Fast**National University of Computer & Emerging Sciences, Karachi  
Spring-2024 CS-Department  
Quiz#1  
19th February 2024**

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| **Course Code: CS3009** | **Course Name: Software Engineering** | |
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| **Student Roll No:** | | **Section No:** |

1. We need to develop the following Time Management Software (TMS)for a company: The company needs the TMS tool for efficient time management for its executives. The software should let the executives register their daily appointment schedules. The information to be stored includes person(s) invited for a meeting, venue of the meeting, the time and duration of the meeting, and the purpose (e.g. for a specific project work). When a meeting involving many executives needs to be organized, the system should automatically find a common open slot in the diaries of the concerned executives, and make relevant entries in the diaries of those executives. It should also inform the concerned executives about the scheduled meeting through e-mail. If no common slot is available, TMS should help the secretary to rearrange the appointments of the executives in consultation with the concerned executives for making room for a common slot. To help the executives check their schedules for a particular day the system should have a very easy-to-use graphical interface. Since the executives and the secretaries have their own desktop computers, the time management software should be able to serve several remote requests simultaneously. Many of the executives are relative novices in computer usage. Everyday morning the time management software should e-mail every executive his appointments for the day. Besides registering their appointments and meetings, the executives might mark periods for which they plan to be on leave. Also, executives might plan out the important jobs they need to do on any day at different hours and post it in their daily list of engagements. Other features to be supported by the TMS are the following: TMS should be able to provide several types of statistics such as which executive spent how much time on meetings. For which project how many meetings were organized for what duration and how many man-hours were devoted to it. Also, it should be able to display on the whole during any given period of time what fraction of time on the average each executive spent on meetings.

* Write down the user’s requirement for the TMS.

The company needs the TMS tool for efficient time management for its executives. The software should let the executives register their daily appointment schedules.

* You need to identify the functional and non-functional requirement from Time Management Software.

**Functional Requirement**

Appointment registration and storage.

Meeting slot finding and automatic entry.

Email notification system.

Appointment rearrangement assistance.

User-friendly graphical interface.

Remote request handling.

Daily email reminders.

Leave marking functionality.

Task planning and engagement list.

Statistics generation and display.

**Non-Functional Requirement**

easy-to-use graphical interface

The software should handle multiple simultaneous requests efficiently.

Compatibility with different desktop computers and email systems should be ensured.

1. Write down the difference between Xtreme Programming and Scrum.

Philosophy and Approach:

XP: Focuses on engineering practices and technical excellence. It emphasizes coding standards, test-driven development (TDD), continuous integration, pair programming, and collective code ownership.

Scrum: Focuses on project management and collaboration. It is based on the iterative and incremental delivery of software. Scrum defines specific roles (Product Owner, Scrum Master, and Development Team), artifacts (Product Backlog, Sprint Backlog, and Increment), and events (Sprint Planning, Daily Standup, Sprint Review, and Sprint Retrospective).

Roles and Responsibilities:

XP: Does not prescribe specific roles, but team members often take on multiple responsibilities. For example, developers may also act as testers, and there is a strong emphasis on collaboration and communication within the team.

Scrum: Defines specific roles such as the Product Owner, who represents the stakeholders and defines the product backlog; the Scrum Master, who facilitates the Scrum process and removes impediments; and the Development Team, which is responsible for delivering the product increment.

Iterations and Timeboxing:

XP: Typically uses shorter iterations, often ranging from one to two weeks. However, XP does not strictly enforce fixed timeboxes for iterations.

Scrum: Organizes work into fixed-length iterations called sprints, which are usually two to four weeks long. Sprints have a fixed duration, and the goal is to deliver a potentially shippable product increment at the end of each sprint.

Prioritization and Planning:

XP: Prioritizes features based on customer feedback and continuously adjusts plans based on changing requirements. XP teams often work closely with customers to gather feedback and refine priorities.

Scrum: Uses a prioritized product backlog managed by the Product Owner. The team selects items from the backlog during sprint planning based on their capacity and the priorities set by the Product Owner.

Feedback and Adaptation:

XP: Emphasizes continuous feedback through practices like test-driven development and frequent releases. Teams are encouraged to adapt quickly to changes in requirements.

Scrum: Provides opportunities for feedback at the end of each sprint during the Sprint Review and Sprint Retrospective meetings. The Scrum framework emphasizes inspection and adaptation to improve processes over time.