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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
AY: 2022-23

Interactive Learning: LMS

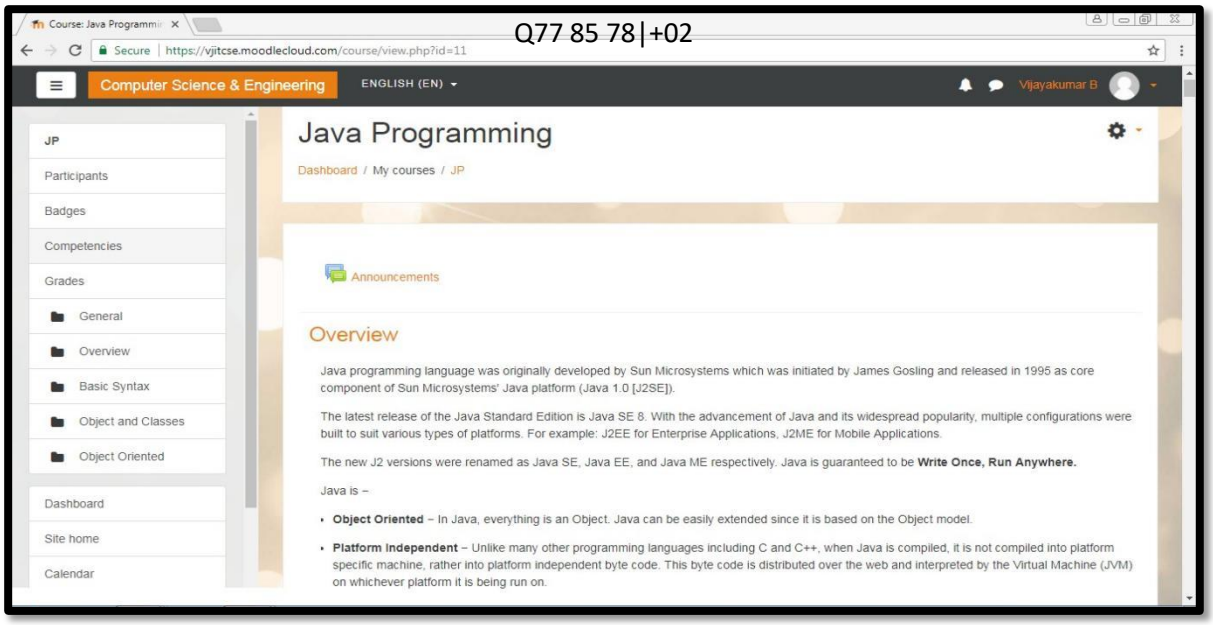
Faculty Name: Dr.B.Vijaya Kumar

Subject : JAVA

Participants: Students of II -II / B section

Implementation:

- Moodle is a platform for online learning that enables you to create online courses, add assignments, and keep an eye on your students' progress.
- It also allows you to communicate with the students and encourage communication between them in forums and discussions.
- Students are able to get materials online.
- It helps the various educators considerably in conceptualizing the various courses, course structures and curriculum thus facilitating interaction with online students.



Outcome: E-learning Fully Adjusts the student Needs. Online studying is designed to accommodate everyone's needs.

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
AY: 2022-23

Interactive Learning : Think-pair-share

Faculty Name: G.kalpana

Subject : Advanced Databases

Topic: Distributed DBMS Architecture

Participants: Students of IV year D section

Implementation:

Think-pair-share (TPS) is a collaborative learning strategy where students work together to solve a problem or answer a question about an assigned reading. This strategy requires students to (1) think individually about a topic or answer to a question; and (2) share ideas with classmates. Discussing with a partner maximizes participation, focuses attention and engages students in comprehending the reading material.

Content: Distributed DBMS Architecture are mainly categorized into the following types.

1. ANSI/SPARC Architecture
2. Generic DBMS Architecture
3. Client-Server Architectures
4. Peer to Peer architecture
5. Multi DBMS Architecture:

Implementation: Initially I explained above architectures in detail with merits and demerits of each category. After understanding the concepts of above architectural models students are asked to identify the given applications belongs to which architectural model by think pair share innovative learning methodology. As part of this activity I made students into some set of groups and gave some scenarios and asked to find out which model is suitable why ? and also asked the merits and demerits and suggested them to discuss the topics with their peers in the group and write down the answer.

Outcome: All the students are actively participated and they did successfully. For those who are not following I explained with good examples. With this activity it improves interest in learning the task easily along with his/her friends by discussing they can get more ideas.

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
AY: 2022-23

Innovative Technique Implemented: Project Based Learning

Subject: JAVA Programming

Name of the Faculty: K. Srinivasa Rao

Students: III-I B.Tech CSE-B

Implementation:

Wipro's **Talent Next** is an initiative designed to enhance the skills and employability of engineering students, aligning their knowledge with industry requirements. Through Project-Based Learning (PBL), TalentNext aims to bridge the gap between academic learning and practical, real-world applications, preparing students for a smooth transition from academic life to corporate environments.

Key Aspects of TalentNext's Project-Based Learning
TalentNext provides a curriculum that integrates projects directly into the learning process. By focusing on hands-on experience, students learn core technical skills, work with real-world tools, and address industry-relevant problems. Here are some of the primary components:

1. **Industry-Relevant Curriculum**:
   The PBL approach under TalentNext is developed with insights from Wipro's industry expertise. The curriculum is tailored to focus on the latest technologies, such as cloud computing, data science, artificial intelligence, cybersecurity, and more, ensuring students gain exposure to in-demand skills.
2. **Real-World Projects**:
   Students participate in projects that simulate real business challenges. For example, they might work on developing software applications, analyzing data for insights, or building prototypes, often using tools and environments that are standard in the tech industry. This experience gives them a clear understanding of how theoretical concepts are applied in real-world scenarios.
3. **Mentorship and Guidance**:
   Through TalentNext, Wipro offers mentorship from industry experts and experienced professionals. Students get the opportunity to receive feedback, ask questions, and understand industry expectations directly from those who work in the field, giving them valuable insights and direction.
4. **Collaboration and Teamwork**:
   The PBL model encourages students to work in teams, mirroring the collaborative environment of the modern workplace. This helps them develop communication, leadership, and teamwork skills, which are critical for success in any professional setting.
5. **Skill Development Beyond Technical Knowledge**:
   TalentNext's PBL approach emphasizes holistic skill development. In addition to technical skills, students work on soft skills like problem-solving, critical thinking, time management, and adaptability. By the end of the program, students are better equipped with a blend of technical and interpersonal skills.

6. **Evaluation and Continuous Improvement**: Wipro's TalentNext program uses continuous evaluation to assess students' progress. Feedback is provided at different stages of the projects, encouraging students to refine their work and learn from their mistakes. This iterative process mirrors the professional environment, where continuous improvement is crucial.

Benefits of Wipro TalentNext PBL Approach

Challenges of TalentNext's PBL Model

- **Resource Availability**: PBL often requires access to technology, software, and materials that may not be readily available at all educational institutions.
- **Time and Effort**: This approach requires a significant investment of time and effort from both students and instructors, making it challenging for some students to manage alongside regular academic requirements.
- **Assessment Complexity**: Evaluating students in a project-based model can be more complex than traditional exams, as it involves assessing both process and outcomes.

Conclusion

Wipro's TalentNext Project-Based Learning approach is a forward-thinking initiative that aligns educational outcomes with industry needs. By providing students with practical experience, mentorship, and industry-relevant knowledge, TalentNext not only enhances students' employability but also prepares them for dynamic and evolving career paths in technology. This model of education has the potential to set a new standard for skill development and industry-readiness in engineering education.

Outcome:

- **Enhanced Employability**: By working on real-world projects, students are better prepared to meet the demands of the job market, making them more attractive to employers.
- **Hands-On Experience**: Unlike traditional academic courses, the PBL approach provides hands-on experience with tools, technologies, and scenarios that students will likely encounter in their careers.
- **Adaptability to Industry Changes**: Since the curriculum is updated to reflect current industry trends, students are trained in emerging technologies and methodologies, which increases their adaptability and relevance in the job market.
- **Networking Opportunities**: Through mentorship and industry exposure, students get opportunities to build connections with professionals, which can be valuable for their career growth.

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
AY: 2022-23

Innovative Technique Implemented: Project Based Learning

Subject: Software Engineering

Name of the Faculty: Shinde Ambika

Students: II-II B.Tech CSE-B

Implementation:

Project-Based Learning Inventory Management System Using the Agile Model.

Introduction:

This report is based on an **Inventory Management System** project, which follows Agile principles and practices for development. Agile methodology is iterative, allowing for flexibility, adaptability, and frequent feedback.

Project Title: Inventory Management System (IMS)

Project Description:

The objective of this project is to develop an **Inventory Management System (IMS)** for small and medium-sized businesses. This system should help users to manage their products, track stock levels, and generate reports on inventory status. The system will be designed using Agile methodology, allowing for iterative development and flexibility in responding to changing requirements.

Technology Stack:

- Frontend: React.js

- Backend: Node.js with Express.js

- Database: MongoDB

- Authentication: JWT (JSON Web Tokens)

- Version Control: Git, GitHub

- Testing Framework: Jest for unit and integration testing

- Deployment: Heroku for backend, Netlify for frontend

Agile Principles:

Agile methodology emphasizes flexibility, iterative progress, and collaboration.

The main principles of Agile include:

- Iterative Development: Breaking down the project into smaller, manageable iterations (sprints).

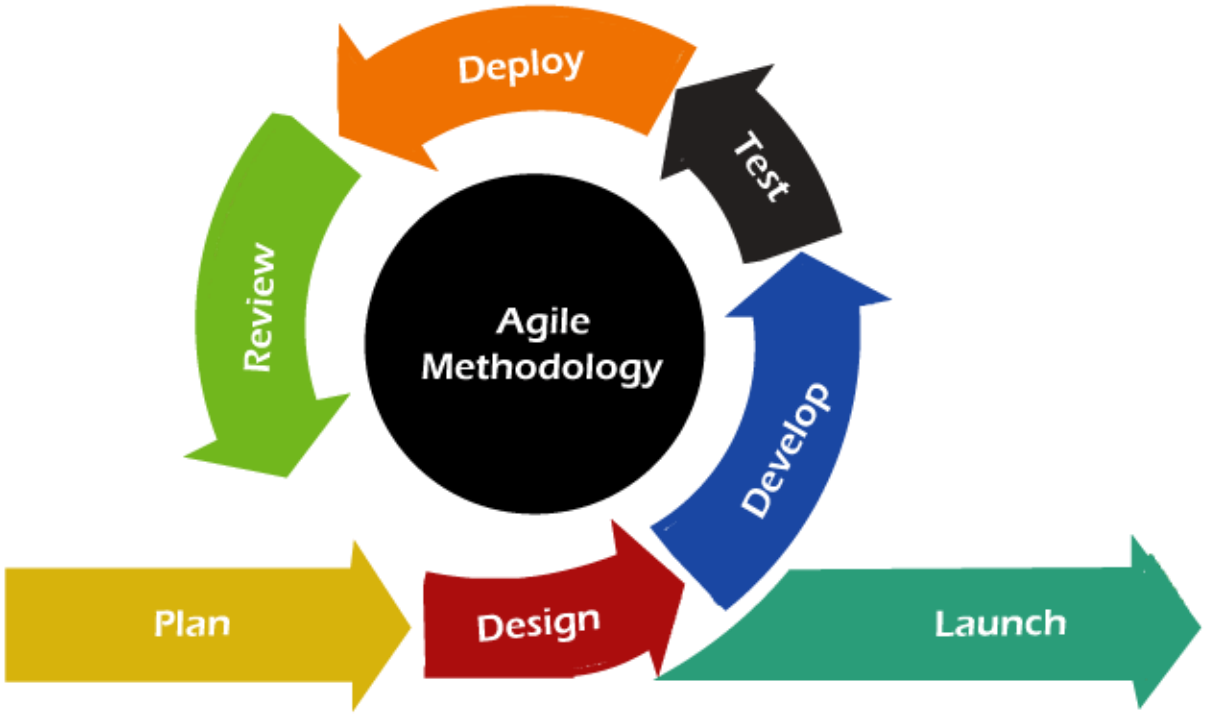
- Customer Collaboration: Frequent communication with stakeholders to gather feedback.

- Responding to Change: Adapting to changing requirements throughout the development process.

- Working Software: Ensuring the product is functional after each iteration.

- Cross-functional Teams: Developers, testers, and stakeholders working together throughout the process.

In this case, we followed the Scrum framework, a popular Agile methodology, which uses predefined roles (Product Owner, Scrum Master, Development Team) and regular ceremonies (Sprint Planning, Daily Stand-ups, Sprint Review, Sprint Retrospective).



Project Objectives:

The main goals of this project were:

1. Requirement Gathering: Collecting and prioritizing functional and non-functional requirements.

2. Incremental Development: Using Agile sprints to deliver working software incrementally.

3. Continuous Testing and Feedback: Ensuring each feature is thoroughly tested and validated by stakeholders.

4. Collaboration: Frequent communication between team members and stakeholders.

5. Deployment: Deploying the system after each major sprint to gather user feedback.

Agile Process for the Inventory Management System

1. Product Backlog Creation
2. Sprint Planning
3. Sprint Execution
4. Sprint Review
5. Sprint Retrospective
6. Development and Implementation
7. Testing
8. Deployment

Conclusion:

This project utilized the **Agile** methodology to iteratively develop an **Inventory Management System**. By breaking the development into smaller sprints, we were able to deliver functional features incrementally while gathering feedback from stakeholders throughout the process. This helped ensure the system met the user's needs and could easily adapt to changes in requirements.

Key takeaways:

- Flexibility: Agile allowed us to adapt to changing requirements and priorities.

- Collaboration: Continuous feedback from stakeholders ensured that the project stayed aligned with user needs.

- Improvement: Regular retrospectives helped the team improve their processes and become more efficient.

Future Enhancements:

Future improvements could include:

- Mobile App: Developing a mobile version using React Native.

- Advanced Reporting: Adding analytics and sales forecasting.

- Integration with Accounting Software: Automatically syncing inventory data with accounting tools.

References:

- Agile Methodology Overview: [Agile Alliance](https://www.agilealliance.org/agile101/)

- React.js Documentation: [React Docs](https://reactjs.org/docs/getting-started.html)

- Node.js Documentation: [Node.js Docs](https://nodejs.org/en/docs/)

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
AY: 2022-23

Innovation in Teaching Learning: Role Play

Subject: Compiler Design

Name of the Faculty: M.VIJAYA

Topic: Phases of compiler

Class/ Section: III B.Tech II-Sem CSE-**A**

Implementation:

Teaching is an art and science. Teaching is a process of imparting knowledge and skills. It is a systematic process based on some educational objectives to communicate.

Interactive learning is a hands-on, real-world approach to education. 'Interactive learning actively engages the students in wrestling with the material. It reinvigorates the classroom for both students and faculty. Lectures are changed into discussions, and students and teachers become partners in the journey of knowledge acquisition.'

Role-playing is the changing of one's behaviour to assume a role, either unconsciously to fill a social role, or consciously to act out an adopted role.

- To refer to the playing of roles generally such as in a theatre, or educational setting;
- To refer to taking a role of an existing character or person and acting it out with a partner taking someone else's role, often involving different genres of practice

Topic: Phases of compiler

Compiler: A **compiler** is a computer program that transforms computer code written in one programming language (the source language) into another programming language (the target language).

Lexical Analysis. The first phase of scanner works as a text scanner

Syntax Analysis. The next phase is called the syntax analysis or parsing

Semantic Analysis. Semantic analysis checks whether the parse tree constructed follows the rules of language. For example, assignment of values is between compatible data types, and adding string to an integer. ...

Intermediate Code Generation After semantic analysis the compiler generates an intermediate code of the source code for the target machine. It represents a program for some abstract machine.

Code Optimization The next phase does code optimization of the intermediate code.

Code Generation In this phase, the code generator takes the optimized representation of the intermediate code and maps it to the target machine language.

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
AY: 2022-23

Innovative Technique implemented: Role Play

Name of the Faculty: P.Raja Shekar

Subject: Database Management Systems

Topic: Sailor and Boat Reservation

Students: II B.Tech I-Sem CSE-B

Implementation:

- Divided the scenario into 3 categories – Sailors, Boats and Reserves
    - Students played role of Sailors holding {sid,age,rating and name}
    - Boats holding {bid,bname,date}
    - Reserves holding{sid,bid,date}
    - Student as an end user
- Query- "Find the names of the sailors who have reserved red boat"
- The above query forms nested query i.e., a query within in a query
- In the user perspective based on query data can be accessed from the respective tables by identifying referential integrity constraints.

Outcome:

Students are able to deal with real-world scenarios. They are encouraged to think more critically about controversial subjects.

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
AY: 2022-23

Innovative Technique Implemented: Role Play

Name of the Faculty: CH.Deepika

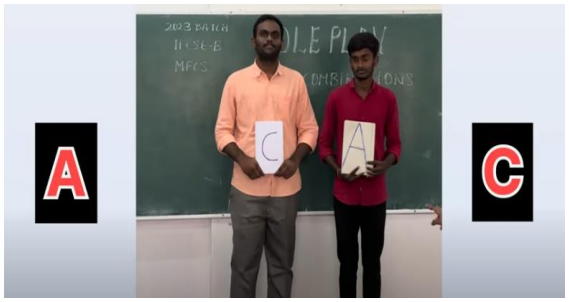
Subject: MFCS

Students: II-I B.Tech CSE-B

Implementation:

Role play is a powerful educational tool that allows students to explore real-life scenarios,practice skills, and develop a deeper understanding of academic content through active engagement.

Identified roles are assigned, each role to student. The question is “Using four letters A, B, C& D. find out how many 2-combinations word can be formed is demonstrated by studentsby playing each role A, B, C and D. Accordingly students switch positions to form AB, AC, AD,BD, BC and CD.



Outcome:

Students often need to research their roles, which enhances their information-gathering and critical analysis skills. Taking on leadership roles within a scenario helps students practice decision-making, delegation, and guiding others.

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
AY: 2022-23

Innovative Technique Implemented: Role Play

Name of the Faculty: S.Girinath

Subject: E-Commerce

Students: IV B.Tech CSE-B

Implementation:

The full form of EDP is **Electronic Data Processing**. It relates to the functioning of commercial data operations, the handling of storage records, the use of a computer involving the electronic transmission of information from a sheet into an electronic format. The term DP (data processing) has been used to create it. It is synonymous for IS (Information System or Service) or MIS (Management information system or service). The three-level of processing are as follows.

- The data is placed via processing by input devices such as a digitizer, keyboards, scanners and so on.
- The information is managed by software programmes that usually involve translation, implementation of code, equation, and authentication, and so on.
- In the format of audio, reports, video, and so on., the information after processing reaches the customer.

Students are provided with various roles related to data processing,and each study should analyze

Outcome:

Students are able to deal with real-world scenarios. They are encouraged to think more critically about the subject and topics.

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
AY: 2022-23

Innovative Technique Implemented: Role Play

Name of the Faculty: G.Roopa

Subject: FLAT

Topic DFA

Students: III-I B.Tech CSE

Implementation:

Each student is assigned a role so that they can interact and understand the topic easily.

A DFA (Deterministic Finite Automaton) is a mathematical model of computation used to recognize patterns within a given input. It is used for learning or teaching by providing a visual representation of a problem and its solution. For example, a DFA can be used to recognize whether a given string of characters is a valid word or not. The DFA would have a set of states, each representing a different character in the string, and a set of transitions between the states.

- DFA refers to deterministic finite automata. Deterministic refers to the uniqueness of the computation. The finite automata are called deterministic finite automata if the machine is read an input string one symbol at a time.
- In DFA, there is only one path for specific input from the current state to the next state.
- DFA does not accept the null move, i.e., the DFA cannot change state without any input character.
- DFA can contain multiple final states. It is used in Lexical Analysis in Compiler.

Each student is assigned a state and the transition from one state to another state is shown

Outcome:

Students are able to understand the transition from one state to another and able to understand the topic easily.

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
AY: 2022-23

Innovative Technique implemented: Interactive Learning(Digital Plickers)

Subject: DBMS

Name of the Faculty: S.Divya

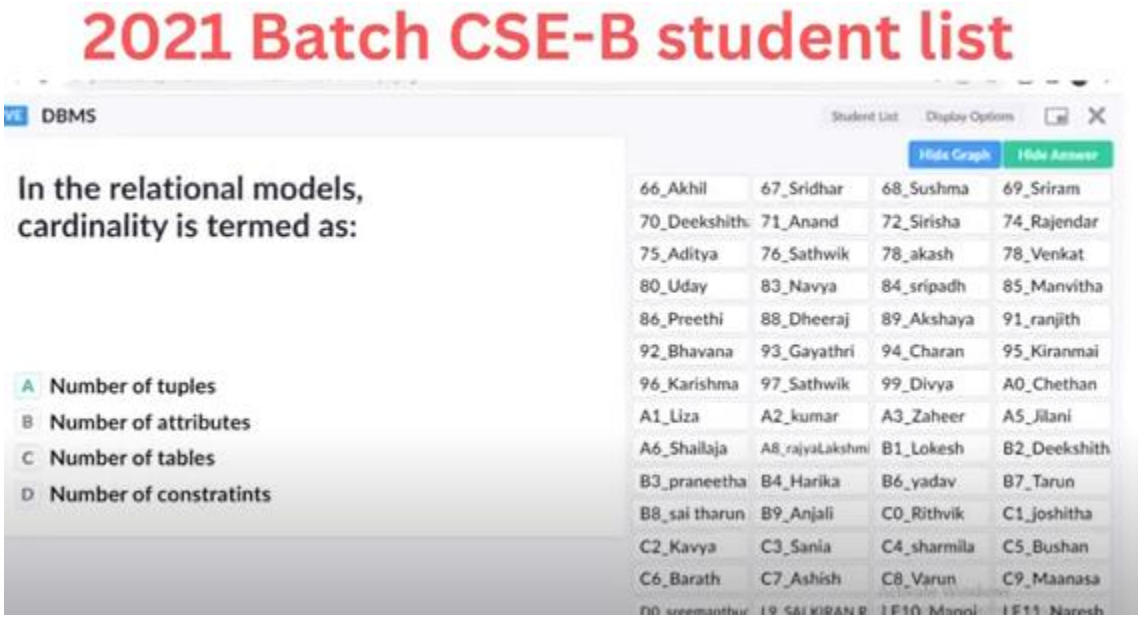
Topic: Relation model

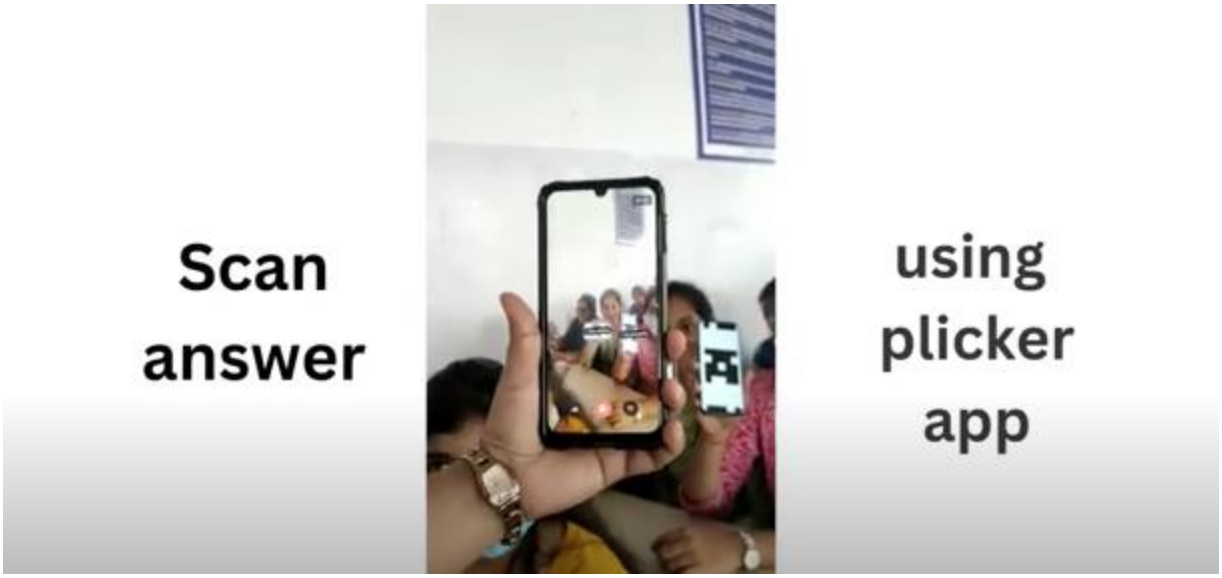
Students: II-II B.Tech CSE-B

Implementation:

Plicker cards are given to students in pdf format via whatsapp. Faculty adds students to the faculty plicker library. Students are given a plicker number once they enter. Students are instructed to snap a picture of their plicker card. Faculty display question using ICT tool and student answer questions by holding up a unique card using a mobile device. Faculty scan student answers using the Plickers app. Total Participation and each student assessment can be viewed for multiple choice questions.

Recorded session is available on https://www.youtube.com/watch?v=LJ1nUegN5_w





Student show their answer

Outcome:

- It is easy and quick assessment on students
- Results can be used to assess the students understanding level
- Students can access content from anywhere and notifies students when new presentation uploads

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
AY: 2023-24

Innovative Technique Implemented: LMS (Canvas)

Subject: DWDM

Name of the Faculty: D. Venkateswarlu

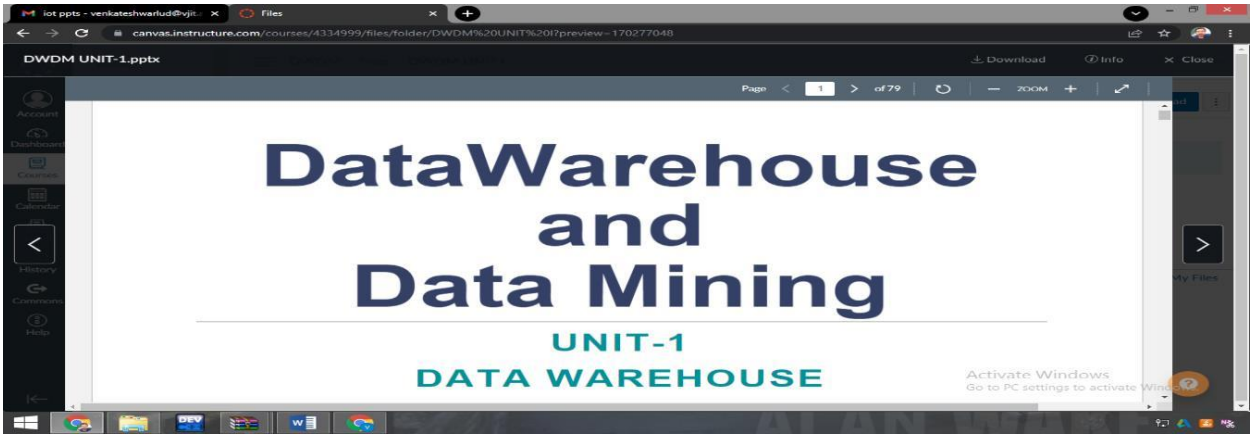
Students: III –II CSE

Implementation:

Canvas LMS is an open and reliable web-based software that allows institutions to manage digital learning, educators to create and present online learning materials and assess student learning, and students to engage in courses and receive feedback about skill development and learning achievement.

Canvas is a web-based learning management system, or LMS. It is used by learning institutions, educators, and students to access and manage online course learning materials and communicate about skill development and learning achievement.

Faculty upload unit wise notes, schedule quiz and assignment.



Outcome:

 Easy to track and evaluate student activities which consists of Quizzes, Assignment.

 Students can access materials uploaded by faculty.

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
AY: 2022-23

Innovative Technique Implemented: Role Play

Name of the Faculty: Y.Prabhu Kumar

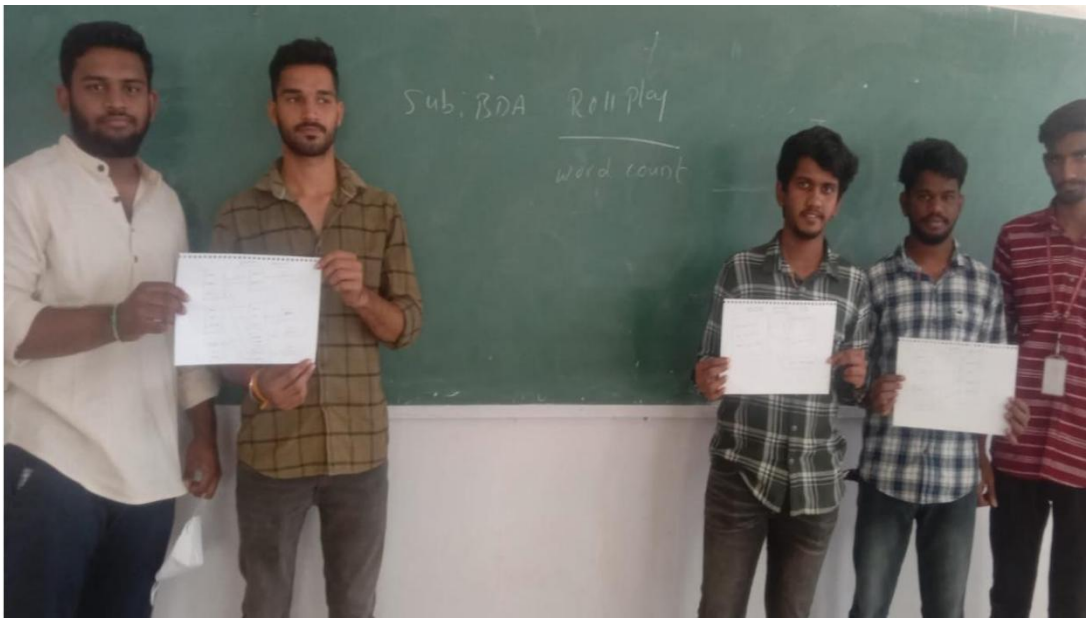
Subject: Big Data Analytics

Topic: WORD COUNT

Students: IV B.Tech I-Sem CSE-A

Implementation:

- Divided the scenario into 2 categories – Mappers,Reducers
  - Students played role of Mapper holding {Deer,Beer,River},{Car,Car,Revier},{Deer,Car,Beer}
  - Reducer holding {Deer:2,River:2,Car:3,Bear:2}
- Implemented Map Reduce Using Split,Mapping,Shufling,Sorting.
- The above query forms nested query i.e., a query within in a query
- In the user perspective based on query data can be accessed from the respective tables by identifying referential integrity constraints.



Outcome:

Students are able to deal with real-world scenarios. They are encouraged to think more critically about controversial subjects.

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
AY: 2022-23

Interactive Learning Method: Think-pair-share

Faculty Name: V.Srilakshmi

Subject : Artificial Intelligence

Topic: What are some key real-world applications of Artificial Intelligence, and how is it transforming industries?

Participants: Students of III year

Think-pair-share (TPS) is a collaborative learning strategy where students work together to solve a problem or answer a question about an assigned reading. This strategy requires students to (1) think individually about a topic or answer to a question; and (2) share ideas with classmates. Discussing with a partner maximizes participation, focuses attention and engages students in comprehending the reading material.

Content: What are some key real-world applications of Artificial Intelligence, and how is it transforming industries?

Artificial Intelligence (AI) is making significant strides across various sectors, revolutionizing industries by automating tasks, enhancing decision-making, and improving efficiency. Here are some key real-world applications of AI and how they are transforming different industries:

1. Healthcare:

Applications:

- Diagnostics
- Drug Discovery:
- Personalized Medicine: How It's Transforming Healthcare
- Faster Diagnosis
- Cost Reduction
- Improved Patient Outcomes

2.Finance:

Applications:

- Fraud Detection
- Algorithmic Trading
- Credit Scoring:
- How It's Transforming Finance
- Improved Security

- More Efficient Trading
- Enhanced Customer Service.

Implementation:

Initially I explained above real world implementations in detail with examples of each category. After understanding the concepts of above examples students are asked to identify the given applications belongs to which model by think pair share innovative learning methodology. As part of this activity I made students into some set of groups and gave some scenarios and asked to find out which model is suitable why ? and also asked the merits and demerits and suggested them to discuss the topics with their peers in the group and write down the answer.

Outcome:

All the students are actively participated and they did successfully. For those who are not following I explained with good examples. With this activity it improves interest in learning the task easily along with his/her friends by discussing they can get more ideas.

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
AY: 2022-23

Interactive Learning Method: Role Play

Name of the faculty: B.Sailaja

Subject : Design and Analysis of Algorithms

Topic: Quick Sort

Class: II Year II sem Sec-D

Content: Sorting the elements using Quick Sort method

1. Pick an element, called a pivot, from the array.
2. Partitioning: reorder the array so that all elements with values less than the pivot come before the pivot, while all elements with values greater than the pivot come after it ...
3. Recursively apply the above steps to the sub-array of elements with smaller values and separately to the sub-array of elements with greater values.

Algorithm:

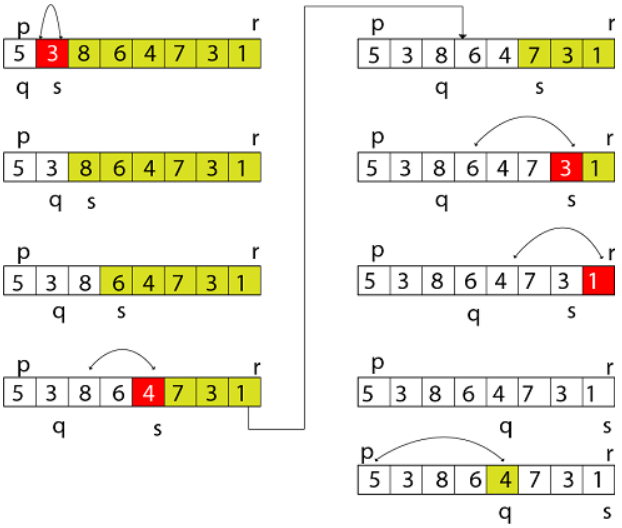
1. QUICKSORT (array A, **int** m, **int** n)
2. 1 **if** (n > m)
3. 2 then
4. 3 i ← a random index from [m,n]
5. 4 swap A [i] with A[m]
6. 5 o ← PARTITION (A, m, n)
7. 6 QUICKSORT (A, m, o - 1)
8. 7 QUICKSORT (A, o + 1, n)

Partition Algorithm:

Partition algorithm rearranges the sub arrays in a place.

1. PARTITION (array A, **int** m, **int** n)
2. 1 x ← A[m]
3. 2 o ← m
4. 3 **for** p ← m + 1 to n
5. 4 **do if** (A[p] < x)
6. 5 then o ← o + 1
7. 6 swap A[o] with A[p]
8. 7 swap A[m] with A[o]
9. 8 **return** o

Figure: shows the execution trace partition algorithm







Outcome: Role-play pedagogy has been shown to be effective in reaching learning outcomes in three major learning domains: affective, cognitive, and behavioral. By making students take on the role of another person, they practice empathy and perspective taking.

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
AY: 2022-23

Interactive Learning Method: Think-Pair-Share

Name of the faculty: PKVS Sarma

Subject : Mobile Application Development

Topic: Interface Development

Class: IV/I Year CSE

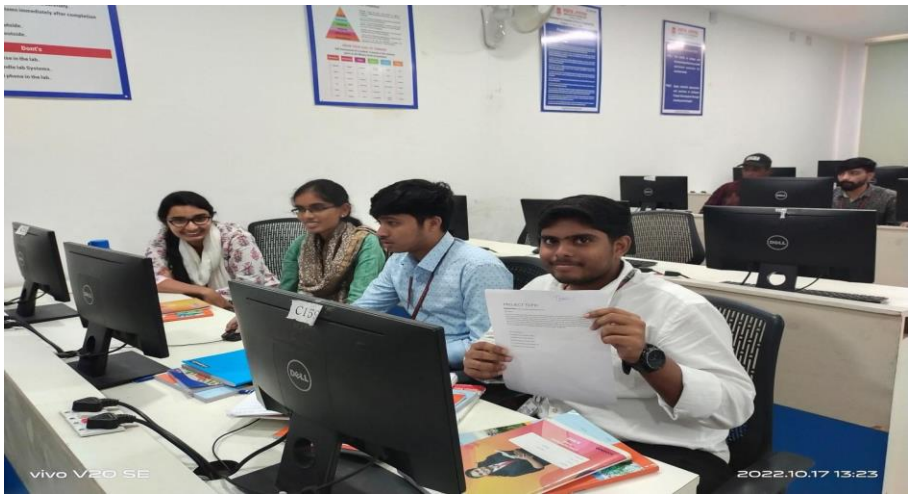
Introduction:

A mobile user interface (mobile UI) is the graphical and usually touch-sensitive display on a mobile device, such as a smartphone or tablet, that allows the user to interact with the device's apps, features, content and functions.

The user interface (UI) is the point of human-computer interaction and communication in a device. This can include display screens, keyboards, a mouse and the appearance of a desktop. It is also the way through which a user interacts with an application or a website. Mobile user interface (UI) design requirements are significantly different from those for desktop computers. The smaller screen size and touch screen controls create special considerations in UI design to ensure usability, readability and consistency. In a mobile interface, symbols may be used more extensively and controls may be automatically hidden until accessed.

Implementation:

Students are provided with basic information about various components involved in the development of user interface, and instructed to come prepared with information about the topic.



Outcome:

Students discussed about the topic shared their knowledge and understood the topic easily. By using Think-Pair-Share, students get the chance to reflect independently, engage in collaborative discussions, and share their insights in a supportive classroom environment. This approach is especially effective for developing skills that are central to mobile application development, such as design thinking, problem-solving, and effective communication.

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
AY: 2022-23

Interactive Learning Method: Collaborative Learning

Subject : Programming for Problem solving

Name of the Faculty: V.Prathima

Topic: Operators in C

Class: I Year CSE

Implementation:

Students are made into groups and each group is assigned with a topic, and asked them to analyze and perform the activity.

In C language, operators are symbols that represent operations to be performed on one or more operands.

Types of operators in c:

1. Arithmetic Operators
2. Relational Operators
3. Logical Operators
4. Bitwise Operators
5. Assignment Operators
6. Other Operators

Each student is assigned with an operator and explained the usage and functionality of operators with examples.

Outcome:

All the students are actively participated and they performed the task successfully.. With this activity, it improves interest in learning the task easily along with his/her friends by discussing they can get more ideas.

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
AY: 2022-23

Interactive Learning Method: Think-Pair-Share

Name of the faculty: Dr.K.Ramesh Babu

Subject : FLAT

Topic: Turing Machine

Class: III/I Year CSE

Implementation:

Role play is a highly effective teaching method that encourages active learning and helps students develop a variety of skills.

- Engages Students Actively: Role play encourages participation and makes learning more interactive.
- Develops Critical Thinking: Students must think critically and problem-solve as they navigate the roles and situations.
- Enhances Communication Skills Role play helps students improve their verbal and non-verbal communication.

Objective: Demonstrate whether the input string given is accepted by DFA or not.

Roles:

Input 1 – Ayesha

Input 2 – Sandeepa

q1 – Anshul

q2– Gowtham

qf – Bharath

Dead State – Pranav

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
AY: 2022-23

Interactive Learning Method: Case based Learning

Name of the faculty: A. Swarna

Subject : Big Data Analytics

Topic: Big Data Failure

Class: IV Year CSE

Implementation:

Students are made into groups and each group is assigned with a topic, and asked them to analyze and perform a case based study and map them into real-world scenarios.

ABSTRACT

Big data analytics workframe is still a primary innovation, using advanced technologies and machine learning techniques on one side, one the other side the lack of setting regulations imbalance the whole science. In this paper, it identifies essential key faults that lead to failure responses in big data. Furthermore, the potential ways to avoid it in the future.

Introduction

The purpose of this paper is to address analytical impact in highlighting failure alerts, using a practical example.Finally, criticize the conducted search and limitations. In the second section, it is dedicated to identify the possible solutions followed by a conclusion where summarize the outputs and reflect main companies hardships.

Failure Reasons

For 70% of companies, 'Big Data' fail to generate returns above the cost of capital. This is bad, doubly so because the data is from the telecommunications industry which started exploiting big data early and where the scope for exploiting data is perhaps greater (and surely more obvious) than in most other established sectors. Indeed, by 2014 leading telcos were reporting fully 20% of their profits came from big data, clearly demonstrating the opportunities for getting it right. Let's examine this in more detail.

The data quoted comes from a peer-reviewed article *Reaping the benefits of big data in telecom*published in 2016 and based primarily on data from a survey conducted in December 2014 of 273 executives. At the headline level, it is in line with our experiences.

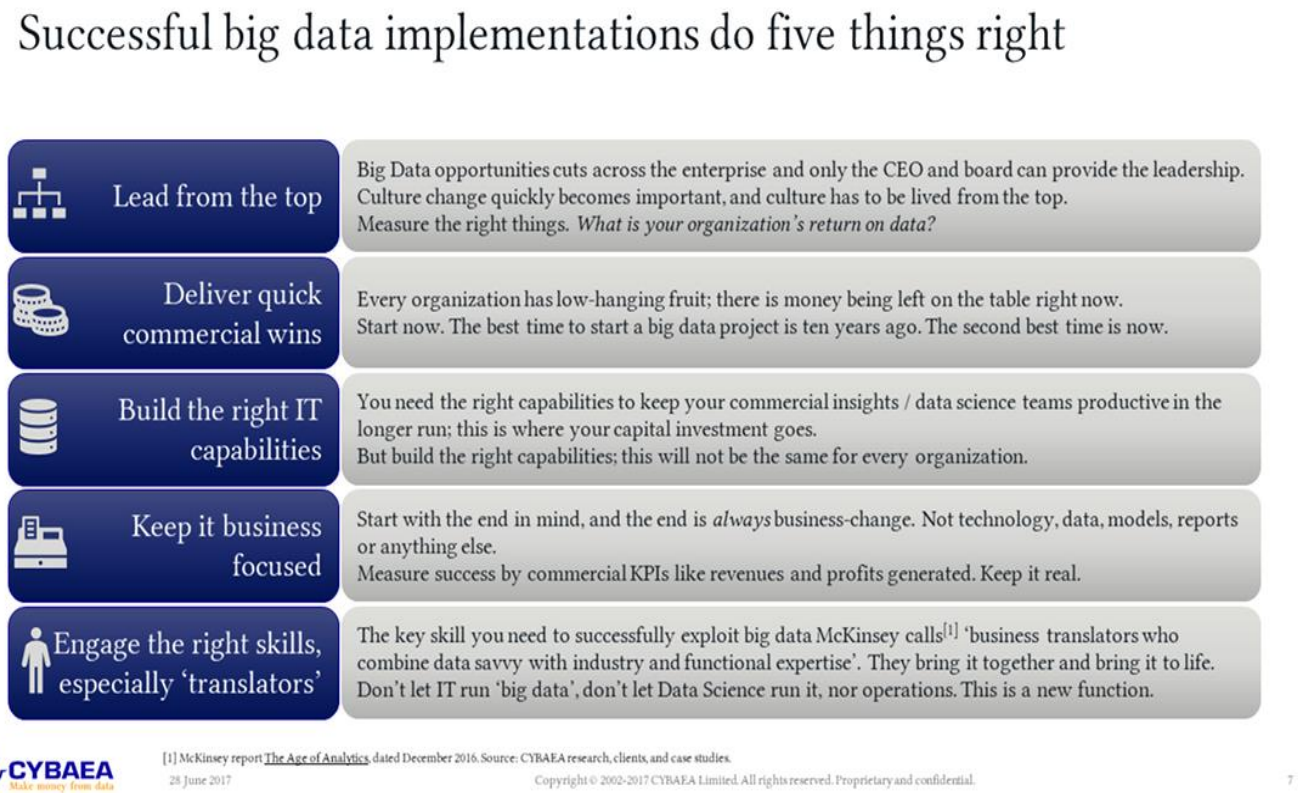
Leveraging data and scientific marketing for commercial advantage has been a strategic imperative for mobile telecommunication companies for decades. The delivery of this advantage took formal shape with the Customer Value Management (CVM) approach which we first created for Vodafone in the early 2000s (see our original case study). We have seen across nearly a dozen operators that full implementation of CVM generates directly attributable incremental EBITDA growth of around 5% per year. In revenue terms, operators typically measure 10% additional revenues in the first year alone.

Data is clearly important in this industry and the value is clearly demonstrated. So what goes wrong with the big data projects?

The article provides a list of issues; the top three reported bottlenecks are:

- Data: Lack of quality.
- Organization: Big data [function] is too low in the organization.
- Organization: Big data IT not synchronized with [business] functions.

The first two issues, then, are both about business leadership, or rather, the lack of it. That would be in line with our experience as well. We have found that successful big data implementations do five things right:



1. Lead from the top
2. Deliver quick commercial wins
3. Build the right IT capabilities
4. Keep it business focused
5. Engage the right skills

"What is your return on data?"

Lead from the top: Big Data opportunities cut across the enterprise and only the CEO and board can provide the leadership. Culture change quickly becomes important, and culture has to be lived from the top. Measure the right things: What is your organization's return on data?

Deliver quick commercial wins: Every organization has low-hanging fruit; there is money being left on the table right now. Get started, now. The best time to start a big data project is ten years ago. The second-best time is today.

Build the right IT capabilities: You need the right capabilities to keep your commercial insights / data science teams productive in the longer run; this is where your capital investment goes. But build the right capabilities; these will not be the same for every organization.

Keep it business focused: Start with the end in mind, and the end is always business change. Not technology, data, models, reports, or anything else. Measure success by commercial KPIs like revenues and profits generated. Keep it real.

Do not let data scientists run your data science function

Engage the right skills: The key skill you need to successfully exploit big data is what McKinsey calls business translators who combine data savvy with industry and functional expertise. They bring it together and bring it to life. Don't let IT lead your initiatives; don't let Data Science run it, nor operations. This is a new function.

If data is an asset, then how do you measure your return on data? If you answer is around the size of your data lake, the number of data scientists you have, or even the number of cool-pilot-projects-that-never-got-into-production, then you've got it backward.

Outcome:

- Students gained the knowledge on the various reasons for big data failure.
- They analyzed various cases for failure and explained the reasons briefly.
- Collaborative learning allows students to learn collaboratively and exhibit their ideas.

Department of Computer Science and Engineering

List of Innovative Teaching Methodologies AY: 2022-23

S.No	FacultyName	Course	Topic	Innovative methods adopted	Goals	Preparation	The significance of Result	Availability of review and critique	Reproducibility and Reusability
1	Dr.B.Vijay Kumar	Java	Assignment &material	LMS	Online learning enables students to work on online assignments and get access for additional information too.	Students Should possess knowledge of the LMS	The benefits of online learning include the flexibility to complete assignments at a time that is most convenient to the student	Report on concept demonstrated will be availed for reference	This can be adopted by any faculty and implement in their course
2	G. kalpana	Advanced Databases	Distributed DBMS Architecture	Think pair share	To improve communication skills, problem solving and critical thinking	Students will come with the good preparation on a topic	Improve Communication and cooperative skills	Report on concept demonstrated will be availed in website	This can be utilized by any faculty member and incorporated into their course.

3	K.Srinivasa Rao	JAVA Programming	Talent Next's	Project Based Learning	To make students understand through Presentation	Students Should have in-depth knowledge of the topic	Students are capable of doing real time projects	Report on concept demonstrated will be availed for the references	This can be used by any faculty and implement in their course
4	Shinde Ambika	Software Engineering	Inventory Management System	Project based learning	To encourage learning by actively engaging in real-world projects	Students Should have in depth knowledge of the topic	Students are capable of doing real time projects	Report on concept demonstrated will be availed in website	This can be utilized by any faculty member and incorporated into their course.
5	M.Vijaya	Compiler Design	Phases of compiler	Role play	To understand phases that are present during the compile phase.	Assign roles to students	Students understand the topic clearly	Report on concept demonstrated will be availed in website	This can be used by any faculty and implement in their course
6	P.Raja Shekhar	DBMS	Sailor & boat problem	Role play	Role play gives students the freedom to experiment with different approaches	Assign roles to students	Improve cooperative skills	Report on concept demonstrated will be availed in website	This can be adopted by any faculty and implement in their course
7	CH.Deepika	MFCS	Connectives	Role-play	To enhance teamwork cooperation and negotiation	Assign roles to students	Improve Communication and cooperative skills	Report on concept demonstrated will be availed in website	This can be used by any faculty and implement in their course
8	S.Girinath	E-commerce	EDP	Role-play	Role play gives students the freedom to experiment with different approaches	Assign roles to students	Students are able to deal with real-world scenarios	Report on concept demonstrated will be availed in website	This can be adopted by any faculty and implement in their course

9	G.Roopa	FLAT	DFA	Role-play	Students often need to research their roles, which enhances their information-gathering and critical analysis skills.	Assign roles to students	Students are able to deal with real-world scenarios	Report on concept demonstrated will be availed in website	This can be adopted by any faculty and implement in their course
10	S.Divya	Database Management Systems	Relational model	Interactive Learning(Digital Plickers)	Students can access content from anywhere and notifies students when new presentation uploads	Students Should possess knowledge of the topic	Increased engagement and motivation, enhanced knowledge retention.	Report on concept demonstrated will be availed in website	This can be used by any faculty and implement in their course
11	D.Venkateshwarlu	Data Warehousing Data Mining	K-Means Algorithm	LMS	To communicate/share data with the students at a time	Students should have basic knowledge about platform	To provide central location, to communicate with students, ask questions and make assignments.	Report on concept demonstrated will be availed for the reference.	This can be adopted by any faculty and implement in their course
12	Y.PrabhuKumar	Big Data Analytics	Word Count	Role Play	Implemented Map Reduce Using Split, Mapping, Shufling, Sorting.	Assign roles to students	Students are able to deal with real-world scenarios. T	Report on concept demonstrated will be availed in website	This can be used by any faculty and implement in their course
13	V.SriLakshmi	Artificial Intelligence	Real-world applications	Think-pair-share	To improve communication skills, problem solving and critical thinking	Students will come with the good preparation on atopic	Improve Communication and cooperative skills	Report on concept demonstrated will be availed in website	This can be adopted by any faculty and implement in their course

14	B.Sailaja	Design and Analysis of Algorithms(II-II)	QuickSort	Role Play	Role play gives students the freedom to experiment with different approaches	Assign roles to students	Students are able to deal with real-world scenarios	Report on concept demonstrated will be availed for the reference	This can be adopted by any faculty and implement in their course
15	PKVS Sarma	Mobile Application Development (IV-I)	Developing User Interface of Mobile Application	Think Pair Share	Deeper understanding and ability to think of their own	Students will come with the good preparation on a topic	To work in a collaborative environment	Report on concept demonstrated will be availed in website	This can be used by any faculty and implement in their course
16	V.prathima	Programming for problem solving	Operators in C	Collaborative Learning	To understand usage of various operators in C	Students Should have in-depth knowledge of the topic	Students can learn and increase their motivation and beat the centre of their growth.	Report on concept demonstrated will be availed in website	This teaching method can be implemented by faculty in succeeding years
17	Dr.K.Ramesh Babu	FLAT	Turing Machine	Think-pair-share	To understand how turing machine works by collectively sharing information.	Students will come with good preparation of the topic	Improve Communication and cooperative skills	Report on concept demonstrated will be availed in website	This can be used by any faculty and implement in their course

18	A.Swarna	Big Data Analytics	Big Data Failure	Case based Learning	To communicate with the students and encourage communication between them in forums and discussion	Students Should have in-depth knowledge of the topic	Students can learn and increase their motivation by taking various case studies	Report on concept demonstrated will be availed in website	This can be adopted by any faculty and implement in their course

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Department of Computer Science and Engineering

List of Innovative Teaching Methodologies AY: 2023-24

S.No	Faculty Name	Course	Topic	Innovative methods adopted	Goals	Preparation	The significance of Result	Availability of review and critique	Reproducibility and Reusability
1	Dr D.Babu Rao	Mobile Application Development	Developing user interface of mobile application	Think-pair-share	To help students in problem solving and develop critical thinking	Students Should have good knowledge of the topic	To improve collaborative and communication skills	Report on concept demonstrated will be availed in website	This can be adopted by any faculty and implement in their course
2	Dr.Ravi Mathey	Computer Networks	IPV4&IPV6	Project based learning(Journal Review)	To encourage learning by actively engaging in real-world projects	Students Should have in-depth knowledge of the topic	Students are capable of doing real time projects	Report on concept demonstrated will be availed in website	This can be utilized by any faculty member and incorporated into their course.
3	D.Venkateshwarlu	Dataware housing & Dataminin g	Assignments & Notes	LMS	To help students flourish with different activities and learn effectively	Students should have basic knowledge about platform	To provide central location, to communicate with students, ask Questions and	Report on concept demonstrated will be availed in website	This can be used by any faculty and implement in their course

							make assignments		
4	S.Divya	Operating Systems	File Allocation Methods	Interactive learning	To encourage learning by actively engaging and discussing.	Students will come with the good preparation on a topic	Students strengthen their critical thinking and problem-solving skills	Report on concept demonstrated will be availed in website	This can be utilized by any faculty member and incorporated into their course.
5	G.Roopa	Mathematical Foundation of computer science	Truth Tables	Role-play	To enhance teamwork cooperation and negotiation	Assign roles to students	Improve Communication and cooperative skills	Report on concept demonstrated will be availed in website	This can be adopted by any faculty and implement in their course
6	CH.Deepika	Mathematical Foundation of computer science	PDNF&PCNF	Think-pair-share	To help students in problem solving and develop critical thinking	Students Should have good knowledge of the topic	To improve collaborative and communication skills	Report on concept demonstrated will be availed in website	This can be utilized by any faculty member and incorporated into their course.
7	M.Vijaya	Linux Programming	Shell responsibilities	Role-play	To enhance teamwork cooperation and negotiation	Assign roles to students	Improve Communication and cooperative skills	Report on concept demonstrated will be availed in website	This can be used by any faculty and implement in their course
8	P.Sandhya	OOPS through JAVA	Material	LMS(Canvas)	To help students flourish with different activities and learn effectively	Students should have basic knowledge about platform	To provide central location, to communicate with students, ask questions and make assignments	Report on concept demonstrated will be availed in website	This can be utilized by any faculty member and incorporated into their course.
9	K.Spandana	Software Engineering	Life cycle of Unified process Model	Flipped class room	Students can explore topics before the lecture	Students will come with the good preparation on a topic	The level of understanding of technical concepts of the students is depicted.	Report on concept demonstrated will be availed for the references	This can be adopted by any faculty and implement in their course

10	K.Vasantha	Data Structures	BST	Interactive learning (Seminars)	To improve learning skills both inside and outside of the classroom	Students will come with the basic preparation on a topic	Students will understand the topic easily and effectively.	Report on concept demonstrated will be availed in website	This can be utilized by any faculty member and incorporated into their course.
11	K.Bhavya	Object Oriented Analysis and Design	ATM Management System	Case-based Learning	Provide students with the opportunity to analyze and learn from real-cases	Students should perform research and analyze the topic	All students are actively participated in this activity and successfully identified few real time applications	Report on concept demonstrated will be availed in website	This can be used by any faculty and implement in their course
12	S.Swetha	Cloud Computing	Seminar	Interactive learning	To improve learning skills both inside and outside of the classroom	Students will come with the basic preparation on a topic	Students will understand the topic easily.	Report on concept demonstrated will be availed for the references	This can be utilized by any faculty member and incorporated into their course.
13	V.Narsingrao	Cloud Computing	Real world Scenarios	Case based Learning	Students can explore topics before the lecture	Students will come with the good preparation on a topic	The level of understanding of technical concepts of the students is depicted.	Report on concept demonstrated will be availed in website	This can be adopted by any faculty and implement in their course
14	R.Yogesh	DWDM	Cluster Analysis	Role-play	To enhance teamwork cooperation and negotiation	Assign roles to students	Improve Communication and cooperative skills	Report on concept demonstrated will be availed in website	This can be utilized by any faculty member and incorporated into their course.

15	G.Surekha	Computer Networks	Analysis on Protocols	Case-based Learning	Analysis of Packet and its protocol Headers using Wire shark Tool in real time applications.	Students will come with the good preparation on the topic	Students gained the knowledge on networking protocols, Transmission of the packet using TCP and UDP protocols	Report on concept demonstrated will be availed for the references	This can be used by any faculty and implement in their course
16	G.Kalpana	Advanced Databases	Data delivery alternatives	Interactive learning	Provide students with the opportunity to analyze and learn from real cases	Students should perform research and analyze the topic	All students are actively participated in this activity and successfully identified few real time application's	Report on concept demonstrated will be availed in website	This can be utilized by any faculty member and incorporated into their course.
17	S.Shwetha	Artificial Intelligence	Seminar	Interactive learning	Provide students with the opportunity to analyze and learn from real cases	Students should perform research and analyze the topic	All students are actively participated in this activity and successfully identified few real time application's	Report on concept demonstrated will be availed in website	This can be utilized by any faculty member and incorporated into their course.

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Department of Computer Science and Engineering

List of Innovative Teaching Methodologies AY: 2024-25

S.No	Faculty Name	Course	Topic	Innovative methods adopted	Goals	Preparation	The significance of Result	Availability of review and critique	Reproducibility and Reusability
1	B.Sailaja	Data Structures	Binary search tree	Role-play	To help students learn and understand the data structure BST	Assign roles to students	Enhances the analyzing capacity.	Report on concept demonstrate will be availed in website	This can be adopted by any faculty and implement in their course
2	V.NarsingRao	Database Management Systems	Employee management system	Flipped classroom	Students can learn and take responsibility for their learning innovatively	Students will come with the good preparation on a topic	The level of understanding of technical concepts of the students is depicted	Report on concept demonstrate will be availed in website	This can be utilized by any faculty member and incorporated into their course.

3	A.Swarna	Database Managemen t Systems	Movie Database	Project based learning	To encourage learning by actively engaging in real-world projects.	Students Should have in-depth knowledge of the topic	Students are capable of doing real time projects	Report on concept demonstrate will be availed in website	This can be used by any faculty and implement in their course
4	K.Ramesh Babu	FLAT	DFA	Role-play	To help students explore values and understand the consequences of their behavior	Assign roles to students	All students are actively participated in this activity.	Report on concept demonstrate will be availed in website	This can be utilized by any faculty member and incorporated into their course.
5	K.Bhavya	Computer Networks	Assignments, seminars	LMS(Google classroom)	To help students flourish with different activities and learn online effectively	Students should have basic knowledge about platform	To provide central location, to communicate with students, ask questions and make assignments	Report on concept demonstrate will be availed in website	This can be used by any faculty and implement in their course
6	K.Shirisha	Mobile Application Development	Developing user interface of mobile application	Think-pair-share	To help students in developing user interface of mobile application	Students Should have good knowledge of the topic	To improve collaborative and communication skills	Report on concept demonstrate will be availed in website	This can be adopted by any faculty and implement in their course

7	A.Lalitha	R PROGRAM MING	Hands on session	Interactive learning	To improve learning skills both inside and outside of the classroom	Students will come with the basic preparation on a topic	Students will understand the topic easily and effectively.	Report on concept demonstrate will be availed in website	This can be adopted by any faculty and implement in their course
8	Dr.Zaheer Ahmed	Advanced Databases	Data delivery alternatives	Interactive learning	Provide students with the opportunity to analyze and learn from real cases	Students should perform research and analyze the topic	All students are actively participated in this activity and successfully identified few real time applications	Report on concept demonstrate will be availed in website	This can be utilized by any faculty member and incorporated into their course.
9	G.Kalpana	Advanced Databases	Distributed DBMS Architecture	Think-pair-share	To help students in problem solving and develop critical thinking	Students Should have good knowledge of the topic	To improve collaborative and communication skills	Report on concept demonstrate will be availed in website	This can be used by any faculty and implement in their course
10	S.Divya	Mathematic al Foundation of computer science	Combinations	Interactive learning (Mathematica l chair)	To reinforce math skills, quick thinking, active learning	Students should have basic idea on the topic	Combines movement with learning, help the students stay active	Report on concept demonstrate will be availed in website	This can be utilized by any faculty member and incorporated into their course.

11	M.Vijaya	Mathematic al Foundation of computer science	Combinations	Role-play	To enhance teamwork co-operation and negotiation	Assign roles to students	Improve Communication and cooperative skills	Report on concept demonstrate will be availed in website	This can be Usedby any faculty and implement in their course
12	V.Srilaxmi	Web Technologies	Client side vs Server side rendering	Think-pair-share	Deeper understanding and ability to think of their own	Students will come with the good preparation on a topic	To work in a collaborative environment	Report on concept demonstrate will be availed in website	This can be adopted by any faculty and implement in their course
13	R.Yogesh	Natural Language Processing	N-gram Language model	Role-play	To motivate and engage students in real world scenarios	Assign roles to students	Improve Communication and cooperative skills	Report on concept demonstrate will be availed in website	This can be adopted by any faculty and implement in their course
14	P.Laxmi Priya	Database Managemen t Systems	Inventory management system	Project based learning	To encourage learning by actively engaging in real-world projects	Students Should have in-depth knowledge of the topic	Students are capable of doing real time projects	Report on concept demonstrate will be availed in website	This can be utilized by any faculty member and incorporated into their course.
15	G.Surekha	Computer Networks	Star Topology (Switch and Hub working)	Role play	To motivate and engage students in real world scenarios	Assign roles to students	Improve Communication and cooperative skills	Report on concept demonstrate will be availed in website	This can be adopted by any faculty and implement in their course