spam Detection on Android (pp. 33–42).

THANK YOU