

# DIGITAL ASSISTANT



## INTRODUCTION

Hospitals use digital assistants to automate repetitive tasks and reduce NHS staff's busy workloads.

On the other hand, digital assistants can also be used to improve patient welfare.

## OBJECTIVE

Design an AI-based digital assistant that both NHS staff and hospital patients can use whilst on hospital premises.

## COMPONENTS

**Machine learning** can help the assistant to diagnose a patient by analysing their body scans. For example, the AI can be trained with MRI scan images to identify potential signs of medical conditions/diseases, for example: cancers.

**Natural Language Processing** implementation allows for hands-free, verbal communication of a patient's symptoms. Also, staff could potentially use Speech-to-Text functionality to save time writing patient notes—they can devote more time to helping a larger amount of patients.

## ASSEMBLY

To make the most accurate patient diagnosis', the AI would be trained against real-world data and tested to see if it can predict correct diagnosis'.

Using Machine Learning, neural networks can be produced to spot and identify patterns and notify Doctors so that they can be verified, and correct medical action can be taken to heal patients.

## USER INTERFACE

Microphone for vocal inputs (hands free for motor impaired users).

Display screen to present outputs to the user, and to contain touch-screen keyboard for textual inputs.



## ETHICS

Human intervention is required to validate and verify any diagnosis made by AI. Prevents patients from being falsely mistreated.