

# HMPPS Digital contractor interview, instructions for candidates.

## Introduction

Thanks for accepting our invitation to join HMPPS Digital for an interview, this document will give you an idea of what to expect.

## The Interview

The interview will be 60mins, 30 mins for questions and 30 mins for a pairing exercise.

We have included the specification for the pairing exercise in these instructions. You can complete the exercise *before* or *during* the interview.

If you choose to do the pairing exercise *during* the interview, we would recommend that you have your IDE ready and you have read through the specification.

If you do the exercise before, we can talk through your solution and your approach.

We look forward to speaking with you and if you're interested in learning more about how we build software you can check out this [github repo](#)

## HMPPS Digital

HMPPS Digital, part of the Ministry of Justice, is looking for Software Developers who want to make a difference by working on public services that really matter.

## Pairing Exercise - The Oyster Card Problem

You are required to model the following fare card system which is a limited version of London's Oyster card system. At the end of the test, you should be able to demonstrate a user loading a card with £30, and taking the following trips, and then viewing the balance.

- Tube Holborn to Earl's Court
- 328 bus from Earl's Court to Chelsea

- Tube Earl's court to Hammersmith

## Operation

When the user passes through the inward barrier at the station, their oyster card is charged the maximum fare.

When they pass out of the barrier at the exit station, the fare is calculated and the maximum fare transaction removed and replaced with the real transaction (in this way, if the user doesn't swipe out, they are charged the maximum fare).

All bus journeys are charged at the same price.

The system should favour the customer where more than one fare is possible for a given journey. E.g. Holburn to Earl's Court is charged at £2.50.

For the purposes of this test use the following data:

## Stations and zones:

Station	Zone(s)
Holborn	1
Earl's Court	1,2
Wimbledon	3
Hammersmith	2

## Fares:

- Journey Fare
- Anywhere in Zone 1 £2.50
- Any one zone outside zone 1 £2.00
- Any two zones including zone 1 £3.00
- Any two zones excluding zone 1 £2.25
- Any three zones £3.20
- Any bus journey £1.80
- The maximum possible fare is therefore £3.20