# GroupProject-2

“Bundles of Dough” Bakery Data Visualization Project

Background:

Who doesn’t love the smell of fresh bread? Bakeries draw in customers all different backgrounds, yet there are overarching trends in sales of different goods. This project will allow customers to view popular items to help inform their purchasing decisions.

The aim of this project is to provide customers with a story by utilizing data and creating visualizations that reveal consumer trends. This will provide customers with a broad understanding of how sales are predicted within non-chain bakeries and provide said customers with the ability to view purchasing activities within distinct time slots. For this, bakery transactions will be analyzed over the course of several months. Keeping in mind the common challenges facing our consumers when deciding on a purchase, an interactive website has been designed in an effort to educate and encourage our target market to make the best purchases. Many common tools have been utilized such as SQLite SQL, HTML with bootstrap, CSS, JavaScript including d3 visualizations, rule-based machine learning, and Flask microframework for Python (based on Werkzeug, Jinja 2). While constructing this project, “mlxtend” library was also analyzed.

Project Proposal:

Our aim is to highlight the most commonly purchased items in a given bakery, both on any given day, and within the context of several months. Users are provided with details concerning a variety of transactions in order to help them most effectively make purchasing decisions. These may be strategic decisions based on trends concerning date, time, item being sold, and other available data.

Trend information will be based on:

1) Overall most popular bakery items sold,

2) Most popular items sold depending on days of the week,

3) And most popular items sold depending on times throughout the day

Team:

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Team GitHub: https://github.com/ghassan100/GroupProject-2

Data Source:

“Transactions from a bakery (Market Basket Analysis)” (Kaggle)

https://www.kaggle.com/xvivancos/transactions-from-a-bakery/version/1

![Alt Text](https://github.com/ghassan100/GroupProject-2/blob/master/images/data\_preview.png)

Data Flow Diagram:

![Alt Text](https://github.com/ghassan100/GroupProject-2/blob/master/images/data\_flow\_diagram.png)

Data Visualization Examples:

![Alt Text](https://github.com/ghassan100/GroupProject-2/blob/master/images/data\_visualization\_inspo\_1.png)

![Alt Text](https://github.com/ghassan100/GroupProject-2/blob/master/images/data\_visualization\_inspo\_2.png)