

DMUK Computing Challenge

Ignite Your Future

Guidelines for Round 2 Competition

1. Portfolio web page creation:

This competition is your chance to showcase your problem-solving skills and creativity in a unique format – a single-page portfolio website! Whether you tackled a design challenge, developed a scientific solution, or created a business plan, your portfolio will be the stage to tell your 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 your audience engaged and ensures they see the most important aspects of your work.
- **Simplicity:** This format allows you to quickly build a professional portfolio without getting bogged down in complex website design.
- **Impact:** You can leave a lasting impression on the judges with clear and concise information.

Introducing carrd.co: Your Single-Page Portfolio Tool

Help you create your impactful portfolio website, you 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 you 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 your unique style and project.
- **Customization Options:** Personalize your portfolio with custom fonts, colours, and backgrounds to make it stand out from the crowd.
- **Mobile-Friendly Design:** Carrd ensures your 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 simply sign up for an account on their website and explore the available templates and customization options. Once you have chosen a template, use carrd.co's intuitive editor to personalize your website by adding your 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. Do not hesitate to explore them!

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

2. Problem-solving challenge:

Instructions:

- In this contest, you 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.
- You will have 2 hours to study the problem and design a solution. You are permitted to use the Internet for reference in the computer lab.
- You should also prepare a presentation (PPT) or a Poster which demonstrates 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.

You will be assessed on the following:

- Innovativeness of the solution (30%)
 - Feasibility of the solution (30%)
 - PPT / Poster (40%)
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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 how to leverage technology such as IoT, AI, or blockchain 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>

To create a Poster, you can use Powerpoint or any online drawing platforms.

If you are creating a PPT (Not more than 10 slides)



IT Solutions for Climate Change

Impact of IT Solutions on Climate Change



Introduction

Information Technology (IT) provides a new and effective means to reduce and manage emissions in a digital world.

The primary objectives are:

- To leverage data and technology for environmental sustainability.
- To reduce the carbon footprint of IT across the green agenda.
- To identify and implement strategies to enhance quality of services.



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

Research Focus

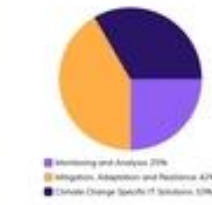
Exploring the effect of different IT solutions in various aspects of climate change:

Organizational Impact & Integration	Solution Effectiveness	Scalability & Sustainability
Large Corporations = 75, SMEs = 45, Startups = 20	Highly Effective = 75, Effective = 30, Ineffective = 15	Global Scaling = 30, Scaling Locally = 25, As-a-Service = 20
Reduced Emissions & Energy Efficiency	Positive Resource Efficiency	Customer & Supply Chain Impacts
Strategic Initiatives & Policy Influence	Effective Resource Management	Funding & Investor Sentiment
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 Application	Solution	Impact
Renewable Energy Management	Data and Resource Efficiency	20%
	Innovative and Adaptive Technology	30%
Disaster Recovery and Business Continuity	IoT and Data Analytics	30%
	Cloud and Communication Solutions	40%



Real Time IT Solutions for Climate Change



Monitoring and Analytics (20% Impact)



Mitigation, Adaptation and Resilience (40% Impact)



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 ecosystem I had the opportunity to work with.