National University of Computer & Emerging Sciences, Karachi
Fall/Spring/Summer-2019 CS-Department
Mid-term II
5th April, 2019; 11:00 am to 12:00 pm

Course Code: SS108	**Course Name: Technical & Business Writing**
Instructor Name: Ms Nazia Imam & Ms Sameera Sultan	
Student Roll No:	**Section No:**

Instructions:

- **Return the question paper.**
- **Read each question completely before answering it.**
- **In case of any ambiguity, you may make assumption. But your assumption should not contradict any statement in the question paper.**

Time: 1 hour **Max Marks: 28 points**

Q1

a) Given below is an ad for Software Engineering Intern. Read it and write the following sections of a Resume targeting this internship position.
1. **Technical Competencies/Skills [3]**
2. **Relevant Academic Projects (Only two) [4]**

Job Description
We are looking for internee-web Developers with good knowledge of programming languages and methodologies such as PHP, HTML, CSS, Bootstrap, Javascript, jQuery & MySQL.
Required Qualification: Bachelors in Computer Science or Software Engineering
Required Skills • JavaScript • Ajax • Bootstrap • MySQL • CSS • HTML 5 • PHP

b) The following is the work experience section of the resume of a software engineering intern. Identify the technical errors and missing information in the section. Rewrite the corrected version in your answer copy. Do not skip any detail. [5]

Work Experience:

- **Carnegie Mellon University Computing Services Help Center, Pittsburgh, PA**

Student Consultant (September 2013 – Present)
• Resolved issues regarding networking (wired, wireless, and dialup), and email problems for Carnegie Mellon University users
• Answered questions about software supported by the university, such as MS Office

- **Software Engineering Intern** Summer 2015

• Learned different technologies by working with experienced software engineers
• Designed, built and tested the core components of the platform
• Investigated solutions to platform requirements

- **Research Intern**

Ubiquitous Knowledge Processing Lab, TU Darmstadt, Germany, January - June, 2014

Q2

Read the following technical report and write an ABSTRACT for it within 200 to 250 words. [10]
INTRODUCTION
With the advent of mobile network communication system, users have been offered lots of services such as ability to send multimedia messages like SMS, Video, Data files, Images etc. This paper describes the design and implementation of a system (Result Alert System) that conveniently provides examination results to students with the use of Email and SMS technology via their Mobile phones and devices. Mobile phones and devices are necessary assets, most especially to students as it makes communication and the spread of information a lot easier.

Result Alert System takes advantage of some of the technologies that Mobile devices provide, technologies such as the Email and Short Message Service (SMS). The implemented system allows registered students to access their results, including past results, provided they are available in the system's database.

OVERVIEW OF THE EXISTING WORK

Most Institutions make use of a web based platform to provide Examination results to their students when it is available; this is a common practice by various Universities. The students provide certain information before they are able to access their results as this provides protection from unauthorized access. Web based platforms (websites) are readily available platforms and can provide various options such as saving and printing. But this platform becomes inaccessible if the user has no access to the internet. Web based Result Alert System is a good option in a country where internet is readily available, but in a country where internet services are poor, it can be inconvenient and expensive. Students would have to visit a cyber café and pay to gain access to their results.

METHODOLOGY

The result alert system with email and SMS was designed to work as an online application or software. The system was designed to have a point of Entry which is to be used by the Administrator with the login privilege and role granted.

The Administrator is responsible for the following: registration of students, result upload for registered students and generating alert reports to all concerned students when new result updates are available. These alerts would be sent to the phone number the student provided at the point of registration.

This system was designed using the following: PHP programming language, PHP designer, Javascript, Css.

SYSTEM ARCHITECTURE

The diagram in Figure 1 shows the system architecture of the proposed system. Student initiates the examination results retrieval process by sending SMS to the specific number provided by the system.

The required information to be written in request SMS are Full name, Matric number, department, semester and session. This information is set as requirements for request SMS in order to suit with the institution's regulations. This information together with the sender's mobile phone number are then sent to the GSM modem via GSM network.

RESULTS AND DISCUSSION

Figure 2 shows the screen shot of where the user (student) can provide his or her unique identifier in order to gain access to his or her results.

CONCLUSION

Result Alert System with Email and SMS is an innovative addition to the education sector, as it makes the availability of results and grades a lot easier and efficient. Also it makes Email and SMS technology relevant in Educational sector.

Q3

Read the abstract below and perform the tasks that follow:

1. **State the research problem of the abstract in your own words.[2]**
2. **What is the motivation for this study? Explain in 1 to 2 sentences only. [2]**
3. **Name the games that the study worked with? [1]**
4. **What are the strengths of the study as indicated by the results?[1]**

ABSTRACT

Board games applications usually offer a great user experience when running on desktop computers. Powerful high-performance processors working without energy restrictions successfully deal with the exploration of large game trees, delivering strong play to satisfy demanding users. However, nowadays, more and more game players are running these games on smartphones and tablets, where the lower computational power and limited power budget yield a much weaker play. Recent systems-on-a-chip include programmable logic tightly coupled with general-purpose processors enabling the inclusion of custom accelerators for any application to improve both performance and energy efficiency. In this paper, we analyze the benefits of partitioning the artificial intelligence of board games into software and hardware. We have chosen as case studies three popular and complex board games, Reversi, Blokus, and Connect6. The designs analyzed include hardware accelerators for board processing, which improve performance and energy efficiency by an order of magnitude leading to much stronger and battery-aware applications. The results demonstrate that the use of hardware/software codesign to develop board games allows sustaining or even improving the user experience across platforms while keeping power and energy low.

BEST OF LUCK!