**Final Project: Milestone 1**

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CSC 461: Database Systems

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Derek Caramella[[1]](#footnote-1), Lisa Pink[[2]](#footnote-2), & Tapan Pradyot[[3]](#footnote-3) (Team 19) seek to create a bartending management system. *Bar Rescue*, a reality television show hosted by Jon Taffer, exhibits a vital need for bartending empirical information. Additionally, the recent advents of bartending technology, such as [Bruno](https://www.makrshakr.com/products/) & [Somabar](https://www.somabar.com/), exhibit technology adoption within the industry. Team 19 strives to equip business owners, venture capitalist, & stakeholders with information that increases optimal decision making.

Supply chain & product portfolio management are integral to catalyze growth & ensure sustainability. Supply chain management is the workflow converting raw materials into the final, deliverable product. A plethora of complications can muddle supply chain processes, such as inaccurate inventory cycle identification, imprecise sale forecasts, or inflexible labor provisions. Twenty-five percent of the marketing matrix[[4]](#footnote-4) is product management, inappropriate product offerings may be a corporation’s demise. Team 19’s management system, Sandy, resolves supply chain & product portfolio disruptions by pragmatically organizing & displaying key performance indicators. Sandy delivers data visualizations that enable stakeholders to view revenue contributions across cocktails & bartenders. Sandy retrieves data through a variety of Point-of-Sale (POS) systems; thus, bars/pubs may seamlessly adopt Sandy into its information system catalog.

|  |  |  |  |
| --- | --- | --- | --- |
| Table | Attribute | Description | Data Type |
| Orderable\_items | Item\_id | Primary key | int |
| Orderable\_items | Item\_name | Finished item title | varchar(100) |
| Orderable\_items | Item\_price | Finished item price | decimal(6,2) |
| Item\_supplies | Supply\_id | Primary key | int |
| Item\_supplies | Component\_of\_drink | Finished drink name | varchar(100) |
| Item\_supplies | Recipe\_amount | Raw drink (oz.) necessary | decimal(4,1) |
| Item\_supplies | Item\_name | Raw drink into finished drink | varchar(100) |
| Item\_supplies | Item\_size | Raw drink purchase size (oz.) | decimal(5,1) |
| Item\_supplies | Item\_price | Raw drink purchase size ($) | decimal(6,2) |
| Completed\_orders | Order\_id | Primary key | int |
| Completed\_orders | Bartender\_service | Bartender id completed order | smallint |
| Completed\_orders | Order\_complete\_time | Completed Order Time | datetime |
| Bartenders | Bartender\_id | Primary key | smallint |
| Bartenders | First\_name | Bartender’s first name | varchar(100) |
| Bartenders | Last\_name | Bartender’s last name | varchar(100) |
| Bartenders | Employment\_type | Full Time/Part Time | char(9) |
| Orders | Order\_id | Primary key | int |
| Orders | Order\_item | Order finished item | varchar(100) |
| Orders | Order\_time | Order time | datetime |

Diagram

Description automatically generated Sandy contains five tables: *Orderable\_items*, *Item\_supplies*, *Bartenders*, *Completed\_Orders*, & *Orders*; the figure to the right exhibits Sandy’s preliminary data model. Moreover, attribute data types are listed below.

Sandy is constructed within the Python computer programming language. Python is an interpreted, object-oriented, high-level programming language with dynamic semantics. Python supports modules and packages, which encourages program modularity & code reuse. Additionally, Team 19 will utilize the mysql.connector module to create a connection to the MySQL server & execute MySQL statements. Moreover, Team 19 will utilize the Plotly Dash module to fabricate a web-interface. Plotly is written on top of React.js that enables seamless cross-platform & mobile executable. Below is Sandy’s preliminary overview.

Graphical user interface, chart

Description automatically generated

Graphical user interface, application

Description automatically generated

The user may filter cocktails & bartenders to view marginal data within the database. Moreover, the user may aggregate data into hourly, daily, monthly, & quarterly based. Furthermore, the user may filter the time-series to view specific operational records. Lastly, the user may click on the legends to view specific cross sections within the database without slicing the other figures. Sandy’s goal is to provide holistic empirical evidence to increase objective decision making.

Team 19 will artificially construct the data records to exhibit Sandy’s capabilities. Team 19 will utilize Gaussian distributions to generate order & completion times; moreover, Team 19 will represent market priced liquor within the database.

When using Sandy, shirts & shoes are optional.

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4. Marketing Matrix: Product, Price, Place, & Promotion [↑](#footnote-ref-4)