Requirements document

Team 07

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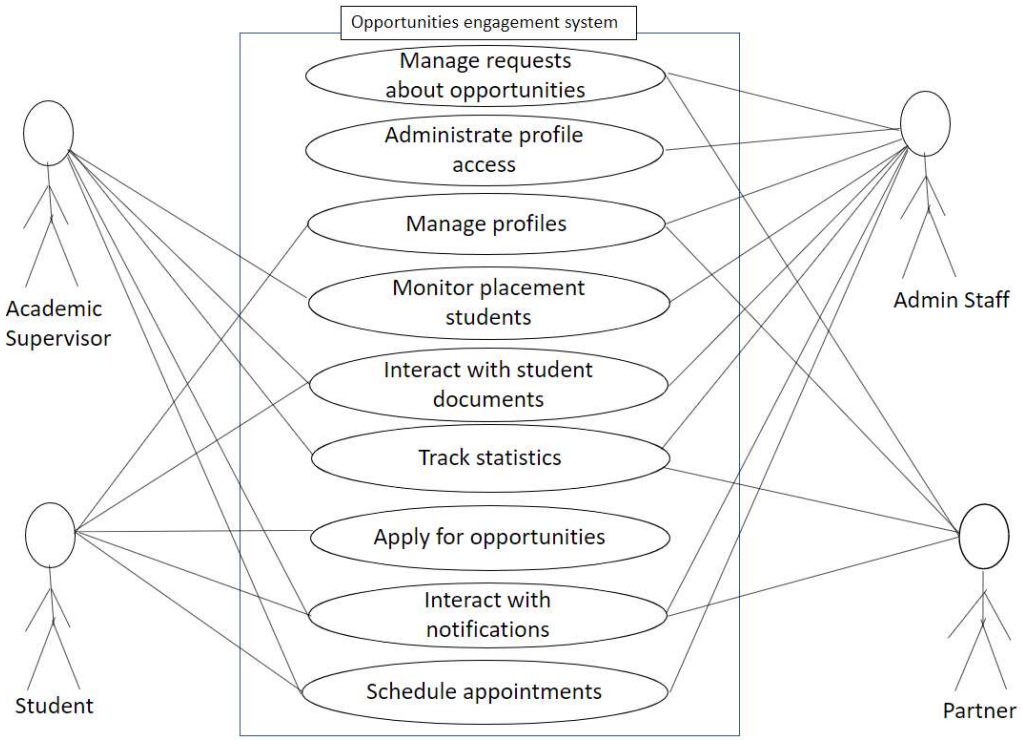
All team members have contributed to all sections unless stated otherwise.

Contents

Top - Level Use Case diagram



User Stories

Use Case Name	Student ID	Link to GitLab Issue
Manage requests about opportunities	21091988	https://git.cardiff.ac.uk/c21118494/team07industry-and-student-engagement-system/-/issues/1
Administrative profile access	21103171	https://git.cardiff.ac.uk/c21118494/team07industry-and-student-engagement-system/-/issues/7
Manage profiles	1894986	https://git.cardiff.ac.uk/c21118494/team07industry-and-student-engagement-system/-/issues/6
Interact with student documents	21019742	https://git.cardiff.ac.uk/c21118494/team07industry-and-student-engagement-system/-/issues/4
Apply for opportunities	21118494	https://git.cardiff.ac.uk/c21118494/team07industry-and-student-engagement-system/-/issues/3
Interact with notifications	21105409	https://git.cardiff.ac.uk/c21118494/team07industry-and-student-engagement-system/-/issues/2
Schedule appointments	2007850	https://git.cardiff.ac.uk/c21118494/team07industry-and-student-engagement-system/-/issues/5

Software Product Quality Requirements

Software product quality requirements were created using the ISO 25010 standard structure to ensure a comprehensive set of requirements and a shared understanding of criteria (ISO 25000, 2021).

Functional Suitability

- As a user, I want the system to assist in interactions between university and partners (industry and external) so that a greater awareness of available opportunities is achieved.
  - The system must aid the students in finding the existing opportunities. They should be able to find at least one relevant opportunity, if it exists, within ten minutes.
  - The system must have appropriate contact information for students and partners. If the university wants to reach out to partners, it should take no longer than five minutes to find their details.
  - The system must have appropriate identifying categories for all users, such as placement students, international students, employers and their industry sector. It must be able to provide a list of all the users in a particular category. Each user must have at least one category.
  - The user should be able to access the needed page to start any desired task within five minutes of login in.
  - The system must allow the administrative staff to additionally automate at least 25% of the tasks.

Performance Efficiency

- As a user, I want the system's performance to run efficiently so that I can reliably access my data and complete tasks.
  - The system is optimised to load any page on a standard device within three seconds.
  - The system must not crash if 75% of the active users use the system simultaneously.
  - The system must be able to allocate up to 5GB of files per user.
  - The system must be able to store up to 200,000 active accounts. Active accounts are recognised as users that have logged in the last six months, otherwise, they become inactive.
  - The system must archive inactive accounts so that it improves the system's performance.

Compatibility and Portability

- As a user, I want the system to work well with other systems so that I can access the correct information in a variety of conditions.
  - The system must be able to integrate with the existing information databases and systems, for example, SIMS and Intranet.
  - The system must be able to run to unaffected when being used by multiple users at once.
  - The systems' performance must be unaffected while other programs are running on the user's device.
  - The system should not interfere with other programs running on the user's device.
- As a user, I want to have easy access to the system on all devices so that I can engage with the system anywhere and at any time.
  - The system must be adapted to commonly used browsers including Google Chrome, Apple's Safari, Microsoft Edge, and Firefox and operating systems including Windows, Linux, Mac OS.
  - The system should be available internationally.
  - The system should load and download within ten minutes, even on a weak internet connection.

Usability

- As a user, I want the system to be user-friendly and user-interactive, so that I can easily understand the system's procedure and features.
  - The systems should take no longer than ten minutes to be understood by the user. The system is considered understood if the user can navigate to all the main functions.
  - The system must have descriptive and precise user error messages in case of user error input, so that the user can identify the issues and steps to remedy them.
  - The system must have sophisticated error catching features, i.e., catch 98% of errors with detailed explanations.
  - The system must be simple to navigate around various aspects of the application through the use of a global navigation bar and with each section of the system accessible in less than five minutes.

- The system must confirm with users in the case of deleting opportunities, events, files and any other important information.
- The system administrator should be able to restore deleted items upon the user's request within six months of deletion.
- The system should be available any time a user tries to access it.
- The system must meet Web Content Accessibility Guidelines (The World Wide Web Consortium, 2018). Including accounting for disabilities, such as having different fonts for dyslexia and appropriate colour for those with colour blindness.
- The system must be able to change an archived account back to active status while the students have access to careers service and at any time for the partners. Provided the admin staff have approved the change.

Reliability

- As a user, I want the system to be operational and accessible all hours of every day without failure so that I can use it any time I want.
  - The system must backup information once every twenty-four hours in case of failure (Kurtz, 2020).
  - The system administrator must be able to restore backups in the last six months in case of a fault in files.
  - The system should be accessible 98% of the time without failure.
  - The system must be accessible after a maximum of 24 hours of downtime.
  - The system must store backups in a different server and location in case of hardware failure.
  - The system should not fail completely upon the failure of one part.

Security

- As an admin, I want users to be part of the system and adhere to requirements so that they can explore the complete scope within reach securely and safely.
  - The appropriate sections of the system must be accessible to the user. For example, university staff use a secure database to store, search, and review student details. In comparison, students have only limited access to the database to update their profiles in order to uphold the privacy policies and the integrity of the organisation's environment.
  - The system should keep a log of each action performed by all users within the past six months.
  - The system must display appropriate information based on user access. For example, the students can view metadata about partners.
  - The system must only allow access if the user enters the correct username, password, and two-step verification.
  - The system must allow for strong passwords from users. Such passwords must consist of a minimum of eight characters long, at least one uppercase, one special character.
  - The system must block users who are attempting to access content that is unauthorised to their account.
  - The system administrator can unblock the account once the user is verified to be secure and trustworthy.
  - The system must comply with General Data Protection Regulation (GDPR) (GDPR, 2018).

Maintainability

- As a user, I want the system to be flexible for modification and improvement so that I can request to add new functionalities and fix problems if necessary.
  - The system administrator must be able to select a time for an update containing the modifications, improvements and maintenance within the necessary time limit.
  - The system must notify the user of the system’s unavailability three days before non-urgent maintenance.
  - The system must allow for specific features to be adjusted and modified without affecting others.
  - The system must have only the necessary dependency on other parts of the system.
  - The system must allow to reuse assets on multiple pages, such as the global navigation bar.
- As a system administrator, I want the system to be easy to identify errors and fix components so that I can respond to error reports quickly.
  - The system must automatically generate an HTTP request error rate and notify the system administrator when the error rate is higher than 10% (Turi, 2020).
  - The system must have a detailed user manual for administrative staff.

References

GDPR. 2018. *Guide to the General Data Protection Regulation.* Available at: https://www.gov.uk/government/publications/guide-to-the-general-data-protection-regulation [Accessed: 23 February 2022].

ISO 25000. 2021. *ISO/IEC 25010.* Available at: https://iso25000.com/index.php/en/iso-25000-standards/iso-25010 [Accessed: 22 February 2022].

Kurtz S., 2020. *How Often Should You Perform A Data Backup?* Available at: https://totalit.com/how-often-should-you-perform-a-data-backup/ [Accessed: 22 February 2022].

The World Wide Web Consortium (W3C). 2018. *Web Content Accessibility Guidelines (WCAG) 2.1.* Available at: https://www.w3.org/TR/WCAG21/ [Accessed: 22 February 2022].

Turi P., 2020. *Request rate monitoring.* Available at: https://banzaicloud.com/blog/rate-monitoring/ [Accessed: 22 February 2022].