

a) As this system is very complicated the only development approach suited is structured approach.

The system should be carefully planned to minimise possible errors, as operation of rail network will depend on that system (eg. if system fails customers won't be able to buy tickets)

But as the development will be complex, more than one approaches can be used, for example prototyping approach may be used for touch screen design.

b) The main factor to be considered is whether there is ~~hardware~~ decent hardware available to make such a system. This is a very important factor, as if there is no hardware available, the system can't be built.

Another factor is how reliable the available hardware and software will be, as reliability is very important for this system.



c) i) First of all customer decides on destination. Data required is entered using touchscreen - destination, type of ticket (single, return, weekly etc), type of fare (full, child, concession etc). System searches prices database to get the price of required ticket. Price is calculated and displayed.

d) i) Customer enters ticket details using touch screen (things like destination, ticket type (return, single etc), fare type (full, student, child etc)).

2) System accepts entered data, searches prices database for price to certain destination from given station.

3) Price is calculated according to ticket and fare types.

4) Price is displayed.

5) Customer pays for ticket (using cash or EFTPOS)

6) money is accepted, and if applicable change

7) If applicable change is calculated and given out.

8) Ticket is printed and given to the customer.

9) Transaction is recorded and stored.



ii)

Welcome to City Rail

Main Menu

(touch a box for required action)

Buy a ticket

Check timetable

Check train arrival
info

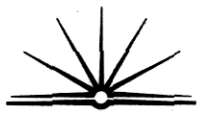
plan your journey

Help

(placed in the
middle)

d) One group of travellers who may have a major problem with using the system are people with very poor eyesight or completely blind.

The best way to solve this problem would be to get ~~one of~~ someone from station staff to assist them in buying tickets and getting other relevant information. Perhaps on major stations special staff with very good patience and communication skills can be employed to assist people with disabilities using rail network.



e).

Begin.

Get user dest.

Set count to 1

Set count to count + 1.

While count < 100

Do search for user dest.

If user dest found

Display userdest

Get numSingle and NumReturn

If ~~not~~ else display "invalid"

Begin

Get user dest.

Find match for user dest in destdatabase.

Get NumSingle and NumReturn.

Price NumSingle = Destprice x NumSingle

Price NumReturn = Destprice x NumReturn.

Total price = Price NumSingle + Price NumReturn.

Display total price

End.