

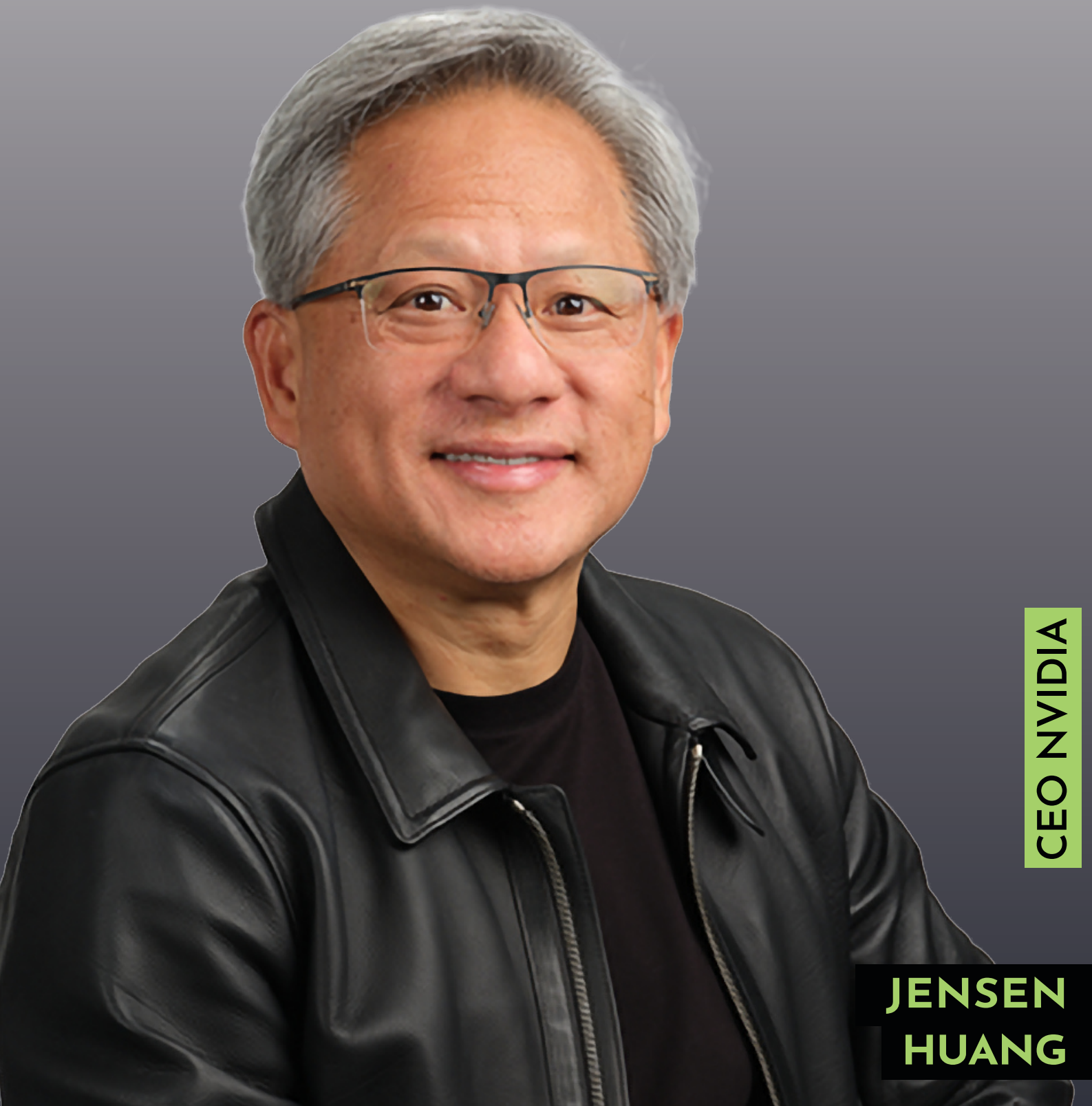


Vishwakarama Government
Engineering College

Department of Information Technology

the **TECH** *-TREASURE*

Volume: 04 - 2023



CEO NVIDIA

**JENSEN
HUANG**

Vision

The department aims to nurture students to be IT professionals who are innovative and technically competent to meet the advancements in industrial and societal needs.

Mission

- To produce technically competent and socially responsible graduates.
- To develop well-equipped laboratories to gain practical exposure in IT practices.
- To support research culture, consultancy work and enhancement of entrepreneurship skills.
- To enhance industry linkage for good placements and real-world exposure.
- To encourage, involve and support students for environmental and social well-being.

PEOs

- The graduate will be a competent professional with high-level technical proficiency in the field of Information Technology to identify problems and develop innovative solutions to meet the industrial needs.
- The graduate will exhibit professionalism, teamwork, leadership skills, and lifelong learning .
- The graduates will ethically apply their computing knowledge and skills considering societal, economic, and environmental factors.
- The graduate will be intellectually competent to pursue higher education and conduct research-oriented activities.

PSOs

- Demonstrate proficiency in one of the emerging Technology like Data Science, Machine Learning, and Web/Mobile Application Development.
- Demonstrate skills to design, develop and test software systems to provide solutions to real-world problems.

Message from HOD

We are thrilled to unveil the fourth edition of the Department of Information Technology's esteemed technical magazine, "Tech-Treasure." This edition continues to celebrate the remarkable talents, skills, and innovative spirit of our students. "Tech-Treasure" offers a platform for young engineers to approach challenges with creativity and originality, showcasing their literary and technical prowess.

Our department is dedicated to fostering an exceptional learning environment, and this magazine is an integral part of that mission. It provides students with valuable insights into new technologies and current trends, encouraging them to stay engaged with the evolving tech landscape.

In this edition, readers will find a wealth of inspirational articles, project updates, and innovative solutions to real-world problems. We extend our heartfelt appreciation to Prof. Naimisha Trivedi and her team for their hard work and dedication in bringing this publication to life. A special thanks also goes to all the contributors and supporters who have made this project a success.

- Dr. Vibha D Patel
(HOD, IT)



Dr. Vibha D Patel
(HOD, IT)

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Growth Of Global IT Firms

NVIDIA



Nvidia Corporation is an American multinational technology company incorporated in Delaware and headquartered in Santa Clara, California. It was founded in 1993 by Jensen Huang, Chris Malachowsky, and Curtis Priem. Mr. Jensen Huang, a person with Taiwanese origin, is the CEO of Nvidia Corporation.

Nvidia is a multinational technology company that provides a range of graphics processing units (GPUs) and artificial intelligence (AI) solutions. The company has a rich history in developing advanced graphics and computing technologies, and its products are used widely across the globe by gamers, researchers, developers, and other professionals.

Nvidia has been in business for over three decades and has evolved into a leading IT firm in the graphics and AI space. Its product suite includes GPUs such as the GeForce, Quadro, and Tesla series. These tools are widely used by gaming enthusiasts, professional designers, and researchers, and have become industry standards for high-performance computing and graphics rendering.

In recent years, Nvidia has expanded its offerings to include AI and deep learning solutions. The company's AI platform, powered by its GPUs, allows users to develop and deploy AI models for various applications, from autonomous vehicles to healthcare. Additionally, Nvidia's data center solutions offer high-performance computing capabilities for complex simulations and data analysis.

In September 2020, Nvidia announced it had entered into a definitive agreement to acquire Arm Limited, a leading semiconductor and software design company, for approximately \$40 billion. The combination of Nvidia and Arm is expected to create a new era of innovation in the AI and computing industry. Nvidia's mission is to transform industries through AI and computing, while Arm's mission is to develop technologies that enable a smart and connected world.

Recently, Nvidia crossed a significant milestone, surpassing Apple and Microsoft to become the most valuable company by market capitalization in recent months.

This achievement underscores Nvidia's dominance and influence in the tech industry, driven by its relentless innovation and strategic growth.

Nvidia continues to lead the world in AI innovations designed to amplify human creativity and performance, rather than replacing it, and uses AI to continuously optimize the world's best graphics and computing tools.

Recently, Nvidia unveiled powerful new AI capabilities that maximize creativity and performance across its platforms and services, such as: DLSS (Deep Learning Super Sampling) improvements in Nvidia's GeForce GPUs enable users to enjoy higher quality graphics and smoother frame rates in gaming, creating a more immersive and responsive gaming experience.

Nvidia Broadcast uses AI to enhance live streaming by removing background noise and providing virtual backgrounds, so streamers can deliver professional-quality content.

Nvidia Omniverse is a collaboration platform that allows creators to work together on 3D projects in real time, using AI to enhance workflows and streamline the creative process.

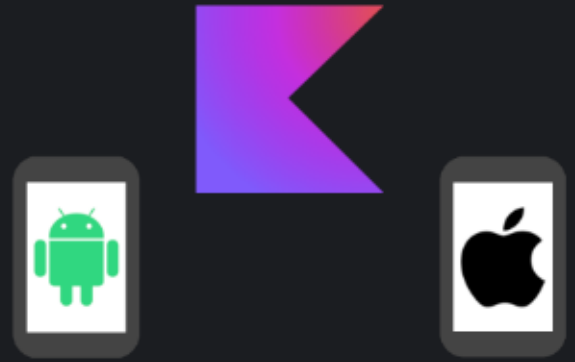
Nvidia Clara is an AI platform for healthcare that provides tools for medical imaging, genomics, and drug discovery, enabling researchers and clinicians to develop more effective treatments and diagnostics.

Overall, Nvidia's success as an IT firm is built on its ability to provide industry-standard graphics and computing solutions, invest in cutting-edge technologies, and innovate to stay ahead of the curve. With its expanding suite of products and services, Nvidia is well-positioned to continue its growth and dominance in the graphics and AI space.

- Aum Chauhan (5th Sem)

Trending Technologies

Kotlin Multiplatform



In recent years, there has been a growing demand for cross-platform app development frameworks that allow developers to create apps that work seamlessly on both Android and iOS devices. Kotlin Multiplatform (KMP) is one such framework developed by JetBrains that has gained a lot of popularity among developers. In this article, we'll take a closer look at what Kotlin Multiplatform is, its advantages, and how it works.

What is Kotlin Multiplatform?

Kotlin Multiplatform is a free and open-source framework that was launched by JetBrains. It allows developers to build high-performance, natively compiled applications for multiple platforms, including mobile, web, and desktop, from a single codebase. The framework uses the Kotlin programming language, which is also developed by JetBrains.

How does Kotlin Multiplatform work?

Kotlin Multiplatform works by allowing developers to write common code for multiple platforms and then supplement this code with platform-specific implementations when necessary. The framework uses a modular approach, where the shared code is written in common modules, and platform-specific code is written in separate modules.

Common Modules: These contain the code that is shared across all platforms, such as business logic, data models, and utility functions.

Platform-Specific Modules: These contain code that is specific to a particular platform, such as Android or iOS, and can interact with the shared code through well-defined interfaces.

Kotlin Multiplatform Mobile (KMM): A specific set of tools and libraries designed for mobile development, enabling seamless integration with existing Android and iOS projects.

Advantages of Kotlin Multiplatform

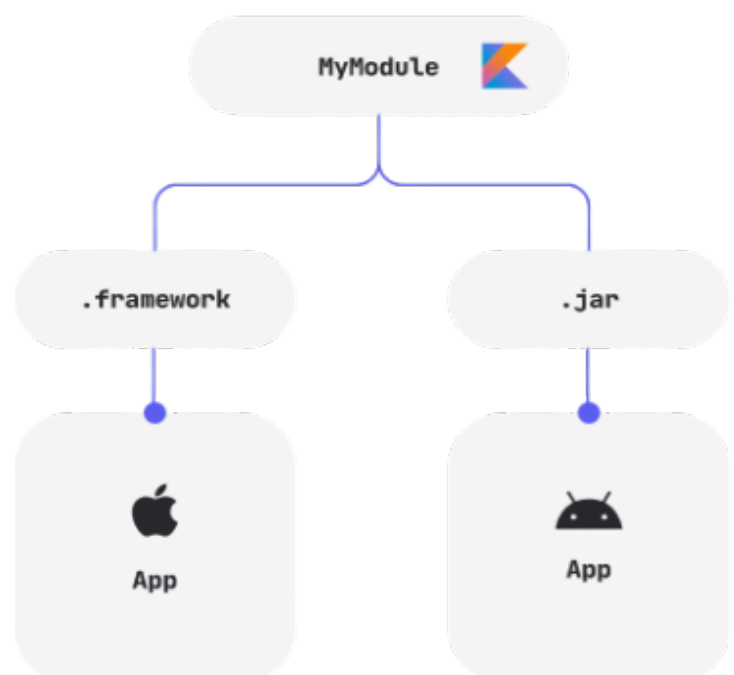
Code Sharing: KMP allows developers to write shared code once and use it across multiple platforms, reducing the time and effort needed for development.

Native Performance: Applications built with KMP are natively compiled, ensuring high performance and fast startup times.

Interoperability: Kotlin is fully interoperable with Java, which makes it easy to integrate into existing Android projects.

Flexibility: Developers can choose to write platform-specific code when needed, providing the flexibility to take advantage of platform-specific features.

Ease of Use: Kotlin's concise syntax and modern language features make it easy to learn and use, especially for developers familiar with Java or Swift.



KMP provides a robust set of tools and libraries to design UI components for multiple platforms. In the following example, we'll use KMP to create a sidebar menu that works on both Android and iOS.

Drawer: Used to provide access to different destinations and functionalities in your application. On Android, it appears from the edge of the screen, while on iOS, it can be implemented using a similar approach with a slide-out menu.

ListView: Used for scrolling through a list of items defined in the sidebar.

Header: The top-most region of the sidebar, typically containing user information or navigation links.

BoxDecoration: Provides a variety of ways to draw a box, including borders, shadows, and background images.

Here's a simple code snippet to demonstrate how you might start implementing a sidebar menu using KMP:

```
// Common Module
expect class Drawer {
    fun open()
    fun close()
}

expect class ListView {
    fun setItems(items: List<String>)
}

expect class Header {
    fun setTitle(title: String)
}

// Android Module
actual class Drawer {
    actual fun open() { /* Android-specific code */ }
    actual fun close() { /* Android-specific code */ }
}

actual class ListView {
    actual fun setItems(items: List<String>) { /* Android-specific code */ }
}

actual class Header {
    actual fun setTitle(title: String) { /* Android-specific code */ }
}

// iOS Module
actual class Drawer {
    actual fun open() { /* iOS-specific code */ }
    actual fun close() { /* iOS-specific code */ }
}

actual class ListView {
    actual fun setItems(items: List<String>) { /* iOS-specific code */ }
}

actual class Header {
    actual fun setTitle(title: String) { /* iOS-specific code */ }
}
```



In the Era of LLM

Welcome to the wild world of Large Language Models (LLMs), where machines craft poetry, answer your deepest questions, and sometimes, just sometimes, make hilarious mistakes. Imagine having a super-intelligent parrot that's read every book in existence — it's smart and eloquent, but occasionally says the darnedest things. In this blog, we're not here to bash these digital marvels but to take a light-hearted yet insightful journey through their quirks, flaws, and the occasional eyebrow-raising moments. Buckle up, and let's embark on this rollercoaster ride of AI linguistics!

Before we delve into the complexities of LLMs, let's take a moment to appreciate their immense impact. These models, such as OpenAI's GPT, Meta's Llama, Google's Gemini, and others like Anthropic's Claude are trained on massive datasets, enabling them to human-like responses, craft compelling stories, and even write code. They're the digital equivalent of a Swiss Army knife — versatile and incredibly useful. However, like any tool, they come with their own set of quirks and limitations.

LLMs have taken a bit of flak for a few quirky shortcomings:

Factual Knowledge: Sometimes, they're like that one friend who confidently tells you the wrong trivia answer .

Interpretability: Ever had a conversation where you're left wondering what the other person meant ? Yeah, LLMs can be like that.

Domain-Specific Knowledge or New Knowledge: Picture a jack-of-all-trades who's only just okay at most things but not quite an expert at anything new or specific .

Genuine Understanding: They can talk the talk, but when it comes to really getting what they're saying, well, let's just say they're still learning the ropes

Addressing the Quirks of Large Language Models: A Technical Perspective

Factual knowledge

Initially, there was a misconception that LLMs essentially memorized vast quantities of information from their training data. This led to the expectation that they could serve as reliable sources of knowledge. However, subsequent research has painted a more nuanced picture.

While LLMs can indeed parrot information from their training corpus, they frequently struggle with actual facts and often produce outputs that are factually incorrect — a phenomenon commonly referred to as hallucinations [1].

Interpretability

A significant critique leveled at LLMs is their inherent lack of interpretability. These models function as “black boxes”, representing knowledge implicitly within their vast parameter space. This lack of transparency makes it challenging to understand or validate the knowledge they've acquired.

LLMs perform reasoning by generating from a probability model, which is an in-decisive process. The generated results are sampled from the probability distribution, which is difficult to control [2]. The exact patterns and mechanisms that LLMs use to make predictions or decisions are not directly understandable or explainable to humans.

Even though some LLMs can explain their predictions using chain-of-thought reasoning, these explanations are also prone to hallucination [3].

Domain-Specific Knowledge or New Knowledge

LLMs trained on general corpora might struggle to generalize to specific domains or incorporate new knowledge effectively, primarily due to the absence of domain-specific data or recent training updates [4].

For example, Let's Consider a medical chatbot powered by an LLM trained on a general corpus. While it can understand and respond to everyday language, it might not provide accurate or reliable information when asked about specialized medical conditions or the latest medical research. For instance, if a user inquires about a rare disease or the newest treatment protocols, the chatbot might not have the necessary domain-specific knowledge to offer precise advice. Additionally, without recent training data, it may not be aware of the latest advancements or research findings in the medical field, leading to outdated or incorrect responses. This makes it difficult to use LLMs in high-stakes scenarios, such as medical diagnosis and legal decisions.

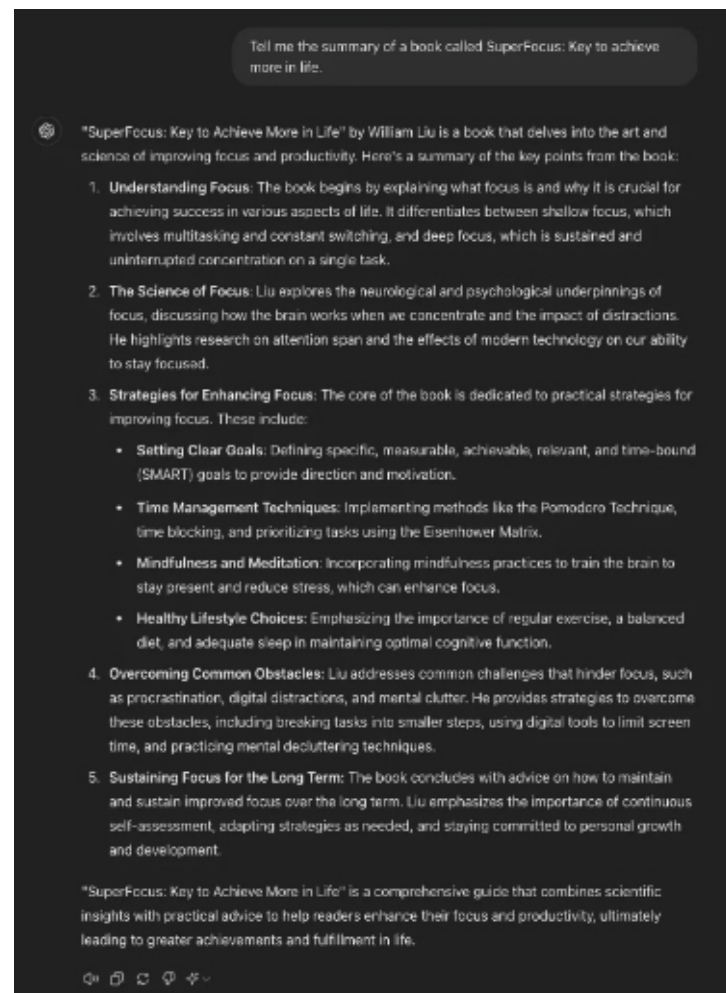
Genuine Understanding

LLMs rely on identifying patterns in their training data rather than truly understanding the content. Unlike humans, they do not comprehend context or meaning, which results in responses that may seem intelligent but ultimately lack genuine insight or understanding. This can lead to inconsistent or incorrect answers, highlighting the shallow nature of their comprehension [5].

Propagation of Bias

Since LLMs are trained on large datasets sourced from the internet, they can inherit and propagate biases present in that data. This includes racial, gender, and cultural biases, which can lead to inappropriate or harmful outputs.

To illustrate the point, let's dive into a fun little experiment I conducted. I asked an LLM to give me a summary of a book called "SuperFocus: Key to achieve more in life." Now, here's the kicker — this book doesn't exist. It's a completely made-up title. But, without missing a beat, the LLM generated a summary filled with generic focusing and productivity tips. It went on about the importance of setting clear goals, maintaining a balanced routine, and prioritizing tasks — all solid advice, sure, but entirely fabricated under the guise of a non-existent book.



This amusing incident highlights both the strengths and limitations of LLMs. On one hand, they're incredibly adept at producing coherent and seemingly insightful content on demand. On the other, they don't really know what they're talking about. They're simply stitching together patterns from the vast amount of text they've been trained on. It's a bit like a super-smart parrot, echoing phrases it's learned without understanding their true meaning.

Let's not forget, LLMs are continuously evolving. Each iteration gets a bit better, a bit smarter, and hopefully, a bit more accurate. But for now, we must navigate their fascinating mix of brilliance and occasional blunders. As we move forward, understanding and addressing these limitations will be key to harnessing their full potential without falling for their occasional hiccups.

Final Thought

While LLMs have demonstrated remarkable capabilities, addressing their limitations is essential for advancing their utility and reliability. By focusing on enhanced data verification, improved interpretability, specialized training, and genuine understanding, we can mitigate these quirks and unlock the full potential of LLMs in various applications. Continued research and innovation in these areas will be crucial for the next generation of AI models.

As we embrace this exciting era of Large Language Models, it's important to mix our excitement with a bit of caution. These digital marvels have the power to change many parts of our lives, but they also have their quirks and limitations. By looking closely at what they can do and where they fall short, we can better navigate the fascinating world of AI. So, the next time you interact with an LLM, enjoy its amazing skills but also watch out for those occasional, amusing slip-ups. After all, even the smartest machines are still learning, just like us.

- Krupa Galiya Alumni of Batch 2016-2020,
Senior Data Scientist at PatternAI

Use of IT in Others Domains

STUDENT DROPOUT ANALYSIS

Problem Statement: Student dropout analysis for school education.

Description

The right to education is a key concern for governments, with high dropout rates often driven by poverty, social, and economic factors. Detailed analysis of dropout rates by district, taluka, city, and school is essential for policymakers to design effective interventions. Understanding the underlying causes allows for targeted measures to improve retention and ensure access to quality education for all children.

Challenges

Identifying Dropouts: Accurately determining whether a student has dropped out is challenging, particularly in areas with inconsistent or incomplete data records.

Data Segmentation: Analyzing dropout data across multiple levels (district, taluka, city, and school) can be complex due to the granularity required and the variability of data sources.

Data Management: Handling large datasets efficiently is crucial, especially when performing detailed dropout analysis across different categories and over time.

Performance Issues: As the dataset grows, ensuring that the analysis remains performant and responsive becomes increasingly difficult, requiring robust data management strategies.

Solution

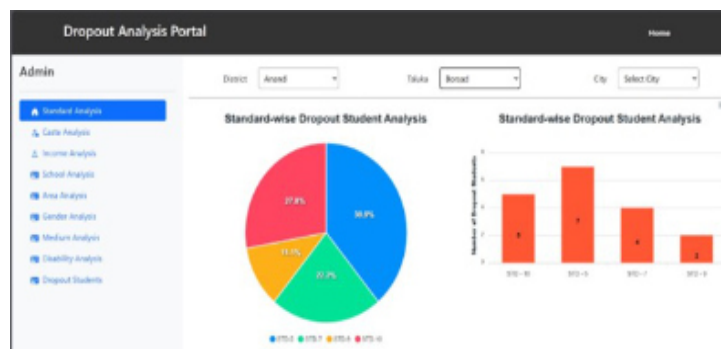
Chart-Based Analysis: Utilizing visual representations such as charts and graphs to make dropout data more accessible and understandable for policymakers and administrators. This will help in identifying trends and patterns quickly.

Data Management Techniques: Implementing data management strategies such as sharding, indexing, and partitioning to handle large datasets efficiently. These techniques will ensure that the system can scale and perform well even as the volume of data grows.

Categorization of Dropouts: Classifying dropouts based on reasons such as economic factors, social issues, and inactivity for more than one year. This categorization will help in understanding the root causes of dropouts and tailoring interventions accordingly.

Use Cases

The Admin (Ministry of Education) uses the dropout analysis system to develop policies by analyzing visualized data and generating reports. This enables them to identify key dropout factors across regions and schools, implement targeted interventions, and track the effectiveness of these efforts in reducing dropout rates.



dropout

Kendriya Vidyalaya
Medkari (Gujarat)

STUDENT REGISTRATION FORM

Full Name: [Text Field] Gender: [Dropdown] Date of Birth: [Text Field]

Gender: [Dropdown] Date: [Text Field] Address: [Text Field]

Address: [Text Field]

School: [Dropdown] District: [Dropdown] Taluka: [Dropdown] City: [Dropdown]

City: [Dropdown] State: [Dropdown] Country: [Dropdown]

Mobile Number: [Text Field] Email: [Text Field]

Submit Form

dropout

Kendriya Vidyalaya
Medkari (Gujarat)

Student Details

Standard: [Dropdown] Gender: [Dropdown] Date: [Text Field]

Select All Refresh Delete Add

Show: 10 entries

Select: [Text Field] [Text Field] [Text Field] [Text Field]

Showing 1 to 1 of 1 entries

Search: [Text Field]

Previous Next

dropout

Kendriya Vidyalaya
Medkari (Gujarat)

Student Details

Standard: [Dropdown] Gender: [Dropdown] Date: [Text Field]

Select All Refresh Delete Add

Show: 10 entries

Select: [Text Field] [Text Field] [Text Field] [Text Field]

Showing 1 to 1 of 1 entries

Search: [Text Field]

Previous Next

- Devam Doshi, Uday Gohel, Dhruv Shah,
Harekrushn Tejani, Harsh Nirmal, Isha Sanghani
(3rd Year IT)

QUIZ APP

Problem Statement: Smart Evaluation and for Higher Secondary Students.

Description

The Smart Evaluation Platform is designed to revolutionize the assessment process for higher secondary students by leveraging online technologies. This platform aims to streamline the evaluation process, transforming it from a time-intensive offline activity into a dynamic, real-time online experience. It addresses key issues in traditional assessment methods by incorporating interactive features and detailed performance analysis. Through its intuitive interface, educators can track students' progress instantly with visual charts and generate comprehensive, individualized reports. These reports offer insights into each student's performance by evaluating various factors such as topic mastery, time spent on each topic, and difficulty levels. The goal of the Smart Evaluation Platform is to enhance educational outcomes by providing timely feedback and personalized learning experiences, ultimately supporting students in achieving their full potential.

Challenges

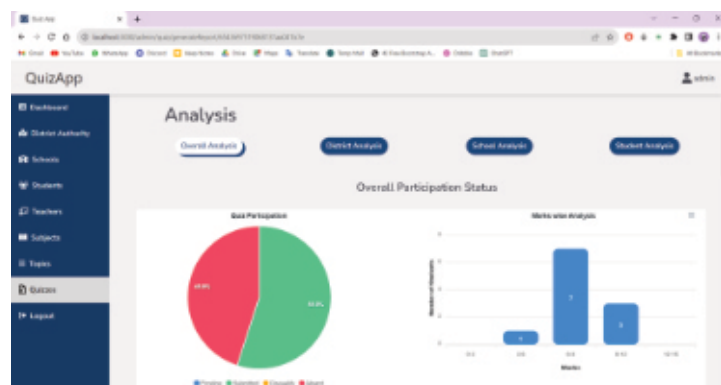
The current offline evaluation methods for higher secondary students are notably time-consuming and lack efficiency. These traditional methods also offer limited opportunities for interactive feedback, which can significantly impede the learning process. Furthermore, there is an insufficient analysis of individual students' performance, making it challenging to identify and address specific areas where each student may need improvement.

Solution

To address these challenges, a comprehensive online evaluation platform is proposed. This platform would enable real-time performance tracking through visual charts, offering immediate insights into students' progress. Additionally, it would generate detailed, individualized performance reports for each student, analyzing data by topic, time spent, and difficulty level. This approach aims to provide actionable feedback and facilitate a more tailored educational experience.

Use Case

In this use case, an online evaluation platform offers students real-time performance tracking with visual charts. As assessments are completed, the platform provides interactive feedback and detailed performance reports by topic, time spent, and difficulty level. Teachers and parents can use these insights to monitor progress, identify areas for improvement, and tailor educational strategies to meet each student's needs.

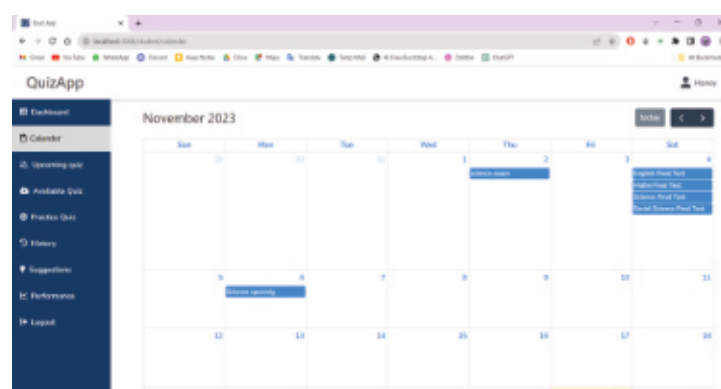


The Quiz Details dashboard displays a table of quiz results for a specific quiz. The table includes columns for ID, QID, NAME, DATE GIVEN, STATUS, MARKS, and ANALYSIS.

ID	QID	NAME	DATE GIVEN	STATUS	MARKS	ANALYSIS
1	2300116	Yash	04/11/2023	Submitted	7	👍
2	2300116	Divyam	04/11/2023	Submitted	9	👍
3	2300117	Shreya	04/11/2023	Submitted	5	👍
4	2300118	Utkay	Absent	Absent	0	👍
5	2300118	Hansh	04/11/2023	Submitted	7	👍

The Quiz Details dashboard shows individual quiz questions and the user's answers. It includes the question text, options, the user's selected answer, and the correct answer.

QID	QUESTION	ANSWER	STATUS
1	High blood pressure is the main cause of which of these?	A. Cancer	Mark: 1
2	What happens when the process of photosynthesis takes place?	A. Taking oxygen and releasing carbon dioxide	Mark: 1
3	3.56 years old girl wears a glasses and said she cannot see object kept at distance without glasses ,she is suffering from .	A. Hypermetropia	Mark: 1



-Mihir Patel, Tanisha Dave,
Nishtha Malkan, Honey Patel
(5th Sem)

FILE CLASSIFICATION

Problem Statement: File Classification, Storage and Disposal management of Revenue Files at Record Room & Record Retention & Retrieval of old Land Records of Anand City Collector Office Anand digitalization.

Description

The management of land and revenue documents in Anand City is currently inefficient and prone to errors. With a reliance on traditional methods, accessing and updating records is time-consuming and lacks transparency. Property owners, moderators, and officials face difficulties in managing and retrieving documents, leading to potential inaccuracies and delays in service delivery. A modern solution is needed to streamline document management, ensure security, and improve accessibility.

Challenges

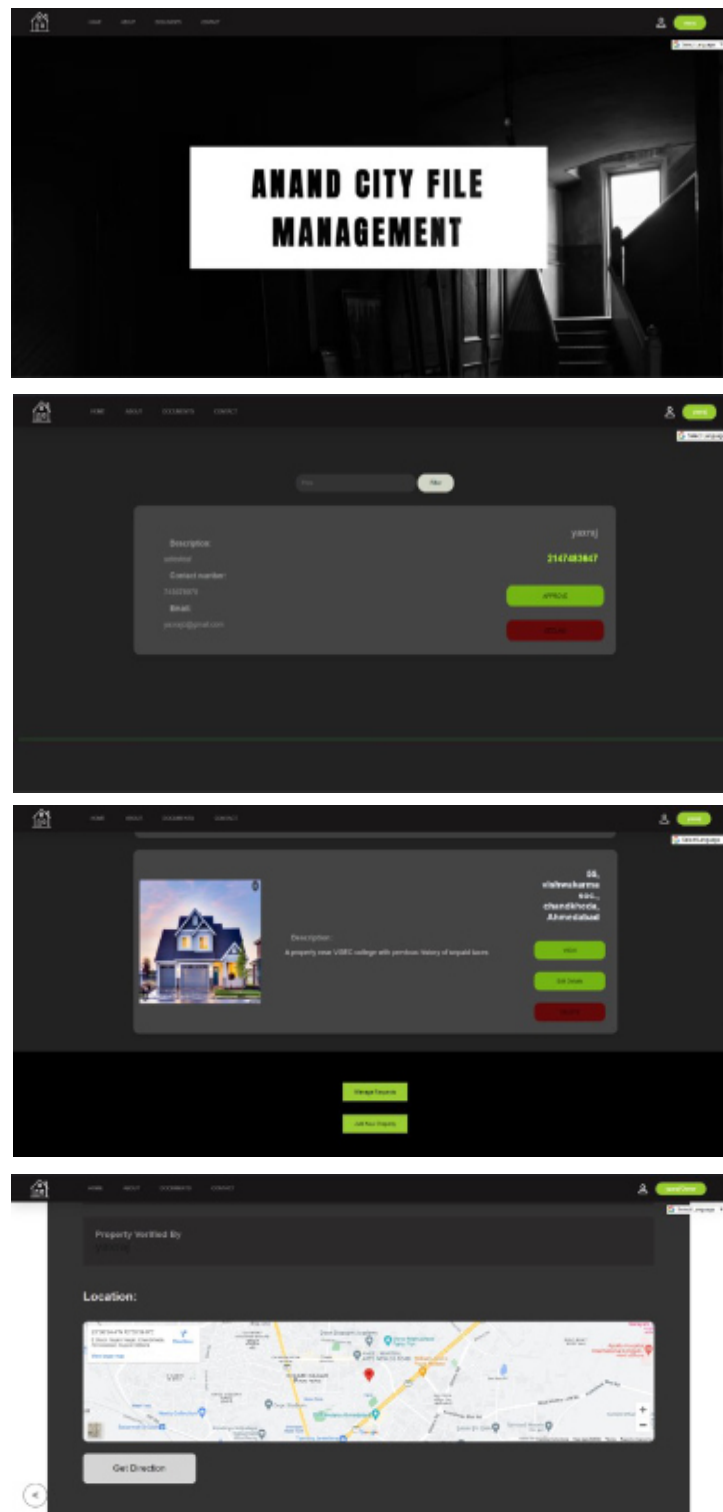
The primary challenges include the cumbersome and error-prone nature of offline document management, lack of secure access controls, and difficulties in retrieving physical files. The existing system does not provide an integrated approach for managing both digital and physical records, resulting in inefficiencies and a lack of real-time updates. Additionally, the absence of tracking mechanisms makes it hard to monitor document access and modifications, impacting accountability and transparency.

Solution

The Anand City File Classification and Management System provides a web-based platform for integrated digital and physical document management. It includes secure logins, efficient document verification, QR code tagging for retrieval, and advanced analytics for tracking access and updates, ensuring security and efficiency.

Use Case

In this scenario, property owners access their land documents through the Anand City File Classification and Management System. Moderators assign and verify property records, making them available online. Owners can upload documents for properties not listed and request verification. Each document is tagged with a unique QR code for straightforward retrieval, and the system's analytics provide a detailed audit trail of document access and updates, improving efficiency and accountability for all users.



- Yaxraj Dabhi, Siddiqui Md Zaid Rashid Raza, Manvar Ruchi, Sanepara Bhautik, Jahnvi Gajera, Vaghela Vandna, Darshan Waghela, Rishwa Patel, (Sem 3)

Problem Statement: Frontline Worker Knowledge Accreditation System

Description

Health functionaries undergo a range of trainings and capacity- building activities, related to a range of programs addressing different health conditions. There is a mechanism of knowledge assessment of the health worker at PMCC centre through telephone conversation. In the same line, this mechanism can be extended using digital technology. The simple tool including multiple choice questions from different domains can be used for the knowledge assessment and grading of the workers according to score obtained. This mechanism can be used for appraisal, training need assessment, self-analysis and self-motivation. Mobile applications provides information about given topics and then takes exam based on it and do e-assessment and provides e-certificate to the frontline workers.

Challenge

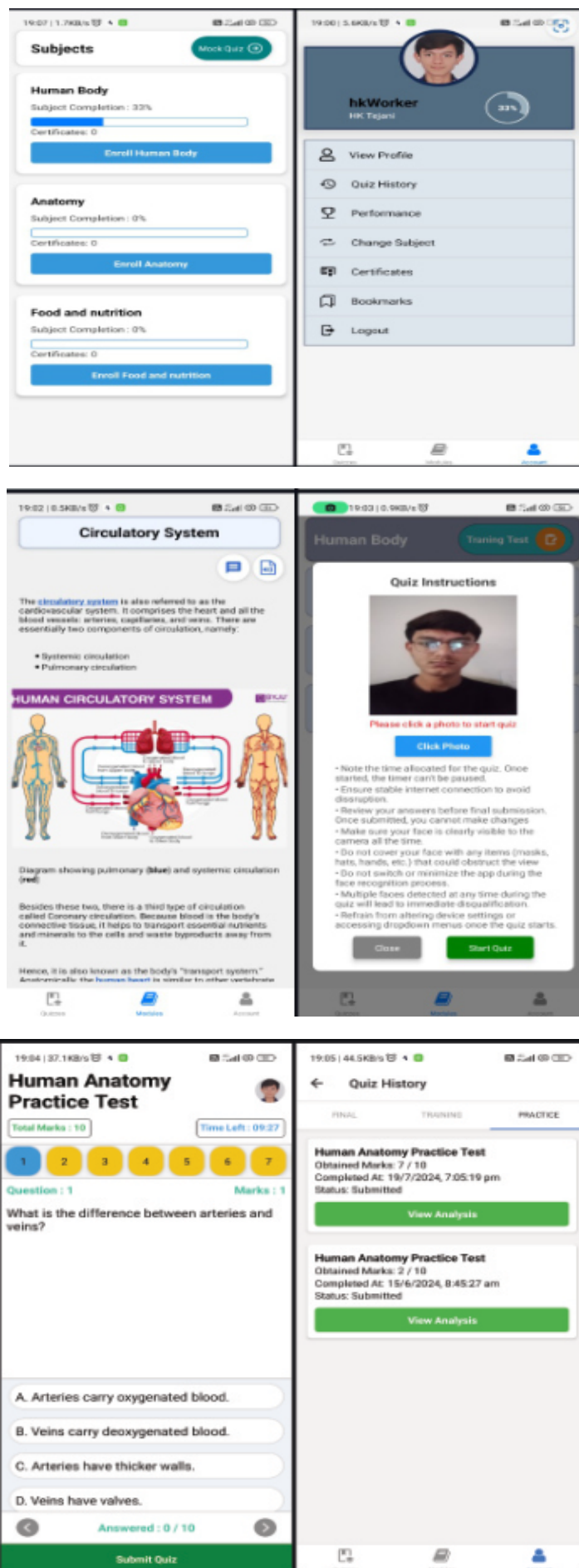
Health functionaries frequently undergo various trainings to address different health conditions. Traditionally, their knowledge is assessed via telephone conversations at PMCC centers. This method is time-consuming and limits the scope of evaluation. To modernize and streamline this process, there is a need for a digital solution that can efficiently assess knowledge, track progress, and provide actionable insights for training and development.

Solution

The Frontline Worker Knowledge Accreditation System addresses this challenge with a mobile application that integrates digital technology for knowledge assessment. The app delivers targeted health information and administers multiple-choice quizzes on various topics. Health workers complete these quizzes to demonstrate their knowledge. Based on their scores, the system provides e-certificates, which can be used for appraisal, training needs assessment, and self-motivation. This digital approach enhances efficiency, accuracy, and accessibility in evaluating health workers' knowledge.

Use Case

In this scenario, a health worker uses the mobile application to study health-related topics and complete a series of multiple-choice quizzes. The app evaluates their performance and generates an e-certificate based on their scores. This digital assessment tool allows health workers to receive immediate feedback on their knowledge, helps identify areas for further training, and supports their professional development by providing official certification.



Ayush Chauhan, Harekrushn Tejani, Khushi Patel,
Aheen Solanki, Harsh Nirmal (5th Sem)

1

```
1 //which one create an anonymous inner class from within class Bar?
2 class Boo
3 {
4     Boo(String s) { }
5     Boo() { }
6 }
7 class Bar extends Boo
8 {
9     Bar() { }
10    Bar(String s) {super(s);}
11    void zoo()
12    {
13        // insert code here
14    }
15 }
16
```

2

```
1 //Select how you would start the program to cause it to print: Arg is 2
2 public class Myfile
3 {
4     public static void main (String[] args)
5     {
6         String biz = args[1];
7         String baz = args[2];
8         String rip = args[3];
9         System.out.println("Arg is " + rip);
10    }
11 }
12
```

3

```
1 //What will be the output of the program?
2 public class Test
3 {
4     public static void main(String[] args)
5     {
6         int x = 0;
7         assert (x > 0) ? "assertion failed" : "assertion passed" ;
8         System.out.println("finished");
9     }
10 }
11
```

4

```
1 //What will be the output of the program in TurboC?
2 #include<stdio.h>
3 int fun(int **ptr);
4
5 int main()
6 {
7     int i=10, j=20;
8     const int *ptr = &i;
9     printf(" i = %5X", ptr);
10    printf(" ptr = %d", *ptr);
11    ptr = &j;
12    printf(" j = %5X", ptr);
13    printf(" ptr = %d", *ptr);
14    return 0;
15 }
16
```

5

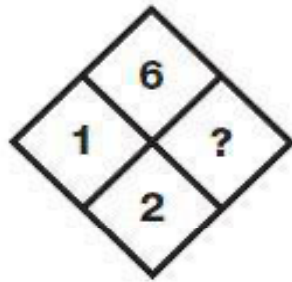
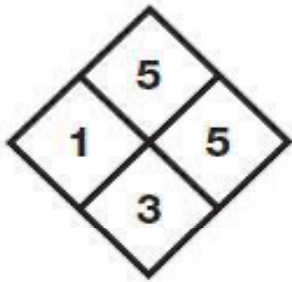
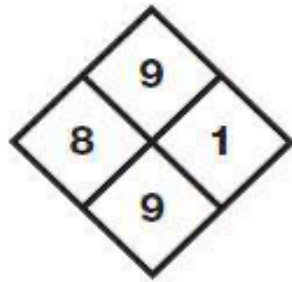
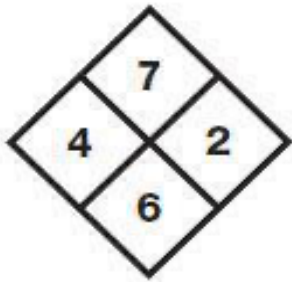
```
1 //What is x in the following program?
2 #include<stdio.h>
3
4 int main()
5 {
6     typedef char (*( *arrfptr[3])())[10];
7     arrfptr x;
8     return 0;
9 }
10
```

6

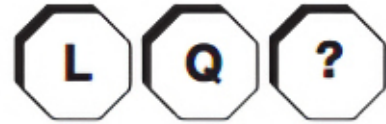
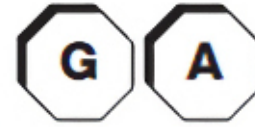
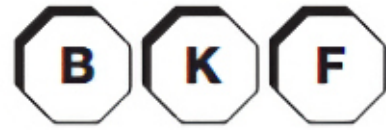
```
1 //Which files will get closed through the fclose() in the following program?
2 #include<stdio.h>
3
4 int main()
5 {
6     FILE *fs, *ft, *fp;
7     fp = fopen("A.C", "r");
8     fs = fopen("B.C", "r");
9     ft = fopen("C.C", "r");
10    fclose(fp, fs, ft);
11    return 0;
12 }
13
```

! = FFE4ptr=10 | = FFE2ptr=20 | x is an array of three function pointers | Error in fclose()

1. Find the missing Number?



6. Which letter replaces the question mark?



2. A man was murdered in his office. The suspects are **Ericson, Maggi, Jason, Benny, Sona, Patick**. A calendar found near the man has blood written **6, 4, 9, 10, 11**. Who is the killer?

3. A watch which gains uniformly is 2 minutes low at noon on Monday and is 4 min. 48 sec fast at 2 p.m. on the following Monday. When was it correct?

A) 2 p.m. on Tuesday B) 2 p.m. on Wednesday

C) 3 p.m. on Thursday D) 1 p.m. on Friday

4. A number of cats got together and decided to kill between them 999919 rats. Every cat killed an equal number of rats. Each cat killed more rats than there were cats. How many rats do you think that each cat killed ?

A) 1009 B) 991

C) 2000 D) 1000

5. A cuboid shaped wooden block has 6 cm length, 4 cm breadth and 1 cm height.

Two faces measuring 4 cm x 1 cm are coloured in black.

Two faces measuring 6 cm x 1 cm are coloured in red.

Two faces measuring 6 cm x 4 cm are coloured in green.

The block is divided into 6 equal cubes of side 1 cm (from 6 cm side), 4 equal cubes of side 1 cm (from 4 cm side).

How many cubes will have green colour on two sides and rest of the four sides having no colour ?



Vishwakarma Government
Engineering College
Department of Information Technology

the TECH-TREASURE

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