Graphical user interface, text, application, email

Description automatically generated

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| **Requirements** | **Considerations/Potential problems** | **Tools** |
| * The system must accept bookings from registered users on cinema booking systems * The user can login and view the movies screening at this cinema * The user can filter and select a movie to book * The user can select which date and time to book the movie viewing * The user can specify which seat to book from a view of all seats in the cinema * The user can add additional support such as any impairment requirements for the movie viewing * The user can select payment type in order to pay for the booking * The user can review details of the booking and payment information to then pay and confirm the movie booking * The system must store the booking with the user ID and provide a reference number for the booking and confirmation email to the user * The system must update movie booking system database to reflect the available and unavailable seats * The system must have admin access in order for the cinema administrator to manage new movie listings and current listings on the system * The system must use secure and confidential systems to accept and perform monetary transactions when a user pays and confirms a booking * The system must by available at all times for 24/7 access * The system must be able to be used on various platforms, e.g. mobile, pc, laptop, etc * The system site must be accessible to those with any impairments * A backup of data must be stored in case of any type of site failure * The system must be on a server that can handle multiple transactions at the same time | * Too many users booking at the same time * Payments are not secured well/ data breaches * The site breaks or goes down temporarily and so loses the bookings previously made * The users might make multiple bookings for the same movie at the same time under the same account * The user may not qualify to be able to view a certain movie, e.g. is underage * The user may want to book more than one seat * The user may want to cancel or change the booking date and time * The server the site is hosted on crashes and so the site is down | * Tools to build the website, HTML, CSS JavaScript, and framework e.g. REACT * Database storage e.g. MySQL * Create a backup database storage system as well using SQL BACKUP DATABASE * Create specific SQL unit transactions to handle multiple transactions at the same time to avoid double booking * Ensure real time synchronisation between the SQL database servers * Add third party payment system to ensure secure transactions on site, e.g. paypal, bank redirect * Monitor site performance and consistently crash test to avoid crashes * Utilise a CDN to handle heavy traffic * Continual backups of website and data * Enforce validation of user age group and alert and remind customer they will be screened at the cinema for age restricted movies and maybe refused entry and be refunded a ticket |

Simple Components Diagram

My attempt at understanding and recreating a components diagram with the cinema booking system as the example.

Diagram

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