Craig Freiwald
IST 361 – Professor Fisher
01/23/2022

Project Conceptual Design Scenario

- **Scenario Title** – Responding to a manager's email.
- **Actor** – Jill from the Human Resources department.
- **Setting** – inside of a mid-sized businesses' cubicle farm in an office building.
- **Scenario Goal** – provide a report of all employees currently in quarantine, and how long they have left
- **Scenario Narrative** – Jill has received an email from her boss which is requesting a report of all employees currently stuck in the companies' mandatory Covid quarantine, and how long they have left. She needs to be able to provide an answer not only quickly, but also accurately. Before having this application, she would need to use various spreadsheets and calendars to keep track of this information, leading to timely reports and many potential errors in a company this size. With the new unnamed Covid Tracker Application she can simply log in to the program and use the build in features to generate an accurate report to send to her manager in a matter of seconds.
- **Utility Analysis** –
    - **Benefits**:
        - Provides accurate and timely covid reporting abilities for businesses
        - Keeps track of all employees' quarantine time periods
        - Keeps track of all employees' covid vaccination statuses
        - Helps to control/centralize some sensitive information for businesses
    - **Costs**:
        - The application itself (if it isn't provided for free)
        - The hardware used to run the application
    - **Risks**:
        - The application needs to be kept secure from unauthorized access
        - The application needs to be user friendly enough to warrant its necessity
        - The application needs to adhere to all applicable laws and regulations
        - The application needs to be quick and accurate enough that businesses want to use it

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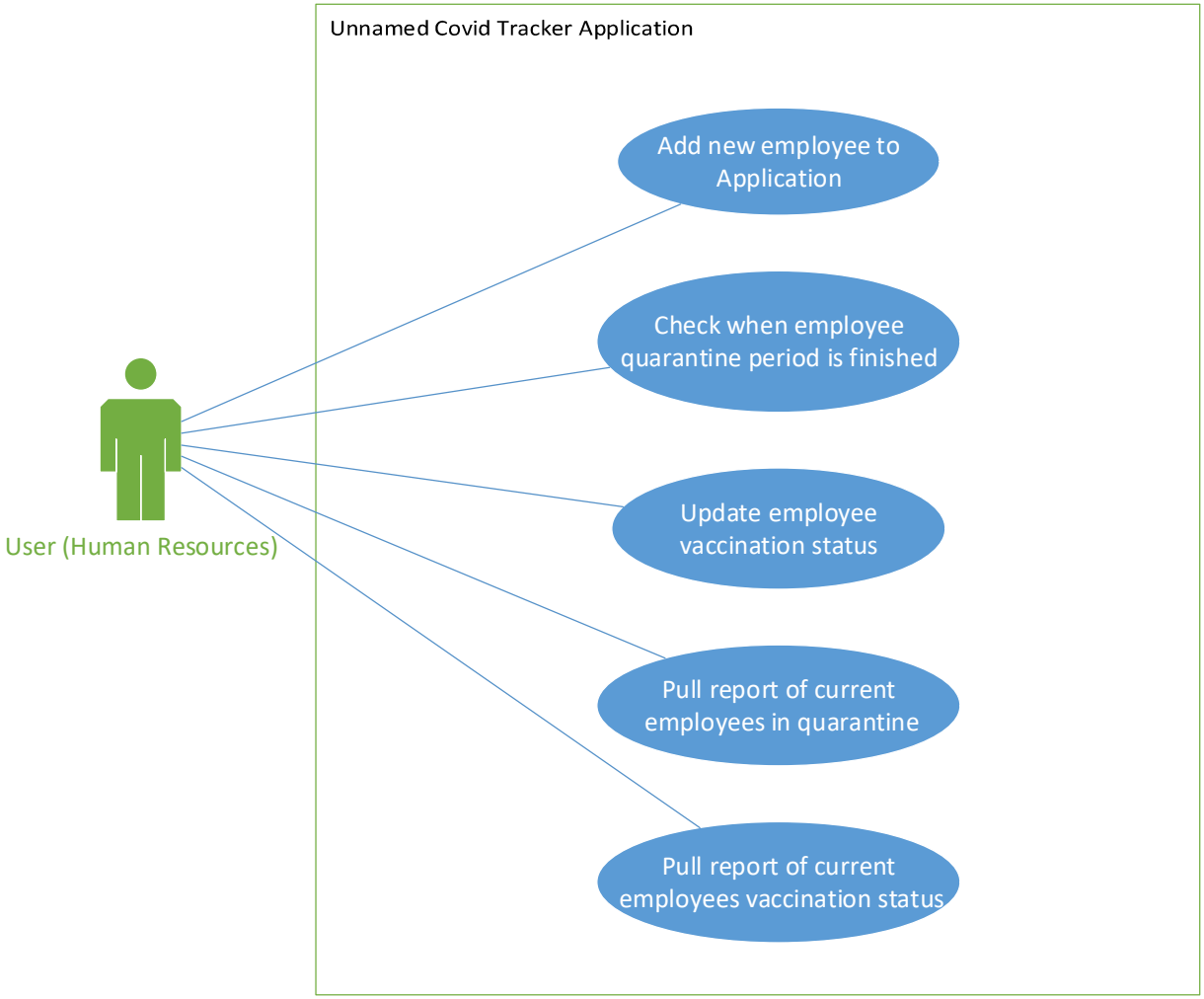
Use-Case Diagram



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Use-Cases in the Diagram.

The use-cases in my diagram are fairly self-explanatory. The first use-case is adding/deleting an employee to/from the application. This is something that would be necessary to do anytime a new employee is hired, or anytime a previous employee leaves the business.

The second use-case is being able to check, ad-hoc, when an employees' quarantine time is over. This would be a useful bit of information for businesses with mandatory quarantine periods to consider. It would be a quick, aggregated source for authorized parties to find that information.

The third use-case is to update an employees' vaccination status. The subject of covid vaccination has become a somewhat controversial topic in recent times, however, at many businesses in "at will" states in the United States, there are already vaccine mandates in place. With this application it can be added anytime an employee is vaccinated and be kept track of.

The fourth use-case is to pull a report of which employees are currently in quarantine periods. This would be necessary to help keep track of employees who are possibly not being tracked by the normal personnel applications because they are afforded free days off for quarantine, as opposed to taking sick-leave or vacation days.

The fifth use-case is to pull a report of all employees' covid vaccination records. As mentioned above, many businesses now have needs to keep track of their employees' covid vaccination records. This would be a simple, aggregated, secure tool to keep track of that information.

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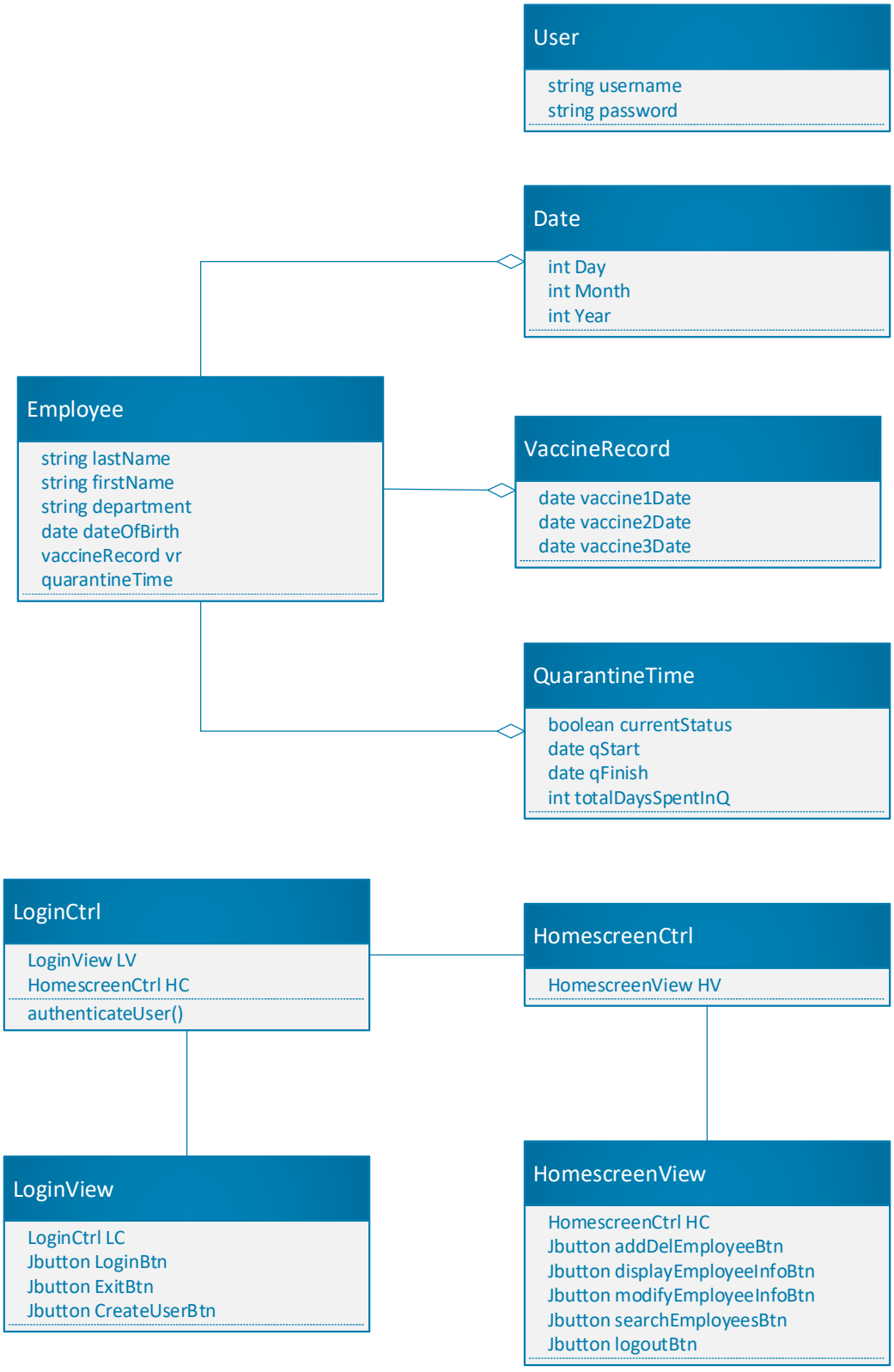
UML Class Diagram



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Class Key Responsibilities

User – the user class will be used to keep track of all authorized users of the applications login information

Date – the date class will be used to store dates in other classes as Java does not have a standard date class

VaccineRecord – the vaccineRecord class will be used to keep track of an employees' dates of vaccination, it currently contains three vaccine slots, but can be updated as necessary if/when more boosters become mandatory at businesses.

QuarantineTime – the quarantineTime class will be used to track whether or not a given employee is currently quarantined and further, which dates the employee began and ends their quarantine. It will also keep track of the total days of quarantine an employee has had.

Employee – the employee class is a model class which will be using date, vaccineRecord, and quarantineTime classes inside of it. It will be used to track employees' name, work department, date of birth, vaccine records, and quarantine status.

LoginCtrl – the loginCtrl class will be the controller for the login UI.

LoginView – the loginView class will be the login UI which will have a login and an exit button.

HomescreenCtrl – the homescreenCtrl class will be the controller for the homescreen UI.

HomescreenView – the homescreenView class will be the main menu of the application and will have various buttons to pull up the reports and add/delete info from the application.