

BIOMEDICAL WEARABLE TECHNOLOGIES FOR HEALTHCARE AND WELLBEING

Information about the examination modality

Exam composition and grade

The exam is composed by two independent mandatory parts:

1. Written test
2. Project preparation and discussion

The written test will be graded on a scale from 0 to 20.

The project preparation and discussion will be graded on a scale from 0 to 12.

The final grade will be the sum of the two grades, where 31 and 32 will correspond to 30L.

The exam will be considered passed when the written test is passed with at least 12/20 and the overall final grade is at least 18/30.

Written exam description

Exam details

The written exam will last around 90 minutes and will consists of a mix of open and closed questions: up to 3 open questions + up to 15 closed questions.

The questions will focus on the course content that will be presented during the “theory” lessons.

Exam dates

- First exam session: 20/06/2024 - 14:00 – Room Be + Ve
- Second exam session: 08/07/2024 – 14:00 – Room Ae + Be
- Third exam session: 03/09/2024 – 14:00 – Room De
- Fourth exam session: 31/01/2025 – 14:00 – Room De

Note: by “First session” we mean the italian “Primo appello”, i.e., the first attempt at passing the exam, by “Second session” we mean the italian “Secondo appello” and so on.

Project description

Project rationale

This course is characterized by a strong practical part, where you will learn to develop autonomously a mobile app able to fetch health data from Web APIs and leverage those data to develop some functionalities that can potentially target both healthy subjects and sick patients.

Project details and grading

You will be asked to divide into groups of 3 people, and each group will build an app that collects user health data from a wearable device through Web APIs, stores them, visualizes them, and does some tricks with them.

To be successful the mobile app must:

- Implement the following core functionalities:
 - User authentication and management
 - Data collection
 - Data persistence
 - Data visualization and presentation
- Implement some original functionalities that leverage the health data at hand
→ This is up to your fantasy!
- Be the result of some quality teamwork evaluated both during the discussion and by inspecting the working tree of your project (GIT history and Code organization).

The following (weighted) criteria will be considered for grading the project work,

- Core functionalities (weight = 50%)
- Additional functionalities (weight = 40%)
- Quality of the teamwork (weight = 10%)

Project code delivery

Project code must be delivered by 14/07/2024, and no later than the day before the discussion.

The project discussion can be done during two possible time windows:

- Window #1: from 01/07/2024 to 19/07/2024
- Window #2: from 19/08/2024 to 20/09/2024

This means that the following representative scenarios are valid:

- Code delivered on 30/06/2024, Project discussion on 01/07/2024 or later (up to 20/09/2024)
- Code delivered on 10/06/2024, Project discussion on 19/07/2024 or later (up to 20/09/2024)
- Code delivered on 14/07/2024, Project discussion on 25/08/2024 or later (up to 20/09/2024)

Project code must be delivered in the form of a valid GitHub repository link sent using the Elearning system (detailed instructions will be provided by the end of the course).

We will evaluate the last commit in the master (or main) branch dated before the project delivery timestamp. Commits dated after the project delivery timestamp will not be considered. Students that will try to discuss code that is newer to such timestamp will be strongly penalized.

Project discussion

The project discussion will consist of a 25 min presentation of the project (15 overall presentation of the functionalities + 10 min demo) + 20 min Q&A.

The project will be discussed/presented in dedicated slots (dates will be provided later during the course). Anyway, the projects must be in one of the two indicated windows even if you plan to take the written exam in the third session or you want to retake the written exam.

The members of the group must discuss the project together in the same slot.

The project discussion grade will be valid for the entire academic year.

It won't be possible to re-discuss the project.

Group composition

Groups must be composed of 3 people.

You can enroll your group in dedicated lists available in the course e-learning page until the end of March.

If no more lists will be available at some point, simply write to us and we will open some more lists.

If, at the end of the enrollment period, (first of April) two or more groups are composed by less than 3 people, the teacher will reserve the right to reallocate those people.