

DMUK Computing Challenge

Ignite Your Future

Guidelines for Round 2 Competition

Date: 2nd November 2024

Venue: On-Campus

1. Portfolio web page creation:

This competition is participants' chance to showcase their problem-solving skills and creativity in a unique format -- a single-page portfolio website! Whether participants tackled a design challenge, developed a scientific solution, or created a business plan, their portfolio will be the stage to tell their problem-solving story.

Note: The topics for this activity will be provided on the day of the competition.

Why a Single-Page Portfolio?

- **Focus:** A single page keeps the audience engaged and ensures they see the most important aspects of the participants' work.
- **Simplicity:** This format allows participants to quickly build a professional portfolio without getting bogged down in complex website design.
- **Impact:** Participants can leave a lasting impression on the judges with clear and concise information.

Introducing carrd.co: Single-Page Portfolio Tool

To help participants create their impactful portfolio website, they can use the tool Carrd.co, a user-friendly online platform specifically designed to build beautiful, single-page websites. Carrd.co is a versatile and intuitive platform for creating single-page websites, including portfolios, landing pages, resumes, and more. With its drag-and-drop interface and customizable templates, Carrd.co makes it easy for anyone to design and launch a professional-looking website in minutes without any coding knowledge required.

Key features of carrd.co include:

- **Easy-to-use Interface:** No coding required! Carrd's drag-and-drop interface lets participants add elements like text, images, buttons, and even forms with just a few clicks.
- **Variety of Layouts:** Choose from a range of pre-designed layouts or start from scratch to create a website that reflects participants' unique style and project.
- **Customization Options:** Personalize the portfolio with custom fonts, colours, and backgrounds to make it stand out from the crowd.
- **Mobile-Friendly Design:** Carrd ensures the portfolio looks great on any device, whether it is a desktop computer, tablet, or smartphone.

Getting Started with Carrd.co:

To get started with carrd.co, participants can simply sign up for an account on their website and explore the available templates and customization options. Once they have chosen a template, they can use carrd.co's intuitive editor to personalize their website by adding their content, adjusting colours and fonts, and arranging elements to create a cohesive and professional-looking portfolio.

carrd.co also offers helpful tutorials and guides to simplify the building process. Also, YouTube has several tutorials on Carrd. Participants should not hesitate to explore them!

With Carrd.co and their creative vision, participants can build a stunning single-page portfolio website that effectively communicates their problem-solving skills and leaves a lasting impression on the judges.

2. Problem-solving challenge:

Instructions:

- In this contest, participants are required to design an innovative solution for a given problem. The solution should include the role of IT to solve a real-world problem.
- Participants will have 2 hours to study the problem and design a solution. They are permitted to use the Internet for reference in the computer lab.
- Participants should also prepare a presentation (PPT) or a Poster demonstrating the solution for the assigned problem.
- There is no need to present the PPT / Poster.
- The topics will be provided on the day of the competition.

Participants will be assessed on the following:

- Innovativeness of the solution (30%)
- Feasibility of the solution (30%)
- PPT / Poster (40%)

Example Problem: Reducing Food Waste

Food waste is a major global problem, contributing to greenhouse gas emissions and environmental degradation. Develop an innovative IT solution to help reduce food waste.

- **Challenge:** Develop an innovative IT solution to help reduce food waste.
- **Additional guidance:** Participants can focus on different aspects of the food system, such as reducing waste in production, distribution, retail, or consumption. They can also consider leveraging IoT, AI, or blockchain technology to improve tracking, logistics, or consumer behaviour.
- **Reading Resources:** (You are free to refer to any other resources/sources)
 - Food and Agriculture Organization of the United Nations - Food Loss and Food Waste: <http://www.fao.org/food-loss-and-food-waste/en/>
 - ReFED - A Roadmap to Reduce U.S. Food Waste by 20 Percent: <https://www.refed.com/>
 - Food Waste Reduction Alliance - Best Practices and Emerging Solutions Guide: <https://www.foodwastealliance.org/>
 - Too Good To Go - A mobile app that connects consumers with surplus food from local businesses: <https://toogoodtogo.com/en>
- Participants can create a poster with PowerPoint or any online drawing platform.
- Participants should create a **PowerPoint presentation** consisting of **no more than 10 slides**.



IT Solutions for Climate Change

Impact of IT Solutions on Climate Change



Introduction

1. Introduction: Purpose of the report and its relevance to the organization and the industry.

2. The primary objectives are:

- To analyze the current IT landscape and its carbon footprint.
- To identify key IT solutions that can reduce the organization's carbon emissions.
- To evaluate the potential impact of these solutions on the organization's bottom line.



An effective IT solution can lead to a 45% reduction in carbon emissions.

Research Focus

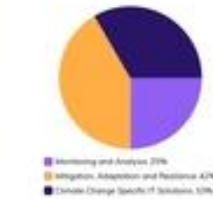
Exploring the effect of different IT solutions in various aspects of climate change:

Operational Impact & Integration	Solution Effectiveness	Sustainability & Scalability
Large Corporation = 35, SMEs = 45, Startups = 20	Highly Effective = 75, Effective = 30, Ineffective = 15	Global Sourcing = 30, Sourcing Locally = 25, AI in Services = 20
Reduced Emissions & Energy Efficiency	Positive Resource Efficiency	Customer & Supply Chain Impacts
Strategic Innovations & Policy Influence	Effective Resource Management	Funding & Incentive Schemes
Real Time Monitoring & Rapid Deployment	Scalable and Adaptive Solutions	Global & Local Impacts

Results

Key IT solution areas were identified based on their impact on climate change and related factors.

IT Applications	Solutions	Impact
	Data and Process Efficiency	25%
Renewable Energy Management	Innovative and Adaptive Technology	35%
	AI and Data Analytics	35%
Disaster Recovery and Business Continuity	Cloud and Communication Solutions	40%



Real Time IT Solution for Climate Change



Optimizing resource efficiency and data processing.



Implementing and maintaining advanced IT solutions for climate resilience.



Assessing the co-benefits of IT solutions on other environmental and social factors.

Appreciation

This research was made possible by the guidance and support of my supervisor, Dr. IT Pioneer, and the inspiring IT trailblazers I had the opportunity to work with.