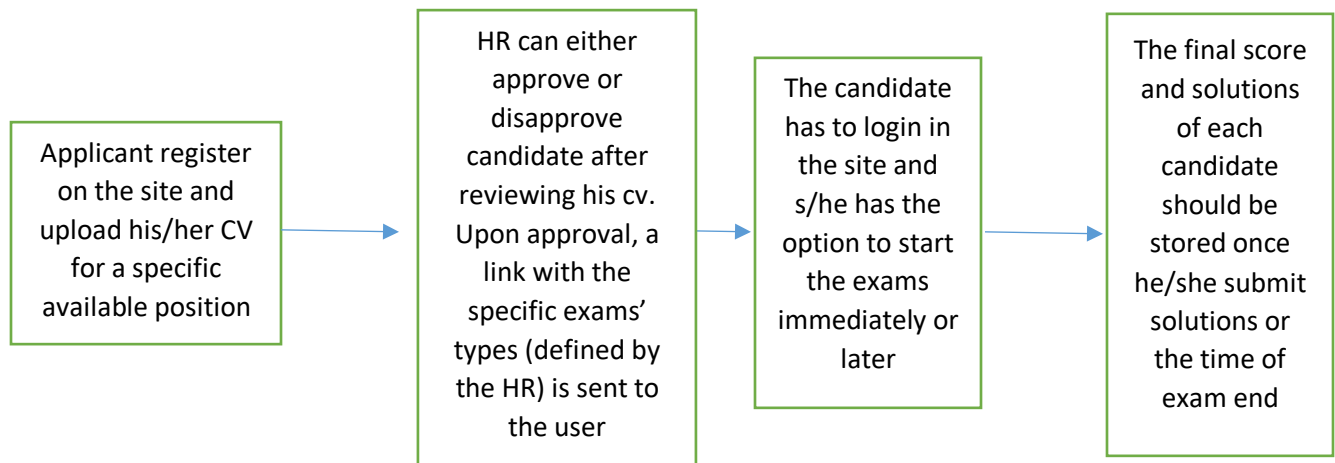# Internet Application: 2019 Term Project → Online Testing

Having online Tests instead of arranging interviews saves time and efforts.

The goal of this project is to develop a web application for online tests which can be evaluated automatically.

Consider the following scenario:

| Applicant register on the site and upload his/her CV for a specific available position | → | HR can either approve or disapprove candidate after reviewing his cv. Upon approval, a link with the specific exams' types (defined by the HR) is sent to the user | → | The candidate has to login in the site and s/he has the option to start the exams immediately or later | → | The final score and solutions of each candidate should be stored once he/she submit solutions or the time of exam end |

The project Functionalities:

For Candidate:

1. <mark>Candidate must register with his/her email, to upload his/her CV and optionally he can enter his telephone number.</mark> **JavaScript validation for all fields and suitable messages is a must. (since the email is unique u can make it the username also)**

   o **Checking usernames existence in database must be done using Ajax.**

2. <mark>The list of the available positions appears, and s/he choose the position to apply to.</mark>

3. <mark>Candidate registration should be approved/disapproved by HR,</mark> upon approval, the HR will choose which exams will the user take, which sequence optionally, and what is the deadline for undertaking those exams, <mark>the system sends an email to user</mark> with links of his exam stating the deadline(s/he must sign in before the exam list area is shown). Otherwise the user is notified that he didn't pass the prescreening stage.

4. The candidate has the option to start the tests immediately or later. It isn't mandatory for candidate to solve all tests in the same day (i.e. he/she can solve java exam on Monday and start the IQ exam on Wednesday). The candidate needs to solve the exams in the

sequence defined by the HR if a sequence exists. This need to be done before the deadline defined by the HR otherwise the candidate can't take the exams anymore.

5. System must choose randomly a collection of questions; and for each question the system must choose randomly three incorrect answers from the incorrect answers of that question and one correct answer from the correct answers of that question.

6. The questions of each exam will be selected according to the exam type (5 questions per exam).

7. The solution must be saved once he/she answers the question (after every question). **Saving answers must done via Ajax.**

8. The candidate can skip or mark any question (number of solved, skipped and marked questions must be auto calculated)

9. The candidate must submit his/her solutions before the session timeout.

10. After submission the system needs to work even if the session timeout is reached, the system must auto save the questions and solutions of each candidate. And an email should be sent to HR and the candidate contains the information of the candidate and the performed exam and the score.

11. Use sessions to pass the user data between pages, make a tab in the upper right corner with Hello "username" or "name" in every page after login

For HR:

1. HR can see the full test of each candidate with candidates' solutions

2. HR can show the summarized report of the result (score per each exam and the total (sum) of all scores) for each candidate

3. HR can search with more than criteria such as (candidate email, candidate name, exam type [java, python, database, IQ, English], exam date)

4. HR will show / add / update / delete the available exams types

5. HR will show / add / update / delete the questions and answers for the system for the available exams types

General notes:

- In this project you will work in team between 2 and 5 of students from the same lab. You must divide the responsibilities among the team members.
- Before starting the project implementation, you must design the model (a suitable ERD) for the project, ERD must be submitted with the project.
- You must use MVC pattern during implementation phase.
- Doing this project entirely using node.js as your backend framework will get you 3 extra grades.
- The project weights 12 grades and will be discussed on your lab on week starting 21/12