# Summer 24: Task 1 – Research

After doing some research, I will be using four popular zoo websites for inspiration: London Zoo (<https://londonzoo.org>), Edinburgh Zoo (<https://edinburghzoo.org.uk>), Whipsnade Zoo (<https://whipsnadezoo.org>), and Woburn Safari (<https://woburnsafari.co.uk>).

I will also be using the wider context of the industry as a reference in this document.

## Hardware and software

In this section I will be going over how hardware and software are used within the wider industry of this project. The industry is tourism and leisure.

### Hardware

There are many ways different hardware is used within the industry:

* Point-of-sale (POS) systems
  + POS systems are used widely in every industry. Specific to tourism, they are commonly seen in gift shops, food stalls, or ticketing counters. They allow customers to make transactions and purchase goods they need.
* Kiosks and self-service machines
  + Allows visitors to purchase tickets, learn information, all without the need to wait in line if using a self-service machine.
* VR/AR
  + Virtual & Augmented Reality devices are becoming more and more common within all industries. In tourism, they are used to enhance interactive exhibits, or for virtual tours, for example.
* Surveillance systems
  + Security is very important within tourism and leisure, so surveillance and security systems are a must-have in every scenario. Cameras are used to monitor activity, and their footage is often recorded in case an issue occurs later. Other security includes physical barriers such as lock/keycard locks.

### Software

There are many ways different software is used within the industry:

* Reservation and booking systems
  + These systems are used to manage sales related to tickets, hotel reservations, or event bookings. They will be used by both users (to book and pay for tickets they require) and staff members (to validate official tickets users are handing in to check-in with).
* Mobile applications
  + Sometimes, places of tourism that get lots of visitors will have mobile applications developed. These applications could include lots of functionality, such as: maps & navigation, linking to booking/reservation systems, delays & opening times, etc. This is very useful for people attending as they can easily find useful information or find their way around.

## Newly emerging technologies

### Virtual & Augmented Reality

An upcoming technology that has been more and more commonly used over recent years is AR (Augmented Reality) & VR (Virtual Reality).

AR is where digital aspects overlay reality. For example, someone might use an AR device, and (in the context of a zoo) see an animal, and a digital display will appear through the device which gives information on it, such as its name, place of origin, food habits, etc.

In difference, VR is a completely digitalised environment. If someone wears a VR device, they won’t see the real world at all, they will only see a fake, digital world. In the context of zoos, this could be used (in the context of a zoo) to place the user in a location that isn’t immediately possible, such as in the Antarctic, in tropical regions, or even face-to-face with a dangerous species.

### Internet of Things (IOT)

The Internet of Things (IOT) is creating smarter and more efficient technologies which allow more personalized experiences. In the context of tourism, there are many ways this could be implemented:

* Contactless check-ins
  + Smart devices could be used such as mobile phones or wearable devices instead of an additional item you must carry in your pocket.
* Rentals
  + Vehicles such as bikes, scooters, or even cars are becoming IoT-integrated. This allows people to locate and pay for rental vehicles all through a mobile phone application.

Some existing real-life examples:

* Heathrow Airport, London
  + Uses RFID tags on baggage allowing passengers to track luggage in real time.
* Disney’s MagicBand
  + Wearable IoT device acting as park entry ticket, hotel room key, and additional payment method.

## Guidelines and regulations

The following are some legislations that we are required to follow (related to the tourism and leisure sector).

* Data Protection Act 2018 (GDPR Compliance)
  + Protects personal data collected from visitors.
  + We must handle visitor data securely (i.e. purchases, memberships, etc.)
* Equality Act 2010
  + Ensures equal access and prevents discrimination.
  + We must provide accessible facilities.
* Health and Safety at Work Act 1974
  + Ensures workplace safety, including visitor and employee protection.
  + Risk assessments for hazardous activities.
  + Emergency procedures for incidents.
* Zoo Licensing Act 1981
  + Regulates the establishment and operation of zoos in the UK.
  + Zoos must be licensed by local authorities.
  + Regular inspections are mandatory.
* Animal Welfare Act 2006
  + Ensures the welfare of animals in captivity making it illegal to cause unnecessary suffering.
  + Suitable environment, appropriate diet, ability to exhibit normal behaviour, protection from pain & suffering, housing with (or away from) other animals.