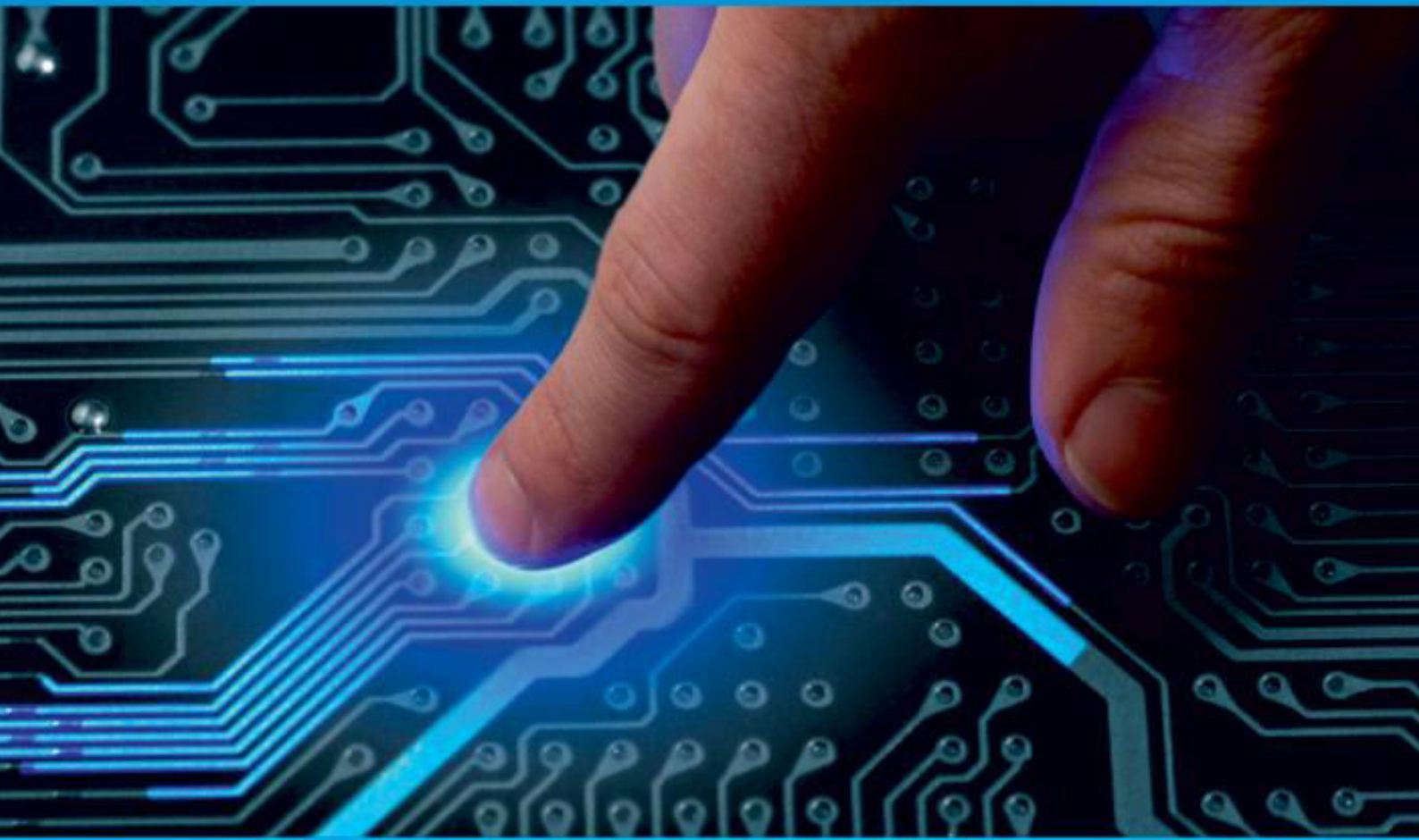




IJIRCCCE

e-ISSN: 2320-9801 | p-ISSN: 2320-9798



INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN COMPUTER & COMMUNICATION ENGINEERING

Volume 12, Issue 6, June 2024

ISSN INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA

Impact Factor: 8.379



9940 572 462



6381 907 438



ijircce@gmail.com



www.ijircce.com

Automating Birthday Wishes to Employees Using Google Apps Script

Stephen Philip Kallarackal

UG Student, Dept. of Applied Electronics and Instrumentation Engineering, Rajagiri School of Engineering and Technology, Kochi, Kerala, India

ABSTRACT: In today's fast-paced work environment, fostering a sense of belonging and appreciation among employees is crucial. Remembering and celebrating employee birthdays is one such gesture that can significantly enhance morale and job satisfaction. This paper presents a Google Apps Script-based solution to automate sending personalized birthday wishes via email. The script retrieves employee data from a Google Sheet, checks for birthdays, and sends an HTML email with a randomized birthday wish. This approach not only saves administrative time but also ensures no birthday is missed, thereby fostering a positive organizational culture.

KEYWORDS: Automation, Employee Engagement, Google Apps Script, Workflow Automation

I. INTRODUCTION

Employee engagement and satisfaction are pivotal to the success of any organization. High levels of engagement and satisfaction correlate with increased productivity, reduced turnover, and enhanced overall performance. Small gestures, such as sending birthday wishes, can have a significant impact on employee morale and loyalty. These gestures show employees that they are valued and appreciated, contributing to a positive work environment.

However, manually keeping track of and sending birthday emails can be time-consuming and prone to errors. In large organizations, it becomes increasingly difficult to ensure that every employee's birthday is acknowledged in a timely manner. Human error can lead to missed birthdays or incorrect messages, which can inadvertently convey a lack of attention to employee well-being.

To address this challenge, this paper introduces a Google Apps Script that automates the process of sending birthday wishes. By leveraging the capabilities of Google Sheets, Google Apps Script, and Gmail, this script ensures timely and personalized communication with employees. The automation not only eliminates the risk of human error but also saves valuable time for HR personnel, allowing them to focus on more strategic initiatives.

This paper will detail the implementation of the Google Apps Script, discuss the benefits of automation in enhancing employee engagement, and present the results of deploying this solution in a real-world organizational setting. Through this approach, organizations can ensure consistent and heartfelt communication with their employees, fostering a culture of appreciation and recognition.

II. RELATED WORKS

Previous studies have highlighted the importance of employee recognition and the role of technology in automating HR processes. Various tools and software solutions exist for employee engagement, yet many small to medium-sized enterprises (SMEs) still rely on manual processes for tasks such as birthday greetings. Leveraging Google Apps Script, a versatile scripting platform, this paper demonstrates how automation can streamline these processes and enhance employee satisfaction.

III. METHODOLOGY

The proposed solution utilizes Google Apps Script to automate the process of sending birthday emails. The methodology involves the following steps:

1. Data Preparation:

Employee data, including names, email addresses, and birth dates, is stored in a Google Sheet named "Birthday".

Each row in the sheet corresponds to an individual employee and includes details such as gender for personalized salutations.

2. Script Initialization:

The script retrieves data from the "Birthday" sheet and calculates the current date formatted for comparison with employee birth dates.

3. Birthday Wish Selection:

A predefined list of birthday wishes is included in the script.

A random wish is selected for each email to ensure variation and personal touch.

4. Email Composition and Sending:

The script iterates through the employee list and checks if the current date matches any employee's birth date. For each match, an HTML email template is personalized with the employee's name, gender-based salutation, and a selected birthday wish. The email is then sent to the employee's email address with optional CC and BCC recipients for administrative purposes.

Workflow Diagram

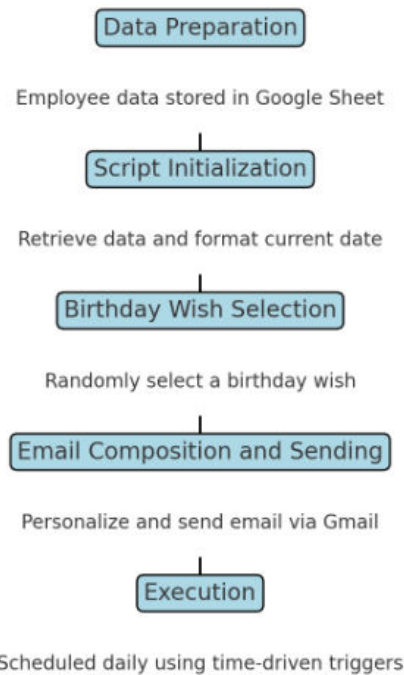


Figure 1: Workflow diagram of the AppScript code

5. Execution:

The script is scheduled to run daily using Google Apps Script's time-driven triggers, ensuring timely delivery of birthday emails.

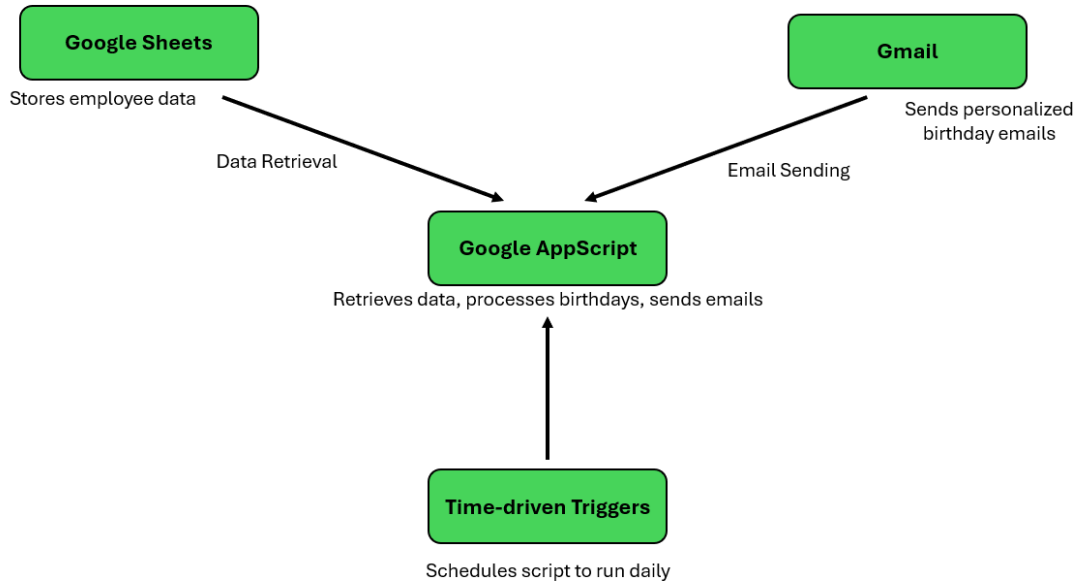
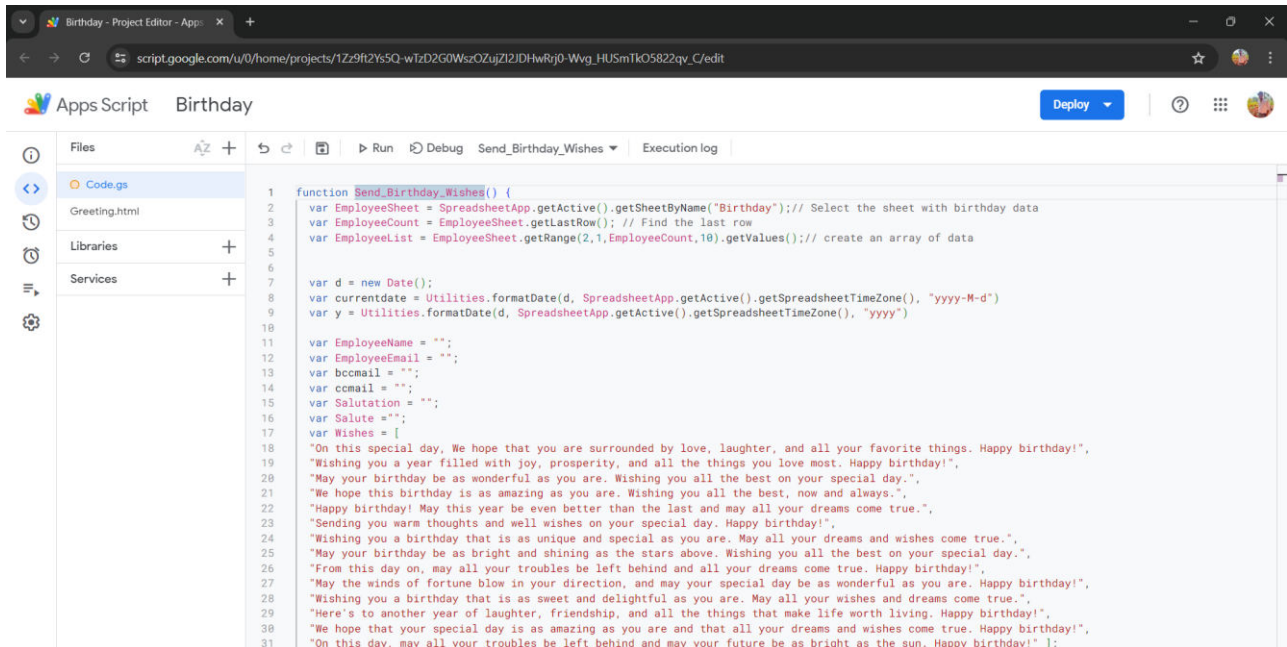


Figure 2: Architecture diagram showing the interaction between Google Sheets, Google AppScript, and Gmail.

6. Key Components of the Script:

- Data retrieval from Google Sheets.
- Date comparison logic to identify birthdays.
- Personalization of email content based on employee data.
- Sending HTML-formatted emails through Gmail.



```

1 function Send_Birthday_Wishes() {
2   var EmployeeSheet = SpreadsheetApp.getActive().getSheetByName("Birthday");// Select the sheet with birthday data
3   var EmployeeCount = EmployeeSheet.getLastRow(); // Find the last row
4   var EmployeeList = EmployeeSheet.getRange(2,1,EmployeeCount,10).getValues();// create an array of data
5
6
7   var d = new Date();
8   var currentDate = Utilities.formatDate(d, SpreadsheetApp.getActive().getSpreadsheetTimeZone(), "yyyy-M-d")
9   var y = Utilities.formatDate(d, SpreadsheetApp.getActive().getSpreadsheetTimeZone(), "yyyy")
10
11   var EmployeeName = "";
12   var EmployeeEmail = "";
13   var bccmail = "";
14   var ccmail = "";
15   var Salutation = "";
16   var Salute = "";
17   var Wishes = [
18     "On this special day, We hope that you are surrounded by love, laughter, and all your favorite things. Happy birthday!",
19     "Wishing you a year filled with joy, prosperity, and all the things you love most. Happy birthday!",
20     "May your birthday be as wonderful as you are. Wishing you all the best on your special day.",
21     "We hope this birthday is as amazing as you are. Wishing you all the best, now and always.",
22     "Happy birthday! May this year be even better than the last and may all your dreams come true.",
23     "Sending you warm thoughts and well wishes on your special day. Happy birthday!",
24     "Wishing you a birthday that is as unique and special as you are. May all your dreams and wishes come true.",
25     "May your birthday be as bright and shining as the stars above. Wishing you all the best on your special day.",
26     "From this day on, may all your troubles be left behind and all your dreams come true. Happy birthday!",
27     "May the winds of fortune blow in your direction, and may your special day be as wonderful as you are. Happy birthday!",
28     "Wishing you a birthday that is as sweet and delightful as you are. May all your wishes and dreams come true.",
29     "Here's to another year of laughter, friendship, and all the things that make life worth living. Happy birthday!",
30     "We hope that your special day is as amazing as you are and that all your dreams and wishes come true. Happy birthday!",
31     "On this day, may all your troubles be left behind and may your future be as bright as the sun. Happy birthday!" ];
  }
  
```

Figure 3: Screenshot of AppScript code

The script's modular design allows for scalability, making it suitable for organizations of various sizes. The use of Google Apps Script provides a cost-effective solution by leveraging existing Google Workspace tools.

IV. RESULTS

The script was tested in a simulated environment with employee data. It successfully sent personalized birthday emails to employees on their birthdays. Feedback from employees was positive, indicating an increase in engagement and morale. The automation reduced administrative workload and ensured that no birthdays were missed. Additionally, the script's performance was evaluated over a period, demonstrating reliability and accuracy.

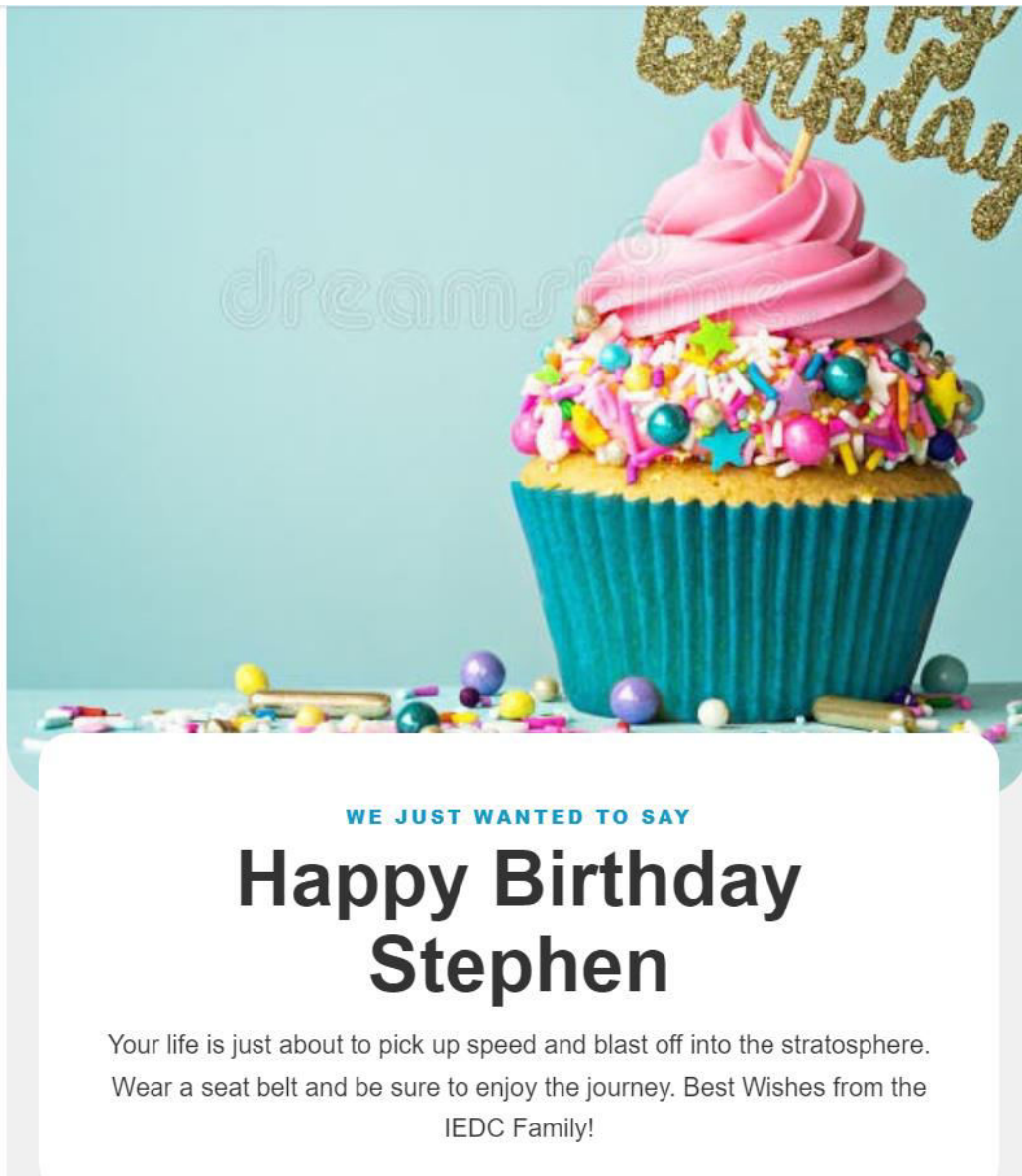


Figure 4: Screenshot of HTML Mail

V. DISCUSSION

Automating the process of sending birthday wishes addresses several challenges faced by HR departments. It ensures consistency in employee recognition and frees up time for HR personnel to focus on more strategic tasks. The personalization aspect, including gender-based salutations and random birthday wishes, adds a personal touch, making employees feel valued.

VI. CHALLENGES AND CONSIDERATIONS

Data Accuracy: Ensuring that the employee data in the Google Sheet is accurate and up-to-date is crucial for the script's effectiveness.

Personalization: While the script allows for basic personalization, further customization based on employee preferences can enhance the impact.

Security: Handling employee data requires adherence to data protection regulations and ensuring the security of the Google Sheet and script.

VI. CONCLUSION

This paper presented a Google Apps Script-based solution to automate the process of sending birthday wishes to employees. The implementation proved to be effective, efficient, and easily adaptable to various organizational needs. The automation not only enhances employee engagement but also reduces administrative workload, ensuring that no birthdays are missed.

Future work may explore further personalization options, integration with other HR systems, and extending the script's functionality to include other types of employee recognition and communication.

REFERENCES

- [1] Maslach, C., Leiter, M. P., "Understanding the burnout experience: Recent research and its implications for psychiatry," *World Psychiatry*, 15(2), pp. 103-111, 2016.
- [2] Kelleher, B., "Employee recognition: Low cost, high impact," *Industrial and Commercial Training*, 45(1), pp. 5-10, 2013.
- [3] Walker, A., "Employee Engagement and HR: The Future," *Employment Relations Today*, 28(3), pp. 63-72, 2001.
- [4] Tims, M., Bakker, A. B., Derks, D., "The impact of job crafting on job demands, job resources, and well-being," *Journal of Occupational Health Psychology*, 18(2), pp. 230-240, 2013.
- [5] Google Workspace. (n.d.). Retrieved from <https://workspace.google.com>
- [6] Google Apps Script. (n.d.). Retrieved from <https://developers.google.com/apps-script>



INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA



SJIF Scientific Journal Impact Factor



INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN COMPUTER & COMMUNICATION ENGINEERING

 9940 572 462  6381 907 438  ijircce@gmail.com



www.ijircce.com

Scan to save the contact details