

Development of a Track and Trace system for Bangor University

Introduction

Currently there is no track and trace system implemented in Bangor University. This is because the whole Covid-19 situation is relatively new. The University has limited the number of face-to-face lectures to only ones completely necessary.

This system will help track students who are attending the University in person and allow them to be notified if they have been in contact with somebody who has tested positive for the virus. Having this system in place will aid the process of staff and students to slowly start reverting to in-person lectures and lab sessions.

How it works?

The system works by allowing students to scan in and out of each room in the university. They will scan in using their student ID card and scan out using their student ID card. The system will check if the user exists in the system, if they do exist, the time they spent in each room will be logged in a database for 14 days. If the user does not exist, nothing will be added to the database. In the event of a forgotten or lost student ID card, there will be a QR code along with each scanner at the entrance of a room, this QR code will take you to a log in page, where a user can manually log themselves into a room using their username and password.

If a user tests positive, they can then input their test result into the system, and the system will check to see which rooms that person had been in and what times over the last two days. Using these times, it will then find all the other students or staff who were in the same room at the same time. It will then send them an email saying they may have encountered someone who has tested positive and to self isolate for 14 days.

The Process



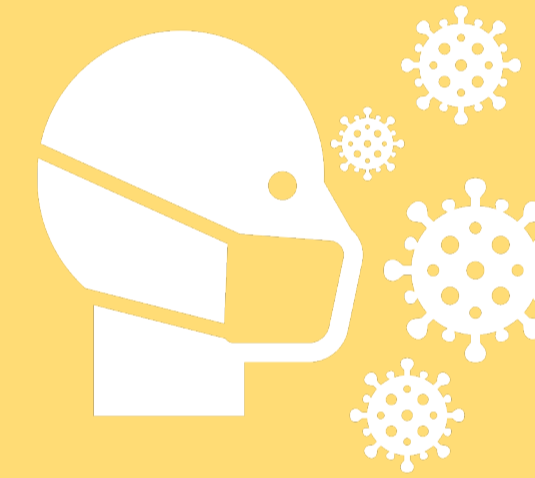
User scans in with ID card



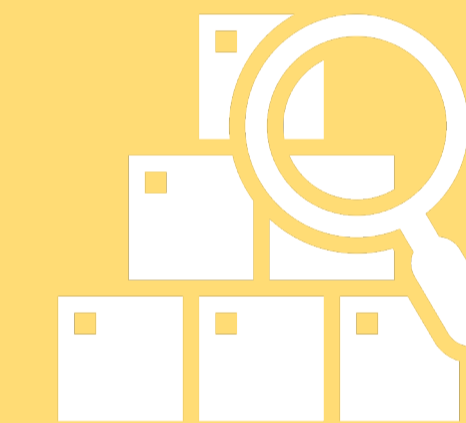
Checks if user exists



User is added to database with time, date and room



If a user tests positive for Covid-19, they enter their result

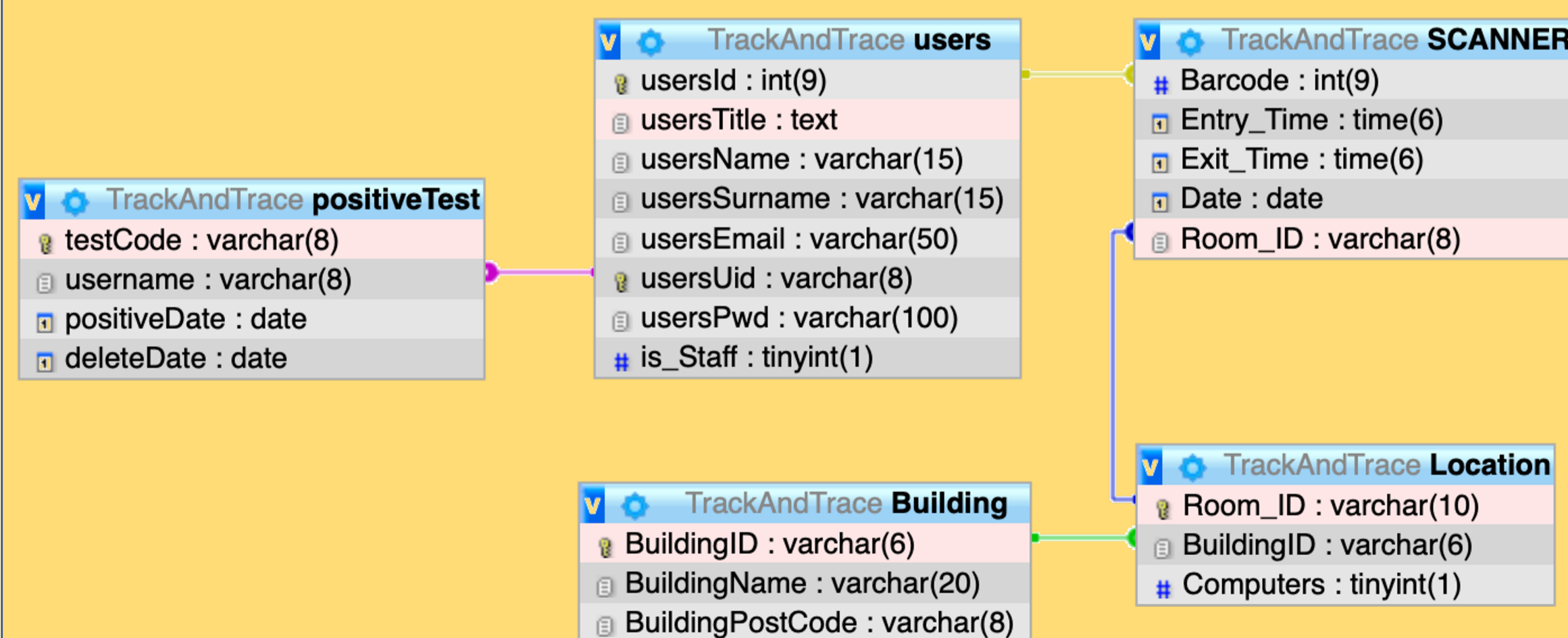


System checks to see who they have come into contact with



Emails are sent to those who have been in contact with the virus

Entity Relationship Diagram



Technology

The technologies used will be HTML, PHP and JavaScript.



HTML is a programming language which allows the modification of the appearance of web pages, and to structure and present content for the web.



PHP is an open-source scripting language that is used for web development which can be embedded into HTML.



JavaScript is a programming language used on client-side and server-side, which allows you to make web pages interactive.

