



اَوْنِبُوْرَسِيْتِيْ بِاَتِيْكَوْلُوْمِيْ مَبَارَا
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**NEW PRODUCT DEVELOPMENT : CADU (SELF-
HEATING FOOD CONTAINER)**

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EXECUTIVE SUMMARY

In our point of view, school students still bringing their own food to the school. No matter how high the technology is, this is a culture that will never end. This is because of how much parents took care of their children, always ensuring they will give the best effort and support for them. This situation shows that it is relevant to carry out this product development. As a matter of fact, this development will encourage parents to pay deep attention on children's nutrition, which is important for their growth. CADU has been made for keeping a fresh cooked food. Imagine if you cooked early in the morning and the food still look freshly cooked in the afternoon, the temperature still the same. This is what our group would like to achieve in this project.

1. INTRODUCTION

1.1 Problem statement/ Issues

- At school, students are given pocket money from their parents for food during recess time. But some parents prepared them home-cooked food to bring along to the school.
- Most parents prefer to pack them home-cooked food because they want to ensure their children are eating healthy meal instead of those provided in canteen. Moreover, there are several cases of food poisoning when it comes to the ones provided at the school canteen.
- According to News Strait Times, in August 2016, despite various measures taken by the authorities, food poisoning cases in Perak have reached an alarming level this year.
- State Health director Datuk Dr Juita Ghazalie said to make the matter worse, 887 of the 1,263 victims were students from 32 schools statewide.
- Other than that, for home-cooked meal, without using proper food container, the food will become spoil due to exposure of air. The food can also become unpleasant if contained for too long. For example, home-cooked meals are prepared before 7a.m which is the time where students need to be at school, but recess is around 10a.m, this cause the food to be not as fresh as it was at the beginning.
- Therefore, there is a serious need to introduce a new way that can be utilized to ensure the home-cooked meals are healthy to be eaten for school students

1.2 Methodology/ Data Collection

The method for the data collections are :

1. The data is collected through questionnaire.
2. The team is to distribute 30 questionnaire to school students.
3. The team is set to gather data by referring from the internet, journals and books to acquire additional information as secondary data.

Sample of Questionnaire:

Gender :

Age Group :

1. Do you bring home-cooked or buy food at the school canteen?
2. Would you rather eat home-cooked food or the food from the canteen?
3. Do you prefer large size or good design?
4. Do you feel that home-cooked food is better than the food provided at the canteen?
5. What kind of home-cooked food would you like to bring to school?

1.3 Limitations

The limitations of this product is:

1. This product may not be used by certain students as their parents provide them pocket money to buy food at school canteen during recess.
2. Size of food container is able to fit enough for one person meal.

2. NEW PRODUCT DEVELOPMENT

2.1 Definiton

CADU is define as a food container that are:

- A food container with the technology to reheat food
- The main goal is to ensure the long-contained food is always fresh, warm and pleasant to eat
- The food container is designed to have a solar panel that absorbs solar and light energy and converts it into heat energy to reheat the food inside.
- The food container comes with multiple choices of colour which students can choose as to their preference.

2.2 Classification of NPD

Stage of development

- The product is still at R&D stage. The team is designing a product that could apply heating system in food container that ensure the food is in best condition.

Similar products in the market

- There are several similar products in the market. But the existing product have different uses and purposes.
 1. iHomex – Uses electric cable, for 2-set meals
 2. Electrical Lunch Box (Orange) – Uses electric cable

2.3 New Product Development Process

2.3.1 Research and Development

According to (S. J. Edwards, 2004) our findings indicate that higher temperatures around the time of consumptions are important and reinforce the need for further education on food handling behaviour.

Idea Generation

The idea of the CADU starts from a study made from our experience during back in school time where we would bring home-cooked meal, but the taste become unpleasant to eat as the food was kept in the container for more than 3 hours. This also causes the food to become cold. This causes some students to stop bringing home-cooked food and prefer buying from the school canteen during recess time.

Idea Screening

Market Survey

2.3.2 Product Design/Features

LID	<ul style="list-style-type: none">• Solar Panel – Absorb light energy• Photovoltaic box – Converts light energy into heat energy• On/Off button – To activate/deactivate heating system• Insulator Ring – To connect lid and body
BODY	<ul style="list-style-type: none">• Insulator Ring – To connect lid and body• Heat-proof outer case – To prevent heat from spreading to the outer case.• Heat insulator inner layer – To ensure optimum heating

Product Dimensions:

For its physical design, we want it to achieve the most easy way to grip to prevent slipping as school students has the tendency to be careless at times.

As for the aesthetic, the food container has bright colour and texture. Also, the solar panel is designed with different approach of other geometrical shape instead of the usual rectangular shape.