



اَوْنِبُوْرَسِيْتِيْ بَاتِيْكَوْلُوْمِيْ مَبَارَا

UNIVERSITI  
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**TECHNOLOGY BLUEPRINT REPORT**  
**'FOOD SPOILAGE INDICATOR'**

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COMPANY'S LOGO



**HSR Group**

## CHAPTER 1

### 1.0 PRODUCT DESCRIPTION

#### 1.1 Introduction

The team is developing a 'Food Spoilage Indicator', a small and portable device used to measure pH, water activity, texture, and colour of food. This device is the combination of complex and expensive instruments available in the food industry. The new product will be a simpler device that provides and combines several functions of those instruments at lower cost. This device is also able to determine the level of freshness and safety of the food to be eaten.

#### 1.2 Purpose of Development

- To measure pH, water activity, texture, and colour of food.
- To determine the level of freshness, safety and also the expected shelf life of food to be consumed.

#### 1.3 Product Concept

- 'Food Spoilage Indicator' is a device used to measure pH, water activity, texture, and colour of food. It is designed to determine the level of freshness, safety and also the expected shelf life of food to be consumed.
- A device that provides and combines several functions of complex and expensive instruments available in the food industry at lower cost.

#### 1.4 Application

- Measure and analyze the pH, water activity, texture and colour of food which indicate the level of freshness and safety of the food.
- Using electronic sensor to detect test results.

##### 1.4.1 Functions

- Body – Has ON/OFF button, screens to display the test results and the expected shelf life of the tested food.
- Head – Smiley face indicates that the food is safe to be consumed while sad face indicates that the food is already spoiled.

- Bulb – Electronic sensor to detect test results.
- Cap – To protect the bulb.

### 1.5 Unique Features

- Small and portable indicator – Easy to handle and carry everywhere.
- Electronic sensor to detect test results - Reading the result electronically eliminates the need for a trained operator to evaluate the results thus reduces the likelihood of misinterpreting results.
- Fast detector - It only takes 5 seconds to detect the results (pH, water activity, texture, colour of food)
- Auto shut-off - Device will turn off automatically if not being used for around 5 minutes.
- Long-lasting battery - Battery will last up to 1 week without charging.
- Heat resistance bulb – Can be used in hot food without damaging the bulb.

#### 1.5.1 Picture Description

