
RESEARCH EXHIBITION IN MATHEMATICS & COMPUTER SCIENCES

REMACS 5.0



CS240 - BACHELOR OF INFORMATION TECHNOLOGY [HONS.]
CS248 - BACHELOR OF SCIENCES [HONS.]
MANAGEMENT IN MATHEMATICS
CS251 - BACHELOR OF COMPUTER SCIENCE [HONS]
NETCENTRIC COMPUTING
CS255 - BACHELOR OF COMPUTER SCIENCE [HONS]
DATA COMMUNICATION & NETWORKING

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Universiti Teknologi MARA Perlis Branch

**Research Exhibition in Mathematics and Computer Sciences
(REMACS 5.0)**

Research Exhibition in Mathematics and Computer Sciences (REMACS 5.0)

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Editors

Rafiza Ruslan, Mohamad Najib Mohamad Fadzil, Noorfaizalfaird Mohd Nor, Mohammad Hafiz bin Ismail

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Preface

It is with great pleasure that we present this extended abstract book, titled "The 5th Research Exhibition in Mathematics and Computer Sciences (REMACS 5.0)". This book is a collection of research work in the fields of Computer Science and Mathematics, contributed by the final year students from Universiti Teknologi MARA, Perlis Branch. The aim of this book is to showcase the diversity and depth of research in these two interrelated fields.

Mathematics and Computer Science are two fields that have seen tremendous growth and advancement in recent years. With the rise of new technologies and the increasing demand for data-driven solutions, researchers in these fields have been working hard to develop new theories, algorithms, and models that can help solve some of the most pressing problems of our time. This book is a testament to their hard work and dedication.

The abstracts in this book cover a wide range of topics, including algebra, analysis, logic, computer architecture, algorithms, artificial intelligence, machine learning, computer network, netcentric computing and many more. The work presented here is both theoretical and practical, and has the potential to impact many areas of society, from finance and healthcare to education and security.

We hope that this book will serve as a valuable resource for future students in the fields of Mathematics and Computer Science. We also hope that it will inspire more students to pursue innovative and groundbreaking research in these two fields. Finally, we would like to express our gratitude to all the contributors for their hard work and dedication, without which this book would not have been possible.



RESEARCH EXHIBITION IN MATHEMATICS & COMPUTER SCIENCES
REMACS 5.0

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EVENT SCHEDULE

8:00 – 8:30 am

- Registration

8:00 am – 12:00 pm

- FYP Project Presentation

12:00 - 2:00pm

- Lunch Break

2:15 – 2:35 pm

- National & Wawasan Setia Anthems
- Doa Recitation

2:35 – 2:45 pm

- Welcoming Address by Director of REMACS 5.0

2:45 – 2:55 pm

- Officiating & Closing Remarks from Rector of UiTM Perlis

2:55 – 3:00 pm

- REMACS 5.0 Montage

3:00 – 4:00 pm

- Awarding of Winners:
 - Best Poster
 - Best Project Award

- Photo Session

- End of Ceremony

Dress Code: Formal / Corporate

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EXTENDED ABSTRACTS

RESEARCH EXHIBITION IN MATHEMATICS & COMPUTER SCIENCES
REMACS 5.0

ANALYZING ON HOW FOOD CONSUMPTION CAN AFFECT IN DIABETES

Muhammad Saiful Azim Mohd Ariff and Khairul Anwar Sedek

College of Computing, Informatics and Media, Universiti Teknologi MARA Perlis Branch, Malaysia

Abstract

Diabetes is a common well known disease which normally people address it as a disease for old people. But it is not any age specific disease anymore as it began to develop among the youth nowadays. There should be a proper method to educate people about the importance of food consumption in taming down the disease. A proper way should be carried out to address the problem. Glycemic value is one of the important aspect that should be highlight when it comes to diabetes. It should be followed to properly manage daily food consumption. However, it is still not being properly address to the public to properly use. This project aims to provide a dashboard that can help in guiding about diabetes and analyse how food consumption effects on diabetes. Data is collected from various sources from the internet. It will visualize food glycemic value and food consumption trend that will help diabetic and anyone who is curious about the disease to be cautious with daily food intake.

Keywords: diabetes, glycemic value, dashboard, food consumption

1. Introduction

There are multiple reasons for people to eat healthy just to avoid or overcome diseases that one might have. Food and diabetes are inseparable which a clear understanding about diabetes and way to handle it is a need. It will prolong diabetes if there is no measurement to slow it down. Therefore, a dashboard that helps in visualizing food glycemic values and data about diabetes is needed to help in educating and giving awareness about the disease and the food needed to tame it.

2. Methodology

Data were collected from two websites for the visualization such as the glycemic value and the country involved in the datasets. Scraping the data is required since it is from websites which will be done using parsehub to scrape. The dataset will then be cleaned using Microsoft Excel before it can be transferred to any storage spaces with the Hadoop Distributed File System (HDFS). The data is then analysed using Hive to aggregate the data to produce more relevant data. Visualization and publishing can be done on Microsoft Power BI.

3. Results and Discussion

In the visualization of food consumed by Europeans, it is confirmed that most Europeans tend to consume food that is high in glycemic value. Death due to diabetes in Europe is the highest compared to the other continent. This could be due to the food consumed by most Europeans as a whole. It shows that some of the countries in Europe consume food that is in moderate amounts of glycemic value. But as the statistics of the death due to diabetes are the highest in Europe, it should be pointed to all the countries in the continent. With that, a usability test was conduct to analyse the dashboard usefulness. The average mean score comes with a 4.41079 which is above the average. Can be conclude that the dashboard is useful and achieved its objective.

4. Novelty of Research / Product

Number of researches have been done to find the connection between food with diabetes which a Study conduct on food nutrition and association with Diabetes Mellitus done by (Wan, 2020) which highlight that a certain type of food nutrition should be reduced and this bring to the ideas of using glycemic value as a measurement for food that can be consumed by diabetic. It is found that there is a positive association between glycemic index and food consumed (Jenkins et al., 2021). In Malaysia, among pregnant woman, one-fifth of women in reproductive age were diagnosed with diabetes which could be due to unbalanced diets and healthy lifestyle (Cheong et al., 2013)

5. Conclusion

In conclusion, we could say that glycemic value does give an impact in determining food that can be consumed by diabetic. The dashboard has achieved the objective of the project with analyzing how food consumption effects on diabetes dashboard. The project did visualize the data appropriately using graph and chart.

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