

Technical and Business
Writing (SS2007)

Date: 17th December, 2024

Course Instructor(s)

Ms. Hajra Ikram, Ms. Uzma Safdar, Mr. Ali Zulfiqar, Ms. Irum Zahoor, Ms. Nayyab Mufti, Ms. Maha Hijab, Mr. Arslan Rasheed, Ms. Javerla

Final Exam

Total Time (Hrs.): 3
Total Marks: 70
Total Questions: 5

Roll No

Section

Student Signature

Do not write below this line

Attempt all the questions on the answer sheet.

Q1: Write an Informal Report on the given task:

[20]

As advanced students in the Computer Science Department, your task is to write a **Problem Analysis Report** (memo report) evaluating the role of Artificial Intelligence (AI) tools (e.g., ChatGPT, GitHub Copilot, Grammarly) in enhancing productivity and improving the quality of technical documentation for software development projects.

Your report should address the following key areas:

1. **AI Capabilities:** To what extent do these tools assist in creating professional, error-free documentation?
2. **Challenges:** Enlist and elaborate what potential issues, such as ethical concerns, accuracy limitations, or over-reliance on AI, may arise from their use?
3. **Comparison:** How do these tools perform compared to traditional methods or manual writing approaches?
4. **Future Potential:** What recommendations can you provide for integrating these tools more effectively in academic and professional contexts?

Support your analysis with relevant examples, ensure the report is concise yet insightful, and conclude with your thoughts on the prospects of these tools, including specific recommendations.

Introductory summary

National University of Computer and Emerging Sciences

Lahore Campus

Q2: Read the following job description carefully and craft a well-structured and persuasive cover letter addressed to Mr. Asad, HR Manager, TechSolve Solutions, Garden Town, Lahore.

[15]

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Q3: R

Position(s): Junior Software Engineer / IT Support Specialist

Company Name: TechSolve Solutions

Work Mode: Hybrid (Garden Town Office with Remote Work Options)

Job Type: Full-time, Entry-Level (Fresh graduates to two years of experience)

Salary: Competitive and negotiable based on experience

About TechSolve Solutions:

TechSolve Solutions is a forward-thinking tech company that specializes in innovative software solutions and high-quality IT support services. We are looking for passionate, talented, and self-motivated individuals to join our team. This role offers a unique opportunity to work on diverse projects, from developing cutting-edge software to optimizing IT systems, all within a fast-paced and collaborative environment.

Key Responsibilities:

- **For Junior Software Engineers:** Participate in software development projects, contribute to coding and debugging, and collaborate with team members to implement new features.
- **For IT Support Specialists:** Provide technical assistance, troubleshoot IT systems, and ensure smooth operation of network and server infrastructure.

Required Qualifications and Skills:

A bachelor's degree in Computer Science or a related field, along with knowledge of programming, networking, and IT systems. Desirable skills include experience with Git, cloud platforms, and strong communication abilities.

Your cover letter must include the following:

1. **Interest in TechSolve Solutions:** Explain why you are excited about joining the company and how its values align with your career aspirations.
2. **Academic and Technical Skills:** Highlight your academic background and relevant technical skills that make you a strong candidate for the position.
3. **Relevant Projects or Coursework:** Share examples of specific projects, internships, or coursework that demonstrate your expertise in programming, networking, or IT systems.
4. **Career Goals:** Outline your long-term professional goals and how you envision growing within the company.

Ensure your cover letter is concise, professional, and tailored to the role.

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Date

Mr.

To

[15]

Q3: Read the details of Research Report on Web Development provided below and write a concise and engaging Abstract for the report.

The abstract should be clear, professional, and no longer than 200 words.

[15]

Web Development: A Research Report

Introduction

Web development has become a fundamental part of the digital era, enabling individuals and organizations to establish a strong online presence. From simple informational pages to sophisticated interactive platforms, web development supports commerce, communication, and innovation. Currently, over 1.88 billion websites exist globally, reflecting the growing importance of this field. This report aims to explore the core aspects of web development, review existing research, and identify key trends and challenges. By doing so, it underscores the necessity of staying updated with emerging technologies and industry demands.

Literature Review

Numerous studies have explored the evolution of web development and its impact on the digital economy. Early research focused on the advent of static HTML-based websites in the 1990s and their evolution into dynamic, data-driven platforms through technologies like PHP and JavaScript (Berners-Lee, 1995). More recent literature emphasizes the rise of responsive design, which ensures optimal user experience across devices (Marcotte, 2010). Scholars have also highlighted the role of modern frameworks, such as React and Angular, in enhancing development efficiency and scalability (Gackenheimer, 2015). Additionally, there is growing attention on artificial intelligence (AI) and machine learning (ML) in personalizing user experiences and automating tasks (Smith & Patel, 2020). Challenges such as cybersecurity threats and accessibility have been widely discussed, with recommendations for adopting secure coding practices and inclusive design standards (Brown & Lee, 2019). This review provides a foundation for discussing contemporary trends and challenges in web development.

Methodology

This research adopts a qualitative approach, analyzing secondary data from peer-reviewed articles, industry reports, and case studies. It examines key aspects of web development,

including frameworks, tools, and techniques, while addressing the challenges developers face. Emerging trends and their impact on the web development landscape are also reviewed.

Discussion

1. Evolution of Web Development

The field of web development has evolved significantly, beginning with static websites in the 1990s and advancing to dynamic, interactive platforms. Modern development tools such as React, Angular, and Node.js enable the creation of scalable, responsive, and user-friendly web applications.

2. Key Components of Web Development

- **Front-End Development:** Encompasses the creation of user interfaces using technologies like HTML, CSS, and JavaScript.
- **Back-End Development:** Involves server-side logic and database management, utilizing tools like Python and MySQL.
- **Responsive Design:** Ensures websites function seamlessly across devices through frameworks like Bootstrap.
- **Content Management Systems (CMS):** Platforms like WordPress and Drupal simplify website creation for non-technical users.

3. Emerging Trends

- **Artificial Intelligence (AI):** Enhances user experiences through personalization and automation.
- **Progressive Web Apps (PWAs):** Offer offline capabilities and faster load times, blending web and mobile app features.
- **Cloud-Based Development:** Facilitates collaboration and scalability via services like AWS and Google Cloud.
- **Focus on Cybersecurity:** Emphasizes secure development practices to mitigate risks.

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Nation
Question

4. Challenges in Web Development

Developers face obstacles such as:

- Adapting to rapid technological advancements.
- Ensuring websites are accessible to all users.
- Balancing performance, aesthetics, and functionality.
- Mitigating cybersecurity vulnerabilities.

5. Future Directions

The future of web development will likely involve greater automation through AI, integration of virtual and augmented reality (VR/AR), and advancements in blockchain and Web 3.0

technologies. These innovations will create more decentralized, secure, and immersive digital experiences.

Conclusion

Web development remains a dynamic and critical field, shaping the way businesses and individuals interact in the digital world. As technology evolves, the industry is witnessing significant transformations, including the adoption of AI, cloud-based solutions, and enhanced security measures. While challenges such as accessibility and rapid technological shifts persist, they also present opportunities for innovation. Staying abreast of emerging trends and addressing these challenges is essential for fostering the creation of efficient, secure, and user-friendly web platforms.

Q4: Read the case study and answer the questions that follow:

[10]

Ali Ahmed, a recent Software Engineering graduate, has honed his expertise in programming languages such as Python, JavaScript, and C++. He is proficient in frameworks like React.js and Node.js, enabling him to develop dynamic and efficient web applications. During his academic journey, Ali worked on several impactful projects:

- **Final-Year Project:** Designed a web application that visualizes real-time data through intuitive charts, assisting users in monitoring live information and making quick decisions. Ali utilized React.js for the front-end and employed AWS cloud services for data processing and storage.
- **Hackathon Project:** Collaborated with a team to develop an AI-powered chatbot using Python. The chatbot demonstrated the ability to understand user queries and provide relevant responses, earning second place at a national-level hackathon.
- **Freelance Work:** Created online shopping platforms using Shopify, integrating external APIs to implement secure payment functionalities.

In addition to his project experience, Ali holds certifications in **Cloud Computing Basics (AWS)** and **Machine Learning Foundations**. He is skilled in using version control tools like Git, automating workflows with CI/CD pipelines, and adhering to Agile methodologies to enhance productivity and collaboration.

Ali has applied for the **Junior Software Engineer** position at TechCore Solutions, a company specializing in AI-driven tools for business finance analysis. The role focuses on backend development, including building robust APIs, optimizing system performance, and ensuring scalability to handle high user loads. TechCore seeks candidates with strong problem-solving skills, teamwork capabilities, and a passion for learning and professional growth—qualities Ali consistently demonstrates.

Questions:

1. What reliable sources can Ali use to gather comprehensive and accurate information about TechCore Solutions?
2. What steps can Ali take to ensure he is prepared to perform his best during the interview? *practise, research, more interview, more interview, with answers expected q/a,*

[10]

Q5: Read the case study and answer the questions that follow:

Case Study: The Impact of Weak Presentation Skills

In a corporate setting, Saima, a mid-level manager, was entrusted with presenting a high-stakes project proposal to the executive team. The project had the potential to significantly improve operational efficiency but required substantial investment. While Saima possessed strong technical expertise, her lack of effective presentation skills undermined her ability to communicate the proposal's value.

From the start, Saima's insufficient preparation was apparent. Her presentation slides were overloaded with text and irrelevant details, making it challenging for the audience to discern the key points. The narrative of her presentation lacked structure, resulting in a disjointed flow that obscured the proposal's main objectives.

As she delivered the presentation, Saima's monotone voice and minimal eye contact failed to capture the audience's attention. She relied heavily on reading directly from her slides, which not only signaled a lack of confidence but also weakened her connection with the content. When asked questions, Saima's responses were vague and unfocused, further eroding the audience's confidence in her understanding of the project's intricacies.

The presentation concluded without a compelling call to action, leaving the executive team uncertain about the proposal's next steps. Predictably, the executives hesitated to approve the project, citing concerns over its clarity and feasibility.

Questions:

1. How did Saima's lack of preparation impact the effectiveness of her presentation and the audience's understanding of her proposal?
2. In what ways did Saima's delivery style diminish audience engagement and confidence in her proposal?
3. What actionable strategies can Saima implement to enhance her presentation skills and ensure greater success in the future?

National University of Computer and Emerging Sciences, Lahore Campus



Course:	Technical and Business Writing	Course Code:	SS 2007
Program:	BS CS/DS/SE	Semester:	Fall 2023
Duration:	3 Hours	Total Marks:	70
Paper Date:	20 th December-2023	Weight:	50%
Section:	ALL		
Exam:	Final		

Instructions: Attempt all questions on the answer sheet.

Q1. Write an Informal Report on the given task:

The educational institution, Global Learning Academy, is experiencing a decline in student engagement and satisfaction with its remote (online) learning programs, which have been a regular part of their program of BS Computer Engineering since after 2020. The issues possible include the technological, pedagogical (teaching methodology), and communication aspects. As a Manager Computer Science Department, you need to address potential challenges in implementing changes to the remote learning model, and additionally, provide solutions and recommendations for the given problem.

Write an Informal Memo Report and identify the key factors or problems contributing to this decline. Discuss the problem(s) in detail. You may also write about a plan for faculty training and student support.

[20]

Q2. Write the concluding paragraph of the following business letter.

(Word limit 60-70words)

[5]

December 15, 2023

Emily Turner
Chief Executive Officer
Green Energy Dynamics
456 Industry Street
Townsville, State 67890

Dear Mr. Johnson:

I hope this letter finds you well. My name is John Anderson, and I am the Vice President of Strategic Partnerships at Nebula Solutions, a forefront leader in sustainable technology solutions with headquarters at 456 GreenTech Street in EcoCity.

In response to our admiration for Stellar Innovations' exceptional achievements in the sustainable energy sector, we are writing to express our interest in exploring potential collaboration opportunities. Nebula Solutions specializes in eco-friendly technology solutions and sustainable infrastructure development, providing cutting-edge products that contribute to environmental conservation. We firmly believe that our tailored solutions, aligned with the pioneering work of Stellar Innovations, can complement your goals seamlessly and contribute to mutual success.

Q3. Write a Job Application/Cover letter to the HR Manager, Sohail Ahmed at ARBISOFT Lahore, responding to the job advertisement, given below:

[15]

Follow the ABC format of a Cover Letter. You may fictionalize some part of the information about your degree program and other experiences not yet acquired. This way, the job letter reflects the background you would have if you were applying for the job.

We're
HIRING

JOB
openings

Arbisoft is a custom software development company, and a chosen engineering partner for market leaders all over the world in a variety of verticals.

Post	Key Responsibilities	Qualification
Software Engineer	<ul style="list-style-type: none"> Design, develop, test, and deploy scalable software applications. Implement and maintain CI/CD pipelines using tools like Jenkins. Develop and integrate services using Spring and WSO2. Work with front-end technologies such as Angular and React to create responsive and interactive user interfaces. Utilize Spring Framework for the development of robust back-end systems. Ensure adherence to Agile methodologies and continuous improvement processes. 	<ul style="list-style-type: none"> Bachelor's or Master's degree in CS Over 4+ years of experience Expertise in Computer Science, Back-End Web Development, and Software Development. Proficiency in programming languages such as Java, C++, or Python. Demonstrated experience with DevOps practices and tools, particularly in CI/CD and Jenkins. Proficiency in using WSO2 for service integration (Optional) Strong problem-solving, analytical and effective communication skills. Experience with Agile development methodologies.
Data Scientist	<ul style="list-style-type: none"> Perform statistical inference on large data sets to inform decisions and drive actions. Drill down on results (problem-solving analysis) and conduct custom analysis. Build predictive models to optimize agent and customer interactions Collaborate and communicate with data analytics, and cross-functional teams on a task basis. Adapt theoretical concepts and standardized techniques to real-world problems Working at a stretch in EST hours as per client requirements (starting work post midday till midnight). Opportunity to lead production activities on deployed accounts, or execute on deployment plan. 	<ul style="list-style-type: none"> Bachelors or Masters in Computer Science, Mathematics, Economics, Physics, Engineering or related quantitative field. 2-3 years of working experience in relevant field. Programming experience in one or more of the following languages i.e. R/Python/ Julia/SQL. Experience with statistics, machine learning, linear programming, or mathematical optimization, both practical and theoretical Strong attention to details. Ability to document and explain cutting-edge techniques to other team members Comfort working in a collaborative environment with cross-team communication to bring projects into production Familiarity with Bayesian statistics, hierarchical modeling, MCMC algorithms, latent factor models
Programmer	<ul style="list-style-type: none"> Organizing and ensuring the quality and timely delivery of product releases within defined scope and budget Serving as the technical leader for GFI's engineering team, making critical decisions on software implementation Coaching the C++ software engineers on both hard and soft skills, fostering professional growth and team cohesion 	<ul style="list-style-type: none"> 5+ years of professional experience in C++ development 2+ years of experience in either the network communications or security domain Demonstrated experience in leadership and mentoring A grasp of AI, Large Language Models (LLMs), and prompt engineering, including Chain-of-Thought (CoT) prompting and Self-Consistency in CoT
<p>Send your applications to HR Manager, ARBISOFT 25 Canal Rd, Westwood Colony Lahore, Punjab www.arbisoft.com Phone: (042) 37498533 LAST DATE: 27th December 2023</p>		<p>DAWN 14th December 2023</p>

Read the case study and answer the questions that follow:

[10]

A. Ali is preparing for an important interview at Textiles Ltd, a large textile manufacturing company based in Lahore. He applied for a marketing manager role. This case study provides an overview of Textiles Ltd, details about the role Ali applied for, expected interview format and questions, and tips for Ali to improve his interview performance.

More About Ali:

- Ali is a 28 year old who recently completed his Master's degree in Marketing. He has 3 years of experience working as an Assistant Brand Manager at a consumer goods company.
- He is personable, ambitious, and looking to take on more responsibility in marketing to continue advancing his career. Landing the marketing manager role at a respected company like Textiles Ltd would be a great opportunity.
- Ali has had success launching and managing marketing campaigns part-time during his degree. He received strong performance reviews at his current company but was seeking a role with more growth potential and leadership components.

More About the Interview Process:

- After the initial phone screening, Ali has been selected to attend a face-to-face interview. This will take place at Textiles Ltd's headquarters.
- Ali discovers the panel will include: Ravi Kumar (Marketing Director), Ayesha Abid (Sales Manager), and Imran Bashir (HR Business Partner)
- In addition to competency-based questions about Ali's skills and experience, he will deliver a 10 minute presentation on expanding exports to new markets followed by Q&A from panel.

Questions:

1. What research should Ali do you before the interview? Mention any 2 types with examples.
2. What tips do you have for making a strong first impression and building rapport with an interviewer? How do you balance professionalism with showing personality?

Q5. Read the case study and answer the questions that follow:

[10]

Michael, a computer science student, is embarking on a research project to explore user experiences in software development. In determining the most effective method to collect primary and secondary data, he faces the challenge of maintaining originality and avoiding plagiarism. Michael is also curious about the best practices for collecting data in the realm of computer science research. Additionally, he is contemplating whether he should opt for quantitative or qualitative data for his research project.

Questions:

1. Which are the possible sources of data for Michael to collect for his computer science research project focused on user experiences in software development?
2. How can Michael collect quantitative data rather than qualitative data for his computer science research on user experiences in software development? Explain with examples.

Q5. Read the Report given below and write an **ABSTRACT** for a Formal Report.

[10]

Evaluation of Data-Driven Learning in University Teaching: A project report

Sandra Götz and Joybrato Mukherjee Justus Liebig University, Giessen

Introduction

The concept of Data-Driven Learning (DDL) has been at the heart of applied corpus linguistics right from the beginning of using corpus data and concordances in foreign language teaching (cf. Chambers 2005: 1). There seems to be general agreement on the point that learners benefit from DDL activities to a very large extent because they are enabled to inductively discover patterns and routines in the foreign language. However, the applied corpus linguist's enthusiasm about DDL activities is strangely at odds with the reluctance of many teachers and learners to actually make use of DDL-based learning techniques (cf. e.g. Mukherjee 2004). It is thus necessary to test and evaluate the

usefulness of DDL activities from the learner's perspective under real-time conditions.

Literature Review

Data-driven Learning (DDL)

2.1 The role of DDL in foreign language learning

One of the most fundamental ideas of DDL is to change the role of the learner – from a passive consumer of the teacher's output into an autonomous researcher (cf. Bernadini 2004: 16ff., Gavioli 2001: 110ff.). In this way, learners are to discover facts about the target language in authentic contexts by using corpora and concordance programmes: "This supports learning, partly because students are motivated to remember what they have worked to find out" (Hunston 2002: 170). But DDL not only

makes inductive learning possible, but also enhances deductive learning, as "learners apply previously-acquired generalizations in order to classify concordance data, testing the 'rules' they have learned, and thereby consolidating and/or refining their knowledge" (Aston 2001: 19-21).

2.2 DDL Activities in the Study

In our case study, the students worked on nine different mini-projects from different areas in which DDL methods can be used. The first project was about concordancing in literary text-analysis as described by Aston (2001).2 Usually, when working with literary texts the focus is on text-analysis and text interpretation. What should be noted here is that concordancing in text analysis is not a new didactic method. It is the computerised concordancer (or any other text-analysis software) which enables the learner to find the relevant information faster and more easily. Using a computer programme can lead not only to a rise in motivation, but also to a more exhaustive list of results.

3. Methodology

The case study While previous research in applied corpus linguistics tended to focus on the different subject areas in which DDL activities can be realised in the classroom, our focus was on finding out more about whether or not learners subscribe to the euphoric view of corpus linguists concerning the benefits of DDL to their learning process. By focusing on learners' evaluations of various DDL activities, we also wanted to learn more about caveats and pitfalls of DDL methods from the learners' point of view in order to make suggestions as to how to improve DDL activities and gear them towards learners' needs.

3.2 Evaluation methods

For our study, we chose a participant-oriented approach, that is to say, the focus is on the participants and on their interests and needs (cf. Schneider 2003: 255). In the course of the project, the following data were used: questionnaires handed out before and after the project phase, our own monitoring of the students during the project phase and the students' project-reports, which they had to write after the project phase. The questionnaires handed out before the project phase were designed to collect information about the students (i.e. course of study, number of semesters, sex, age, previous experience with DDL, interest in DDL, interest in the different projects, general familiarity with computers in private contexts) in order to sketch out a student typology and to gain an initial insight into general tendencies of interest and motivation. The questionnaire handed out after the project phase included questions on the students' previous experience with DDL in general and in their projects, on the project phase in the seminar as such (e.g. how they evaluated the introduction, the instructions, whether or not they liked their project), and on their own assessment concerning an increase in their knowledge, their interest in DDL and the benefits of DDL in general. For all these questions, the students were asked to give reasons for their opinions.

4. Results

Students assessed the usefulness of DDL by giving grades from 1 ("extremely useful") to 6 ("not at all useful"). As Table 3 shows, 79% of the students rated DDL as "extremely useful", "very useful" or "useful", whereas only 21% rated DDL as "not very useful" or "not useful". Nobody rated DDL as "not at all useful". So the majority of students consider DDL to be beneficial at an average rating of 2.76. If we compare the students' self-evaluations before and after the project phase, we find not only

an increase in knowledge about DDL, but also a greater interest in DDL and a higher degree of willingness to work with DDL (see Figure 2). Thus, involving students with DDL activities can achieve a greater interest and motivation on the part of the learners.

Table 3: Students' assessment of the benefits of DDL

extremely useful	very useful	useful	not very useful	not useful	not at all useful
9%	43%	27%	6%	15%	0%

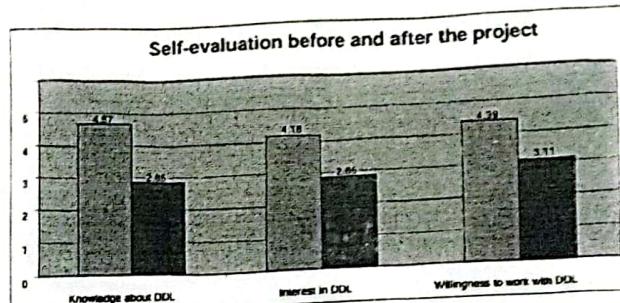


Figure 2: Students' assessments before and after the project

While Figure 2 indicates a very welcome development in the course of the project phase, we also noted that the majority of our students did not believe that they had actually profited from DDL in their own learner language, i.e. at the content-level of language learning.

Conclusion

Given the relative small number of participants, our data could not yield any statistically significant results. Still some general tendencies can be derived from our findings. First and foremost, the majority of students found working with DDL interesting, productive and motivating. We do think that one future research need is the specification of what corpus literacy should include. If DDL activities are to be included in the English language curriculum, it is essential to identify the analytical and methodological competencies that learners need to acquire when working with – and learning from – corpora.

National University of Computer and Emerging Sciences, Lahore Campus



Course:	Technical and Business Writing	Course Code:	SS 153
Program:	BS (Computer Science)	Semester:	Fall 2020
Duration:	3 Hours	Total Marks:	100
Paper Date:	6 th January-2021	Weight:	50%
Section:	ALL		
Exam:	Final		

Instructions: Attempt all questions on the answer sheet.

Q1. Write an Informal Report on the given task:

[20]

Sustaining data security and privacy is of prime importance for any system, particularly in the education sector. In this context, and in the current pandemic situation, when data security has become much more vulnerable to cyber threats, you have observed some potentially weaker areas in your university's data servers (You may assume some possibilities if there are none). Moreover, there have also been some internal instances where the data got few bugs and the stored information was disrupted. Luckily, the backups helped the Lab Support to retrieve and restore everything to normalcy. But, for sure, the university would not be happy to see these happenings again.

Since you do understand the nature of the problem very clearly and want to help the FAST-NUCES to fix such issues through stronger securities and user friendly software or solutions, write an informal memo-report to the Head of the Computer Science Department (two pages at least), highlighting the security problems at the University servers and on the internal storage devices. You are required to offer some significant solutions you think will help with the situation.

Q2. Suppose you have been selected for a client-based programming competition organized by the Punjab IT Board and the leading software companies. They have sent you the one-day event schedule. Since you really want to avail this opportunity, but at the same time, you are extremely over burdened with the semester's final phase and there is a three hours exam on the competition's day in the same time slot.

You have two options that you can go for:

- A. You withdraw from the competition with valid reasons communicated.
- B. Request them to have your time slot shifted which would be quite inconvenient.

Based on which ever option you choose, write an email to the Program Organizer, Dr. Jamil Ahmed Khan, at PITB, (jkhan@pitb.edu.lk), Lahore, to get through the situation you are in. (Word limit 200 -250 words).

Note: Remember being fair and honest is the key to professional career development. Follow the email writing protocol, of the ABC format for Positive or Negative Messages, whichever you think renders necessary, in this situation.

[15]

Q3. Write a job application/cove letter to the HR Manager, responding to the job advertisement, given below.

(Word limit 200 -250 words)

Follow the ABC format of a Cover Letter. You may fictionalize some part of the information about your degree program and other experiences not yet acquired. This way, the job letter and résumé reflects the background you would have if you were applying for the job.

REQUIRED FOR SAUDI ARABIA

Computer Programmer (Software Developers)

Minimum 03 Years of Hands on Experience in:-

- 1: Java Script 2: React Native & Hybrid 3: git 4: Adobe XD
- 5: Android & IOS apps development & Iconic Platform
- 6: API development 7: Audio Visual Editing Skills

Iqama+Accommodation+ Medical Insurance & as per law benefits

Send your complete documents at → **jobs@linkarabia.org**



3rd Floor, Premium Arcade,
Midway Commercial, Phase
7 Bahria Avenue, (Main Road)
Bahria Town, Islamabad.
PerNo: 8354/19, Dated: 27-03-2019

Tele : 051-5172522
Mob : 0334-5600077
Email: jobs@linkarabia.org
Web : www.linkarabia.org

Q4. Read the extracts of a formal research report given below. Develop your understanding of the research idea, its practicality, implications and usefulness. Then write down the answers for the required questions at the end of this text.

- A. Write an Abstract for this research report within 150 – 200 words. Also write 4 Key Words. [10]
B. From your perspective of understanding, write the best suitable Title. [05]
C. How could this area of research be further useful in designing computer science applications for Pakistan under the current Covid-19 situation? Write a short paragraph (120 words) expressing your opinion with strong reasons. [10]

'Information and Communication Technology' (ICT) has played a vital role at the organizational level in transforming the 'operational practices' as well as 'electronic services' in both the public and private sectors (Basahel, Yamin, and Drijan, 2016). In the Middle East, Saudi Arabia is one of the largest markets for Enterprise IT products and services. Cloud Computing, compared to traditional client server architecture, provides IT solutions through virtualization, service-oriented architecture, multi-tenancy and autonomic computing technologies. Accessing services via the cloud is attractive as businesses are invoiced based on consumption and there is little need for workforce to provide onsite support. Cloud Computing has eliminated the need for on-site database, software, and server support. In recent years, Small and Medium-sized Enterprises (SMEs) have increased their investment in IT. Despite, the government's push in encouraging IT adoption, Saudi Arabia is still in the early stages of development. According to Amron, Ibrahim, and Chuprat (2017), the implementation of e-Government in Saudi Arabia has been delayed due to the weaknesses in the ICT infrastructure. The legal terms and conditions as well as appropriate resources are factors that delayed the Cloud Computing implementation in Saudi Arabia. It has been found in Basahel, Yamin, and Drijan (2016) that Saudi Arabia's current Revised Cloud Computing Regulatory Framework and strategies are helping them to accomplish quality outcomes in a timely manner. In the context of Saudi Arabian SMEs, many factors and conditions influence the decision to switch from an existing system to the cloud. Karim and Rampersad (2017) suggested that the decision is affected by the lack of knowledge and awareness. According to Alanezi (2018) Saudi Arabia has identified its product-manufacturing sector as one of the core drivers of the envisaged economic growth, with manufacturing continues to be a major contributor to its Gross Domestic Product (GDP). In 2018, the manufacturing and retail sectors continue to account for nearly half of all enterprises at 452,900 in total. The manufacturing sector accounts for approximately 103,700 enterprises. In Saudi Arabia, around 950,000 SMEs were registered in 2016 providing one million Saudis with employment (Raut et al., 2018). (GASTAT, 2016) predicted that in 2030 the number of SMEs in Saudi Arabia will be increased from 20% to 35%. In this fast-developing technology, business dynamics changes and there is a need to continuously update research so that appropriate support policies can be in place to address adoption barriers.

This research aims to identify the barriers commonly faced by manufacturing SMEs of Saudi Arabia in adopting or migrating to Cloud Computing, using the qualitative research approach. Since Saudi culture is very different from the west, qualitative research allows a deeper investigation of adoption barriers specific to the Saudi Arabia context. SMEs are usually unaware of the risks and barriers that they might face during the transition, and thus, they often face severe consequences and ultimately fail to adopt Cloud computing appropriately, Ibrahim, and Chuprat (2017). The findings will enable the SMEs in the manufacturing sector of Saudi Arabia to gain a better understanding about the challenges of Cloud Computing adoption. This can pave the way to enable Cloud adoption, and contribute to the Saudi Arabia 2030 Vision.

According to a survey by the 'International Data Corporation' (IDC), the most common barrier to the adoption of Cloud Computing that concerns SMEs in Saudi Arabia is security and privacy (Raut et al., 2018). As they are less likely to control and own data, SMEs are usually hesitant to adopt Cloud Computing. Similarly, Al-Ruithe and Benkhelifa (2017), Al-Ruithe, Benkhelifa and Hameed (2017) indicate that the most common concern to the transition to Cloud Computing is privacy and security due to the lack of a physical structure. Almubarak (2017) reflects that the lack of trust of potential cloud services consumers is the main obstacle to adopting Cloud Computing. The work focuses on the fact that SMEs have less control over their data and are usually unaware of who is accessing their confidential data, resulting in trust issues. Due to the governmental laws and regulations that pertain to the storage and access of data on the Cloud, Saudi SMEs are hesitant to migrate to Cloud Computing. (AlBar and Hoque, 2019) suggests that availability and reliability are the main barriers that SMEs in Saudi Arabia tend to face.

This study aims to identify the barriers commonly faced by manufacturing SMEs of Saudi Arabia in adopting or migrating to Cloud Computing. The chosen research method is qualitative. The primary data collection is semi-structured interview. This helps the researcher to assimilate rich data from the participants. The interview instrument is a set of open-ended questions that help the researcher to gather personal opinions regarding Cloud Computing. The semi-structured interviews were focused on identifying the barriers faced by manufacturing SMEs of Saudi Arabia. The sample was of 16 Information Technology (IT) managers from manufacturing SMEs within Saudi Arabia.

From the analysis, the challenges and barriers regarding the endorsement of Cloud Computing by Saudi manufacturing SMEs include security, privacy, and lack of knowledge about the cloud, lack of governmental and top management support, provider lock-in, data control, service cost, and sufficient bandwidth.

Theme A: Security

In terms of the adoption of Cloud Computing, security is considered the foremost barrier that is still challenging for manufacturing SMEs in Saudi Arabia. The prime reason behind SMEs' fear of and lack of interest in the implementation of Cloud Computing is security concerns as there are no current standards.

Theme B: Lack of Top Management Support

The top management often does not show any concern or interest in the advancement of technology and there is a lack of interest in adopting cloud solutions. This becomes a huge barrier.

Theme C: Data Control

SMEs fear they lose their control of the data in the Cloud. Hustad and Olsen (2016) reflect that SMEs cannot access and control their data is a potential barrier to the adoption of Cloud Computing in Saudi Arabia.

Theme D: Privacy

In the study of Albasri, Mishra and Elbeltagi (2016), the inefficiency in controlling the customers of cloud service is a severe threat towards confidentiality, data integrity, and principles of privacy. The fundamental principles that govern personal data use include fairness, lawfulness, data quality, proportionality, purpose specification, openness, and accountability. These are the basic principles of privacy that are common among legislation of different countries. From the perspective of consumers, Cloud Computing has privacy concerns. As per the survey of Ramachandra, Iftikhar and Khan (2017), around 74% of IT managers responded that the critical challenge that blocks them from using the services of cloud computing are privacy concerns.

Theme E: Lack of Government Support

Lack of government support is another key barrier to SMEs' adoption of Cloud Computing. SMEs in Saudi Arabia do not receive sufficient funding for the transition (Kalaiprasath, Elankavi and Udayakumar, 2017).

Theme F: Service Cost

Due to the high cost of services in Saudi Arabia, it is difficult for SMEs to transition to Cloud Computing, as costs are likely to be higher than those of the existing system. Alresheedi et al. (2018), and Alruithe et al. (2017) further support that the cost of services factor makes SMEs hesitant to adopt new technologies.

Theme G: Lack of 'Cloud' Knowledge

Even there is the popularity and enthusiasm of Cloud within the company, it has been identified that there is a short operational skills and cloud knowledge, leading to unsuccessful adoption, barriers, and slower acclimatization in continuing migration (Jouini, and Rabai, 2019). Without expertise and prior knowledge of Cloud Computing, the SMEs cannot migrate their existing systems to the cloud. The adoption of Cloud Computing requires proper training and expertise, which is a barrier to implementing the cloud.

There are barriers and challenges associated with the transition to Cloud Computing. The study found the most common barriers are security, privacy, service cost, data control, lack of government support, and lack of cloud knowledge and training. For SMEs in Saudi Arabia, these barriers are critical because Cloud Computing has the potential to unlock new growth opportunities for business. If prepared correctly, SMEs can easily implement Cloud Computing in their organizations. The government of Saudi Arabia is playing a significant role in the advancement of ICT in the country. The barriers identified in this study can help the Saudi government as well as SMEs to develop effective strategies for migrating to Cloud Computing.

Q5. Case Study 1: Read the case and answer the questions that follow:

[10]

Case on Presentation Skills: While working with a renowned software house in Lahore, you have been called by the Director of Human Resources about the employees' ability to effectively deliver their monthly progress reports on their assigned tasks. This time, the employee presentations would be given in front of an important foreign delegation from an English speaking country. This client is expected to bring some mega projects to your organization. Though the staff is technically fantastic, highly motivated, and well experienced, but, they are poor at presenting. They have rather too much information on their slides and they would read all the content. They are also nervous, unfocused and often have language mistakes in the content. Such an ineffective performance before the upcoming client is not acceptable. The Director wants you to train the staff on all the weak areas identified.

- A. Apart from the above mentioned areas, identify other deficiencies. Enlist the strategies that you would adapt to develop this program. Support each strategy with one strong reason of training.
- B. How would you ensure that your presenters would interact with each other in a fun and collaborative way? Write three practical ways to achieve this goal as well.

Q6. Case study 2:

[10]

Right after graduation in computer science, Tanveer was exploring different job offerings. He got greatly excited and overjoyed when he received an interview call from a leading software house where he had always dreamt of working with. During the interview, he must prove himself the best suitable candidate around! The moment came soon. The interviewers were asking him questions which he was confidently answering, when suddenly a question was asked on an internship which actually he had never done. Tanveer recalled that just increasing the weight and content of his resume, he had claimed an internship of three months with a reputed organization. He got blank. Then, taking a deep breath, he thought of not losing the opportunity with this job by telling the truth. So, he decided to continue and pretended that he had learnt a lot about professionalism during the internship. He is now fully prepared for taking a job in this software house and apply the learnt experience in this job. The interview concluded very amicably and even they asked him the expected salary question. A few days passed and still they had not asked him to join. Curiously, he phoned them only to learn to a great disappointment that he was not hired.

- A. What are the issues of integrity and ethics in this case study?
- B. What options Tanveer should have thought of and availed during the interview? Give strong reasons to support your point of view.

Technical and Business Writing (SS2012)

Date: 19th May, 2025

Course Instructor(s)

Ms. Hajra Ikram, Ms. Uzma Safdar, Ms. Irum Zahoor,
Ms. Huma Malik, Ms. Maha Hijab, Mr. Arslan Rasheed

Final Exam

Total Time (Hrs.):	3
Total Marks:	80
Total Questions:	5


Roll No


Section


Student Signature

Do not write below this line

Attempt all the questions on the answer sheet. Do not attach the question paper.

Do not copy text from the question, rephrase and write in your own words. Only lifting text from the question will lead to a 0.5 marks deduction for each segment. This rule applies to all questions.

Q1: Write an Informal Report on the given task:

[20]

You are working as a Junior Consultant at Green Space Solutions, a Lahore-based firm that combines smart technology with eco-friendly design to develop sustainable outdoor environments for schools, universities, and corporate campuses. Your team uses data-driven planning and digital tools (e.g., CAD modeling, environmental sensors, and project management software) to design practical, cost-effective, and user-friendly solutions.

Your company has been contracted by Gateway Preparatory Academy, a private college in Lahore, to investigate ongoing complaints from students about the outdoor study and break area. This space is intended for informal study, relaxation, and after-class social activities. The college administration is concerned about student dissatisfaction and has asked for a preliminary report.

As part of the consulting team, you visited the site to assess the situation and gather information. Your technical observations include: uneven ground, missing formal seating, shading structures, or lack of greenery, which contributes to high surface temperatures and a lack of visual appeal. During summer, the area becomes too hot for use; in winter, it becomes muddy due to poor drainage. These environmental and usability issues have led to low student engagement and frequent complaints.

You have been asked to prepare a brief, informal problem analysis report addressed to the Director of Facilities and Campus Planning, Ms. Rukhsana Khalid. Your report will serve as an internal document to inform further planning and development phases.

Write an informal memo report that does the following:

- Identify and explain the current problems with the outdoor space, using clear, concise language and technical observations where appropriate.
- Analyze how these issues affect student well-being, academic focus, and the school's operational and reputational goals.
- Propose at least two practical, technology-informed, and cost-conscious recommendations to improve the space. (For example: low-cost sensor-based shading systems, modular seating, or smart drainage solutions.)

Q2: Read the following job posting published on the company's website. Then, write a professional cover letter tailored to the job, company, and role. Your letter will be assessed on how effectively you communicate your suitability in a professional tone, indicating the understanding of workplace correspondence conventions.

[15]

Your letter must be addressed to: Mr. Shahid Ahmed, HR Manager, TechnoSoft, Faisal Town, Lahore

Length: Around 250–300 words (1 page max)

Format: Proper business letter structure (with greeting, paragraphs, closing, etc.)

Content: Highlight your relevant skills, education, and motivation for applying.

Job Posting – Junior Software Engineer at TechnoSoft

Position Title: Junior Software Engineer

Company: TechnoSoft

Location: Faisal Town, Lahore (Hybrid: office + remote)

Employment Type: Full-time, Entry-Level (0–2 years of experience)

Salary: Competitive, negotiable based on qualifications

About TechnoSoft

TechnoSoft is a Lahore-based technology company that provides cutting-edge software solutions and reliable IT support services. Known for its innovation, collaborative team culture, and fast-paced environment, the company works on a variety of projects that include software product development, IT optimization, and enterprise system design.

Responsibilities

- Collaborate on software development projects
- Contribute to coding, testing, and feature implementation
- Debug and maintain existing code
- Communicate and work with cross-functional teams

Qualifications & Skills

- Bachelor's degree in Computer Science or related field
- Knowledge of programming (e.g., Java, Python, or similar)
- Basic familiarity with version control (e.g., Git) and cloud platforms
- Good communication and collaboration skills

Q3: Read the case study and answer the questions that follow:

[15]

Case Study: The Impact of Weak Presentation Skills

Sarah Khan, a graduate student in Business Administration, is preparing for the final defense of her capstone project titled "*Consumer Behavior in Online Shopping*." The audience for her presentation includes a panel of professors, a few industry professionals specializing in digital marketing and consumer psychology, and some fellow graduate students. The outcome of this presentation will determine whether she qualifies for graduation.

Sarah has dedicated several weeks to collecting data, designing slides, and rehearsing her talk.

Despite her efforts, she faces a range of challenges that may compromise the effectiveness of her communication:

1. **Audience Mismatch:** Her audience is multidisciplinary. While some are well-versed in data analytics and behavioral science, others have only a general understanding of the topic. Sarah struggles with how much technical detail to include and how to explain complex concepts without overwhelming or alienating parts of her audience.
2. **Slide Design Issues:** Sarah's slides are text-heavy and visually inconsistent. Multiple slides are crowded with bullet points, dense tables, and overly detailed charts. Her use of bright red and yellow as accent colors distracts rather than highlights key points, and her inconsistent font sizes reduce visual clarity.
3. **Delivery and Public Speaking Challenges:** During rehearsals, Sarah often hesitates, repeats phrases, and shows discomfort when speaking about quantitative data. She appears visibly nervous and is unsure how to handle silence or signs of disengagement. She also realizes she hasn't adequately prepared for questions from the panel.
4. **Structural and Flow Problems:**
Although her research is thorough, Sarah has not given attention to the flow of her presentation. Her transitions between sections are abrupt, and she frequently reads directly from her slides. As a result, her delivery feels disjointed. She sometimes moves backward through slides, which breaks the narrative rhythm and confuses listeners.

Questions:

[5 + 5 + 5]

1. What specific slide design and visual communication principles should Sarah apply to make her presentation more accessible, visually effective, and audience-friendly, especially considering the diversity of her audience?
2. Suggest practical strategies Sarah can adopt to strengthen her delivery skills.
3. How can Sarah strategically prepare for the Q&A segment? Discuss both pre-presentation preparation and real-time techniques for handling challenging or unexpected questions confidently.

Q4: Read the case study and answer the questions that follow:

[15]

Case Study: Cross-Cultural Communication and Ethics in a Global Tech Team

GlobalTech, a multinational technology firm, has initiated the development of a next-generation collaboration platform designed for enterprise clients worldwide. The core development and strategy team includes four members from different cultural and professional backgrounds:

- Anna (Germany) – Project Manager
- David (United States) – Software Architect
- Hiroshi (Japan) – UX Designer
- Carla (Brazil) – Marketing Strategist

From the outset, communication and workflow challenges emerge due to differing cultural norms, feedback styles, and assumptions about professional behavior.

- In their first meeting, Anna shares a clear agenda and deadline-driven roadmap, emphasizing structure, punctuality, and measurable goals. Carla frequently jumps between topics, advocating for spontaneity and creative freedom, stating that "rigid agendas kill good ideas." Anna becomes frustrated, while David encourages Carla's open-ended style, seeing it as a way to surface innovative insights.
- Hiroshi remains mostly silent during meetings but sends detailed follow-up emails. His tone is polite and indirect, even when raising serious concerns.
- As the project evolves, status updates reveal stark differences:
 - David provides structured, analytical reports.
 - Hiroshi submits brief summaries focused on group effort and context.
 - Carla sends colorful slide decks and upbeat voice notes filled with vague but enthusiastic claims, including statements like "Client interest is surging" and "We're hitting 90% satisfaction."

During a private chat, Carla admits to David that her claims are based on outdated data and assumptions. "The numbers sound right," she says, "and they help get people excited. We'll sort out the real details later." She calls it "positioning," not misinformation. *Subjective + Fabrication.*

In the next meeting, Carla presents her polished slide deck. Impressed by the optimism and numbers, Anna fast-tracks a revised launch timeline. David hesitates to speak up, while Hiroshi silently emails Anna after the meeting with questions about data validity. Later, when Anna gives direct feedback about missed updates, David supports her frankness. Hiroshi appears uncomfortable with the confrontation, while Carla later tells Anna privately to "avoid criticism in public" and to keep the mood positive to "preserve team morale."

Questions

[4 + 4 + 2 + 5]

Q1. According to Nancy Settle-Murphy's cultural dimensions, explain Anna and Carla's communication styles. Identify the relevant key terms and provide a brief explanation with reference to their behaviors in the case.

Q2. Which team members exhibit high-context versus low-context communication styles? Define the concept and explain your answer with two specific examples from the case.

Q3. Compare the feedback preferences of Anna, Carla, David, and Hiroshi. How do they differ in terms of directness, timing, and setting for giving or receiving feedback?

Q4. What ethical issue does Carla's behavior raise in the context of business communication? Discuss what David should do, considering professional integrity, his role on the team, and cross-cultural sensitivity.

Q5: Choose the most appropriate option for each question. Only one option is correct per question. Write the chosen option on answer sheet.

[5]

1. In formal report writing, appendices are typically used to:

- a) Add stylistic elements and design details
- b) Include essential content that must be read first
- c) Provide supplementary or detailed data that supports the main text
- d) Replace sections like the Methodology or Results

2. Which of the following characteristics is not typical of an effective abstract in a formal report?

- a) Objective and self-contained
- b) Includes key conclusions
- c) Written before the report is finalized
- d) Contains detailed charts or tables

3. What is the primary function of an Abstract in a formal report?

- a) To outline the historical background of the topic
- b) To provide a full analysis of the report's data
- c) To give a concise overview of the report's purpose, methods, and key findings
- d) To list all abbreviations and acronyms used in the report

4. Why is it generally inappropriate to include decorative fonts (like script or Comic Sans) in the headings of a formal proposal?

- a) They waste printer ink
- b) They violate reader expectations of standardization
- c) They make headings more memorable
- d) They are often used in academic citations

5. When integrating visual aids into formal reports, which of the following must always accompany the graphic?

- a) A hyperlink to the original source
- b) A watermark
- c) A figure number, caption, and source attribution
- d) A grayscale version for print use