***SCNI/01302/2021***

***PASCAL OTIENO***

***COMMUNICATION AND COMPUTER NETWORKS***

***1.Pick an appropriate software engineering methodology (2 marks)***

**Incremental development** is well-suited for this project because it promotes the development of the system in small, manageable increments, allowing for continuous improvement and adaptation based on user feedback. This is particularly beneficial for the Fitness Tracker project as it enables the development team to incorporate new features, such as additional exercise tracking options or nutrition plan adjustments, based on user demands and evolving fitness trends.

***2.Your system uses cases, come up with the following system modelling schemes***

1. **Context models (5 marks)**

EXTERNAL HEALTH APPLICATIONS

FITNESS TRAINER SYSTEM

USERS SYSTEM

FITNESS TRACKER SYSTEM

SOCIAL MEDIA PLATFORMS

DATA STORAGE SERVERS

NOTIFICATION AND ALERT SYSTEM

WEARABLE DEVICES

1. **Interaction models (5 marks)**

LOGIN/LOG OUT

REGISTER

CHOSE GOAL

USER

CHOSE PROGRAM/WORKOUT

VIEW PROFILE

EDIT PROFILE

1. **Structural models (5 marks)**

USER

FITNESS TRACKER DEVICE

DATABASE

Connects to

APP

DISPLAY CONTROLLER

tracking

Analyzes data

GOAL CONTROLLER

HISTORY TRACKER

Processes data

NOTIFICATION SYSTEM

**In this structural model, the user interacts with the system via the app or the fitness tracker device. The app communicates with the device and stores the transmitted fitness data in the database. The system has a tracking controller that processes and analyzes the fitness data received from the device. The system includes a goal controller to process the user's fitness goals and targets, stores historical fitness data in the History Tracker and displays information to the user through their chosen technology device. The Notification System sends user notifications regarding their progress.**

1. **Behavioral models (5 marks)**

YES

NO

REQUEST

VIEW MODULE

SEARCH FITNESS MODULE

NO

YES

VIEW DASHBOARD

YES

NO

EDIT PROFILE

VIEW PROFILE

NO

LOGIN

YES

REGISTRATION