

# Operations Platform

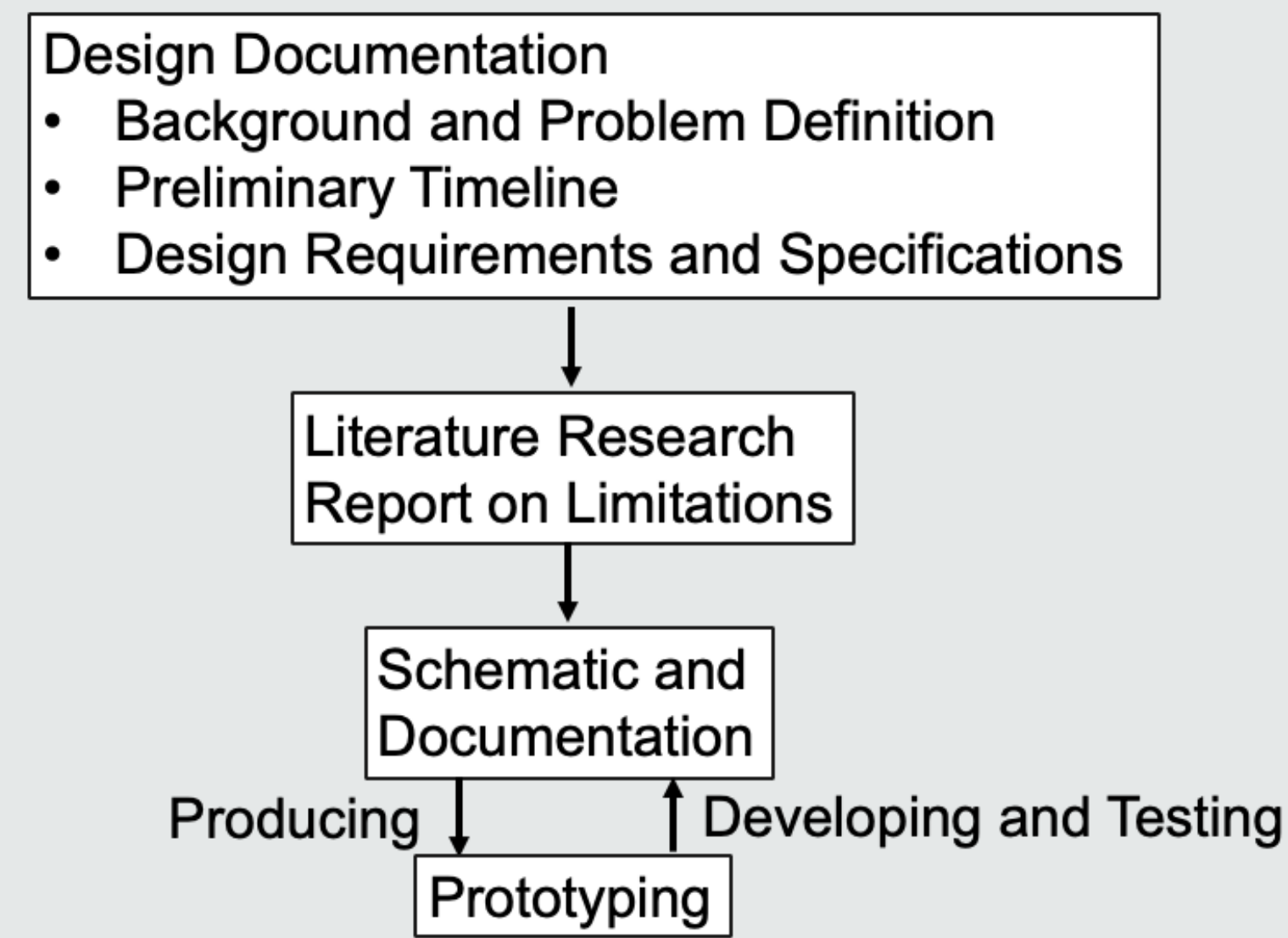
## Scope of Work

- Design a software platform which includes the followings for system routine checks
  - Digital Form – User Interface
  - Database – Historical Information Storage
- Provide detailed user instructions of the prototype

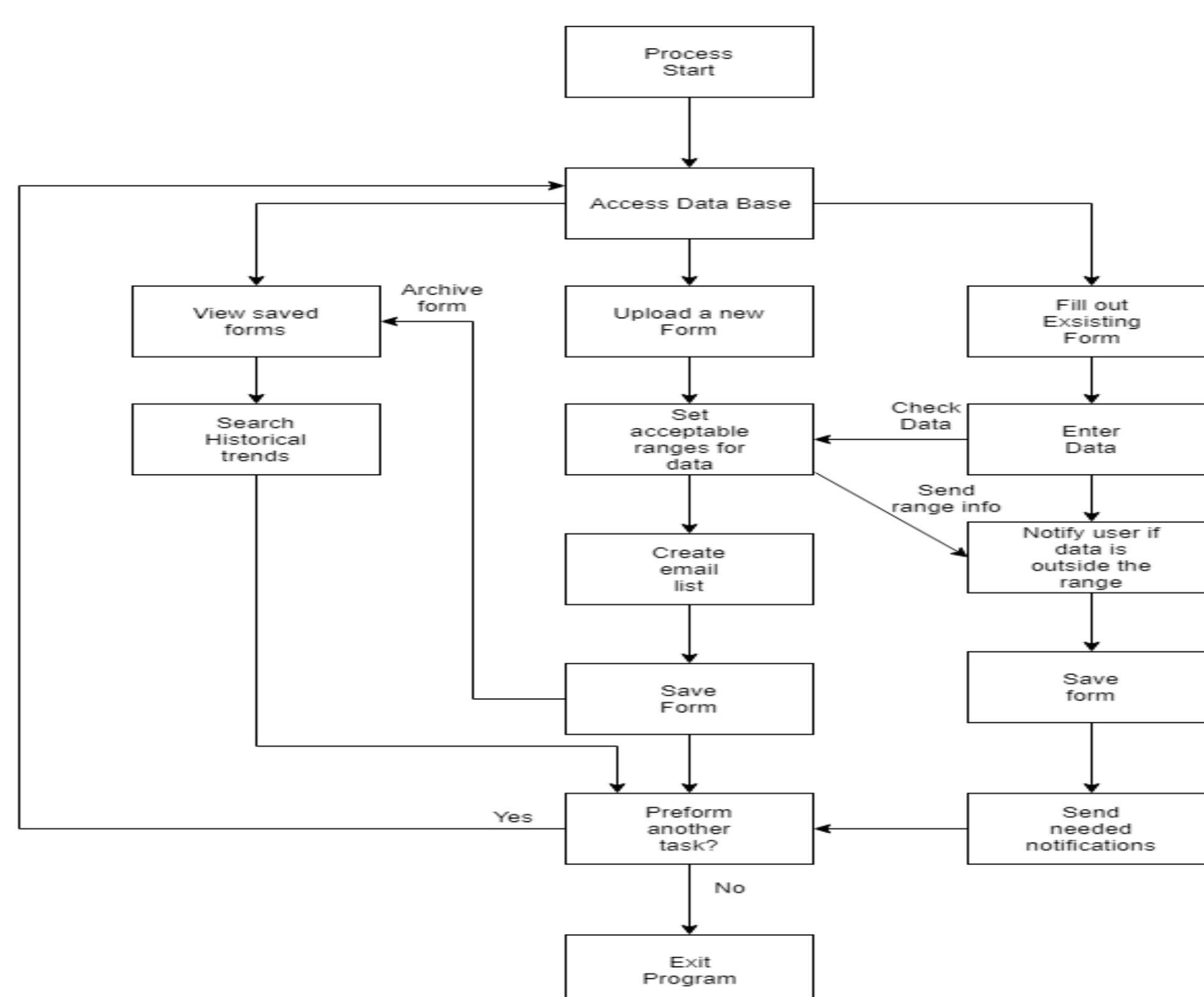
## Background

- 24-page printed form to record weekly routines
- No preventative measures for human errors
  - Long delay in passing information to the proper parties
  - Hard to manage and store
  - Hard to search for large scale of data
  - No way to retrieve lost data
  - Not environmentally friendly

## Design Process

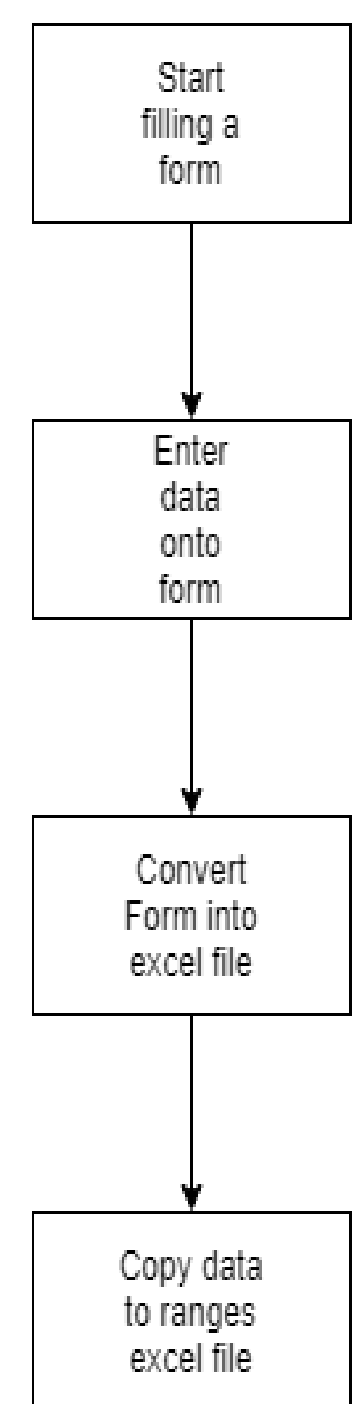


## System Architecture

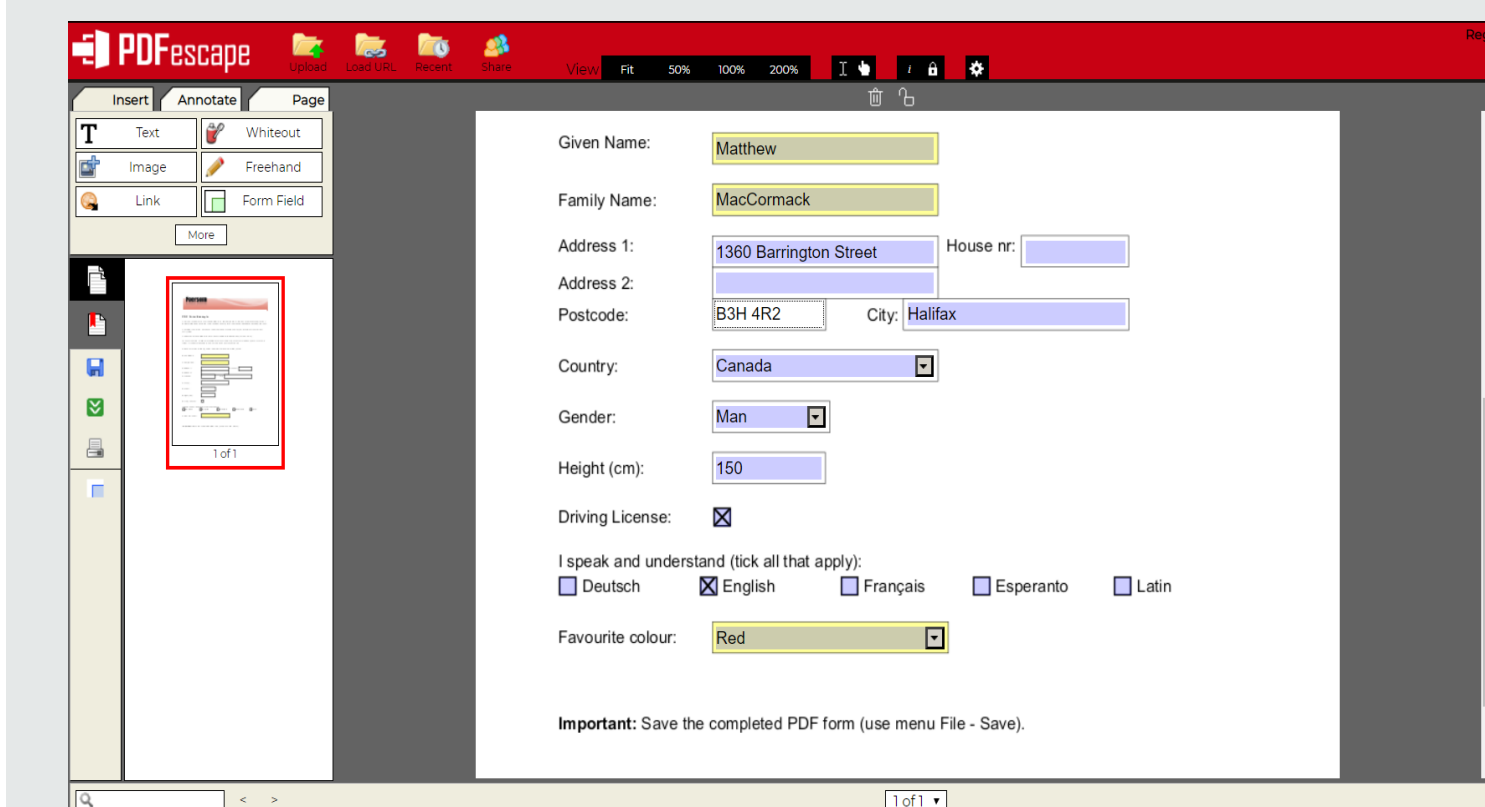


## Details of Final Design

### Data Filling and Extraction

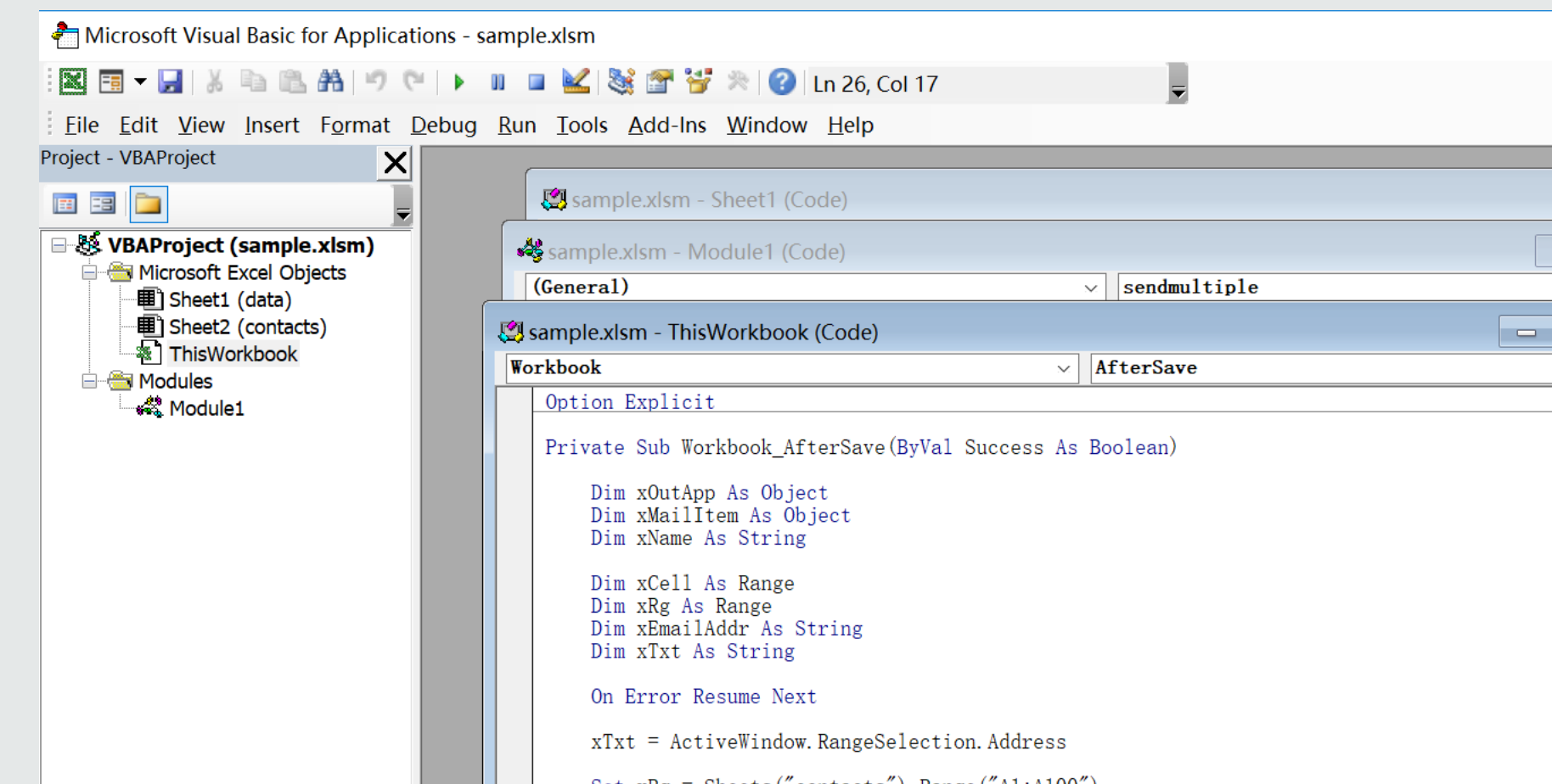


- Access an existing blank form that is saved in the database and open it in PDF Escape
- Enter data using PDF Escape and save file once completed

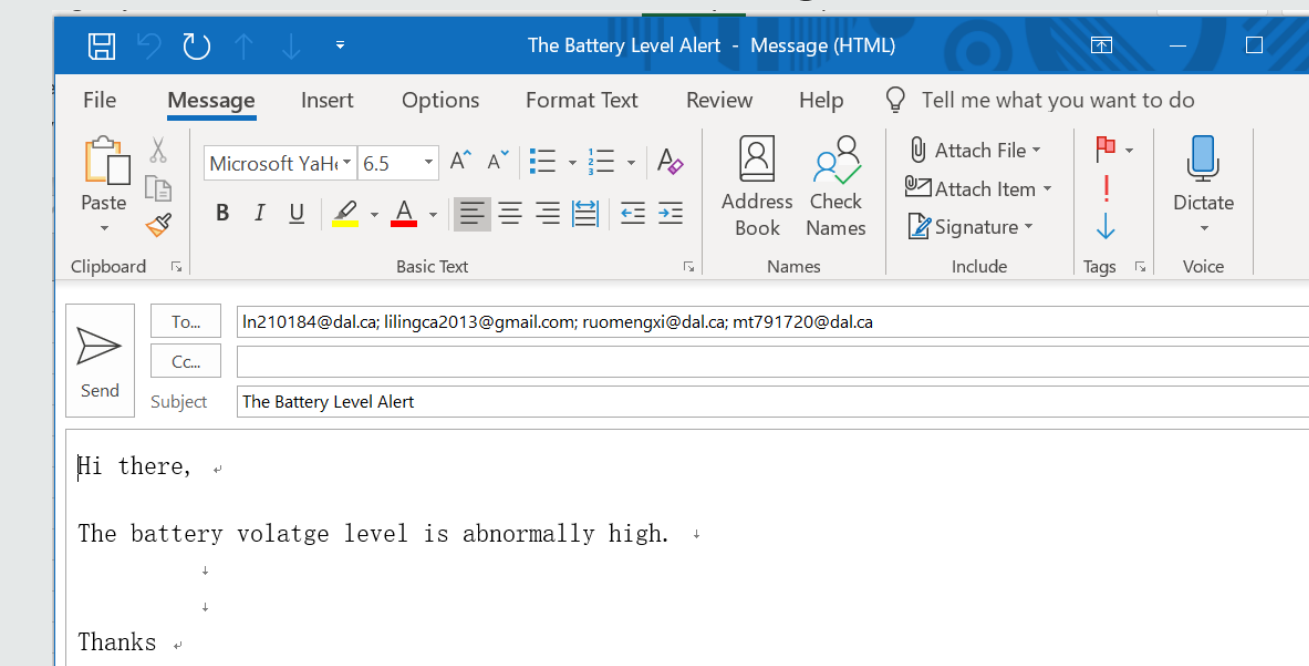


### Notification

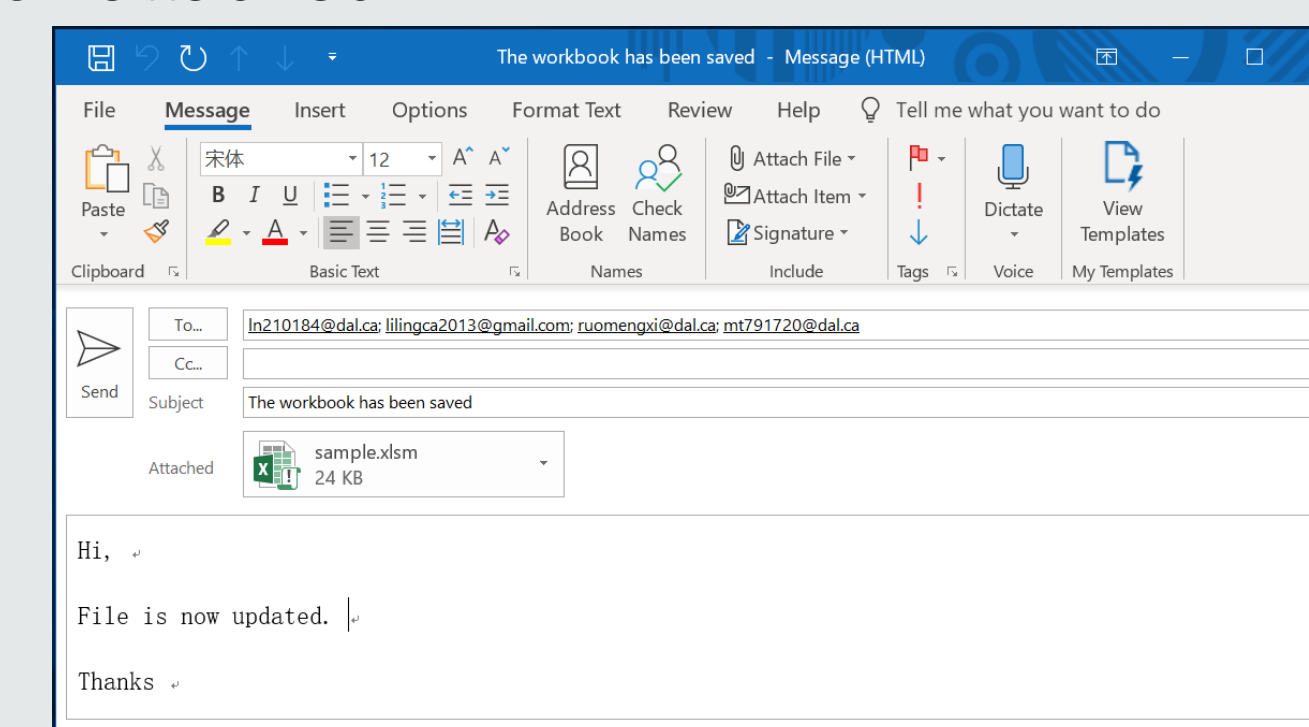
- Used VBA in Excel to create Marcos for abnormal data detection and data update notification



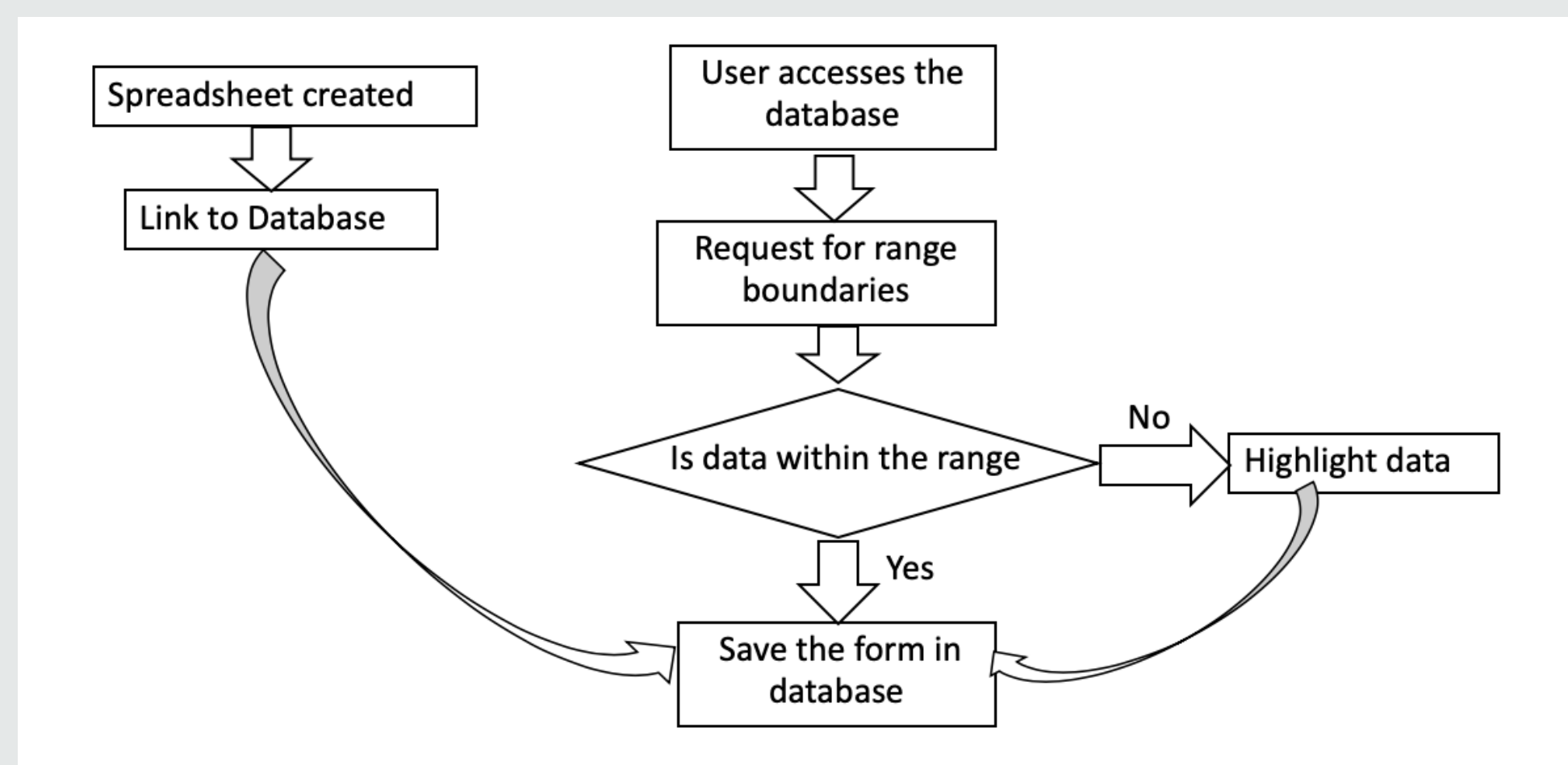
- An outlook email with a text message displayed on the screen when the entered value falls outside of the predefined acceptable data range



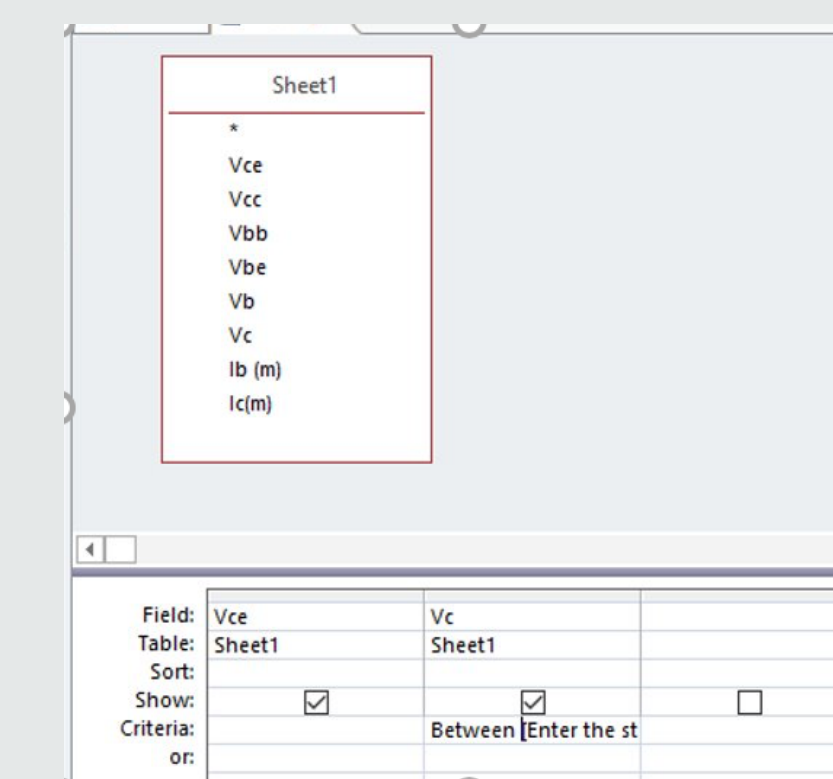
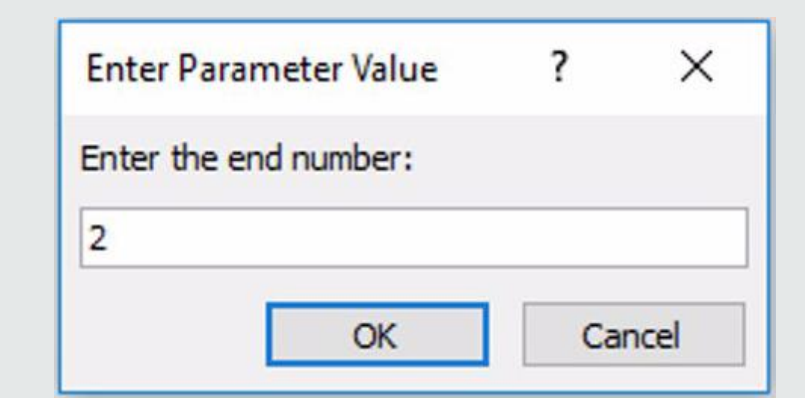
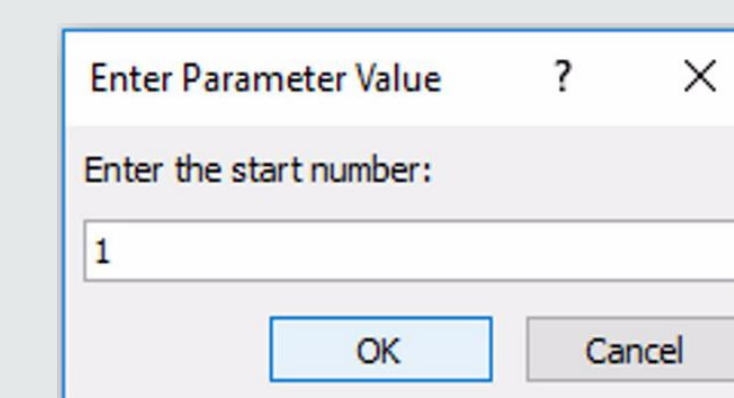
- An email will be create automatically with an updated workbook attached



### Data Storage and Evaluation

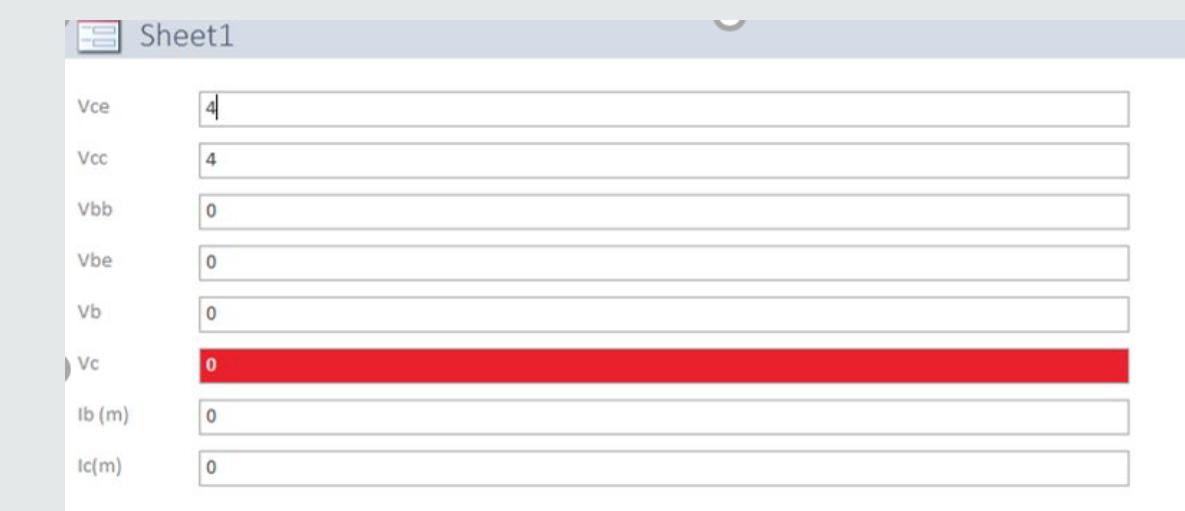


- Filtered spreadsheet with user's input



Vce	Vc
4	0
4	0
4	0
4	0.000467
4	0.35575
4	0.7586
4	1.7427

- Highlighted abnormal data



## Conclusion and Recommendations

### Conclusion

We were successfully able to build a working prototype where the user could:

- Enter a blank form into the database
- Fill the digital form with data
- Extract data and perform calculations on it
- Receive notifications if entered data is outside set range
- Notify other 3<sup>rd</sup> parties via email if further work needs to be taken with a form
- Save up to one years worth of forms

### Recommendations

For future improvements we would recommend using a different form filling and extraction system that can more efficiently enter data to a blank PDF and the perform the range calculations on that data.

## Acknowledgements and References

### Acknowledgements

The team would like to thank the client, Matt Lawrence, for providing necessary information. Also, we would like to thank Dr. Little for his thoughtful conversations and supervision. Finally, we would like to thank Dr. EISankary and Dr. Gonzalez for managing this project.

### References

- Rynearson, S. (n.d.). Learn VBA Online - Tutorial for Beginners. Retrieved from <https://www.automateexcel.com/learn-vba-tutorial/>