**Homework: Lesson 14 – Process Flow Design**

**Question 1**

Design a cinema booking system.

Think how you would approach the problem and what are potential ways of solving it?

You do not need to write actual code, but describe the high-level approach:

• Draw a list of key requirements

* Frontend – access through website / app
* Search films / trailers / comments and ratings
* Visual map of seat availability and screen view
* Timeout feature for seat selection in basket
* Checkout / Payment
* Confirmation of booking
* Database – store film, customer and booking information
* Secure storage of data
* Maintain accurate information
* Backend – Python, API, server to get seat availability
* Secure access
* Fast and efficient retrieval of data
* Fault tolerant
* Locking of selected seats

• What are your main considerations?

* Scalability – how many users can use and access the booking system
* Accessibility – is the UI accessible to users with visual / cognitive / mobility needs
* Usability – user-friendly design, easy to access and navigate, quick and accurate
* Compatibility – system can be used on various devices e.g., PC / tablet / mobile
* Security – protecting customer data, passwords, and payment information / backups
* Management / Maintenance – ease of use for administrators of the system

• What would be your common or biggest problems?

* Data protection / security
* Backup storage systems
* Manging traffic / scalability
* Maintaining up-to-date information e.g., available seats
* Training administrators to use the system

• What components or tools would you potentially use?

* Python celery for asynchronous code to make the user experience better (faster)
* DBMS – to manage locks for booking and to keep data accurate

• You are welcome to draw a diagram (a very simple one) for the process flow to explain how it is going to work.

Diagram

Description automatically generated