

Problem Definition

Stone Hearth products are not HACCP certified, which is a food safety plan that is required by some retailers. Without this certification, Stone Hearth would be unable to distribute to these retailers, which would limit sales and training opportunities for participant employees.

Objective & Scope

Goal: Creating a HACCP plan to:

- Satisfy current and future retailers
- Increase employee and participant skills.

Scope:

- Focus on creating the plan for rye bread and bagels.
- Train employees to use the plan.

Results and Analysis

Risk assessment tools are used for the hazard identification of raw materials and processes. This allows for the creation of a Standard Operating Procedure that involves:

- Identifying hazards and CCPs.
- Minimizing various hazards that occur within the bakery.
- Creating documents for the record-keeping procedure

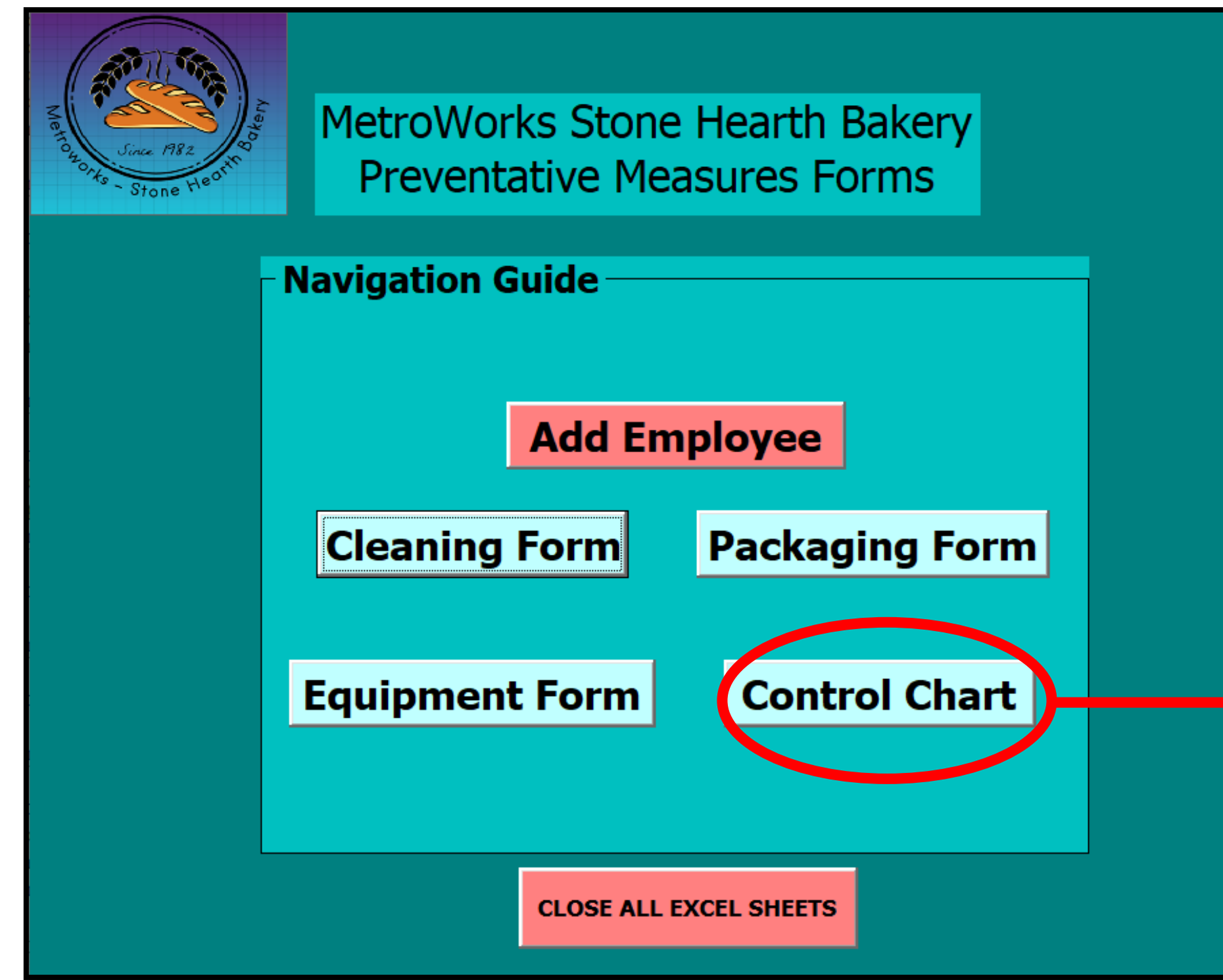
HACCP 7 principles

- Principle 1** Conduct a hazard analysis
- Principle 2** Determine the critical control points
- Principle 3** Establish Critical Limits for each Critical Control Points
- Principle 4** Establish Monitoring Procedures
- Principle 5** Establish Corrective Actions
- Principle 6** Establish record-keeping and documentation procedure
- Principle 7** Establish verification Procedure

Solutions & Implementation

Microsoft Excel Database

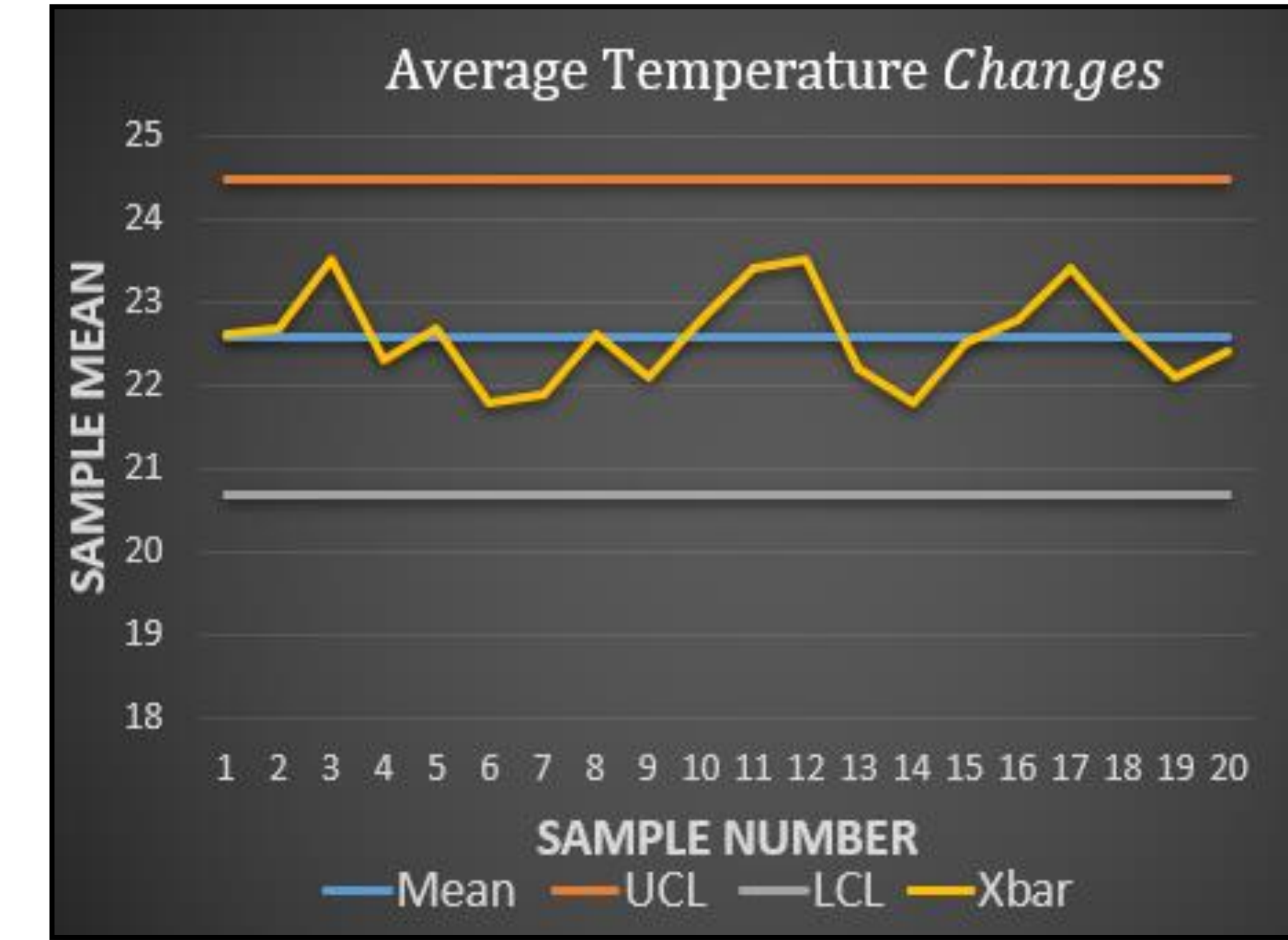
- Developed preventive measures for all identified hazards.
- Created printable preventative measures forms:
 - Printed once a week and filled daily.
 - Added to excel at the end of the week.
- Constructed control chart datasheet:
 - Used to track data of Critical Control Points.
 - 20 samples recorded daily.
 - Data for 5 days entered on excel at the end of the week.
 - Data used to create temperature control chart to monitor hazards.
- Created user instruction manual for ease of use.



Preventative measures data entry Homepage

Number of Sample	Observation -C				
	Day 1	Day 2	Day 3	Day 4	Day 5
1	21	24	22	24	22
2	22	23	21	24	23.5
3	24	24	22	23.5	24
4	23	21	23	22.5	22
5	22	22	24	23	22.5
6	23	28	21	21	21
7	21	21	22	22	23.5
8	21	21	23	24	24
9	22	22	24	21	21.5
10	23	23	24	22	22
11	24	22	25	24	22
12	24	24	22	23	24.5
13	21	21	23	21	25
14	22	21	21	22	23
15	24	21.5	22	24	21
16	24	22	23	23	22
17	23	22	24	24	24
18	21	23	22	24	23.5
19	22	21	21	24	22.5
20	22	21	24	21	24

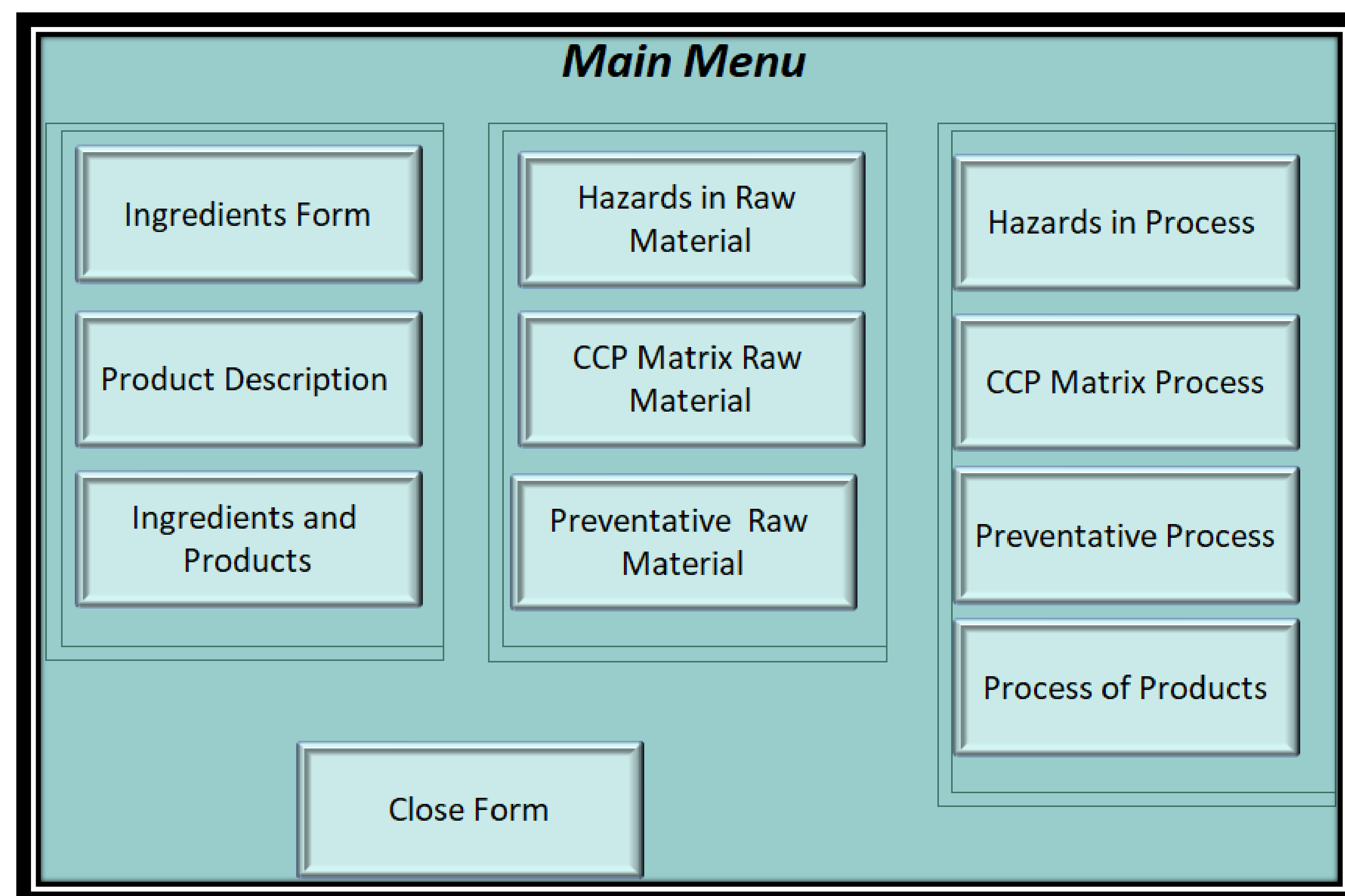
Control chart datasheet entered at the end of the week



Temperature control chart of the product storage area (Average)

Microsoft Access Database

- Completed HACCP analysis of rye bread and bagels.
- Documented the complete HACCP analysis on Microsoft Access Database.
 - Stored documented data of the HACCP analysis within the database for traceability.
- Created user instructions manual for ease of use.
- Registered all hazards present in the raw materials and production process.
- Database is modifiable to add new products & their hazards.
 - Decision trees are used to distinguish critical control points and are presented in database forms.



The main menu of HACCP products documentation

Data entry form: Hazards within the raw materials

Recommendations

- Continue analysis of the remainder of products made within each section of the bakery.
 - Using the completed analysis for rye bread and bagels as a basis to assist in, the completion of the remaining products.
- Incorporating an automatic temperature reader to document the temperature automatically, reducing extra work for employees.
- Purchase a pH reader to assist in recording the pH as it is a Critical Control Point.



Madgetech temperature data logger



pH meter digital water quality tester