

Understanding passengers' experiences of train journeys to inform the design of technological innovations

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Call

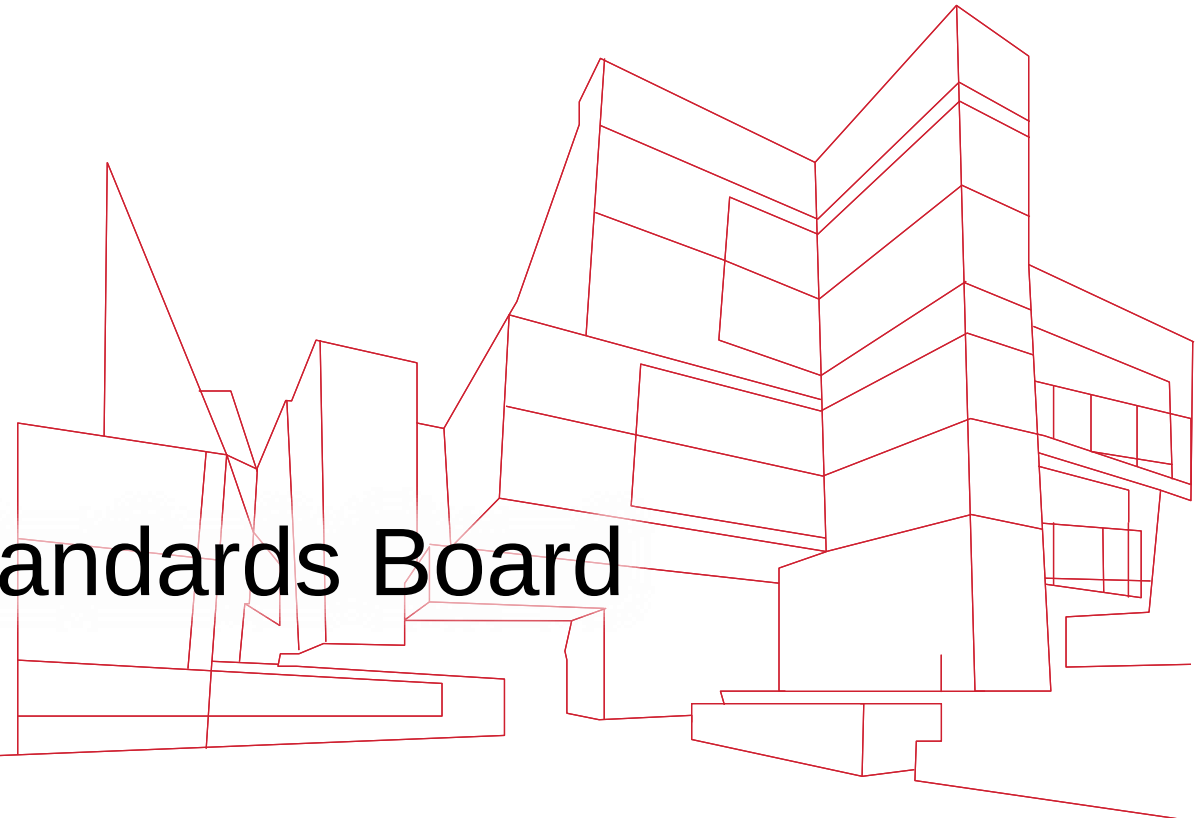
- Enhancing customer experience in rail travel

Funding

- £ 2M
- **Innovate UK**



Rail Safety and Standards Board

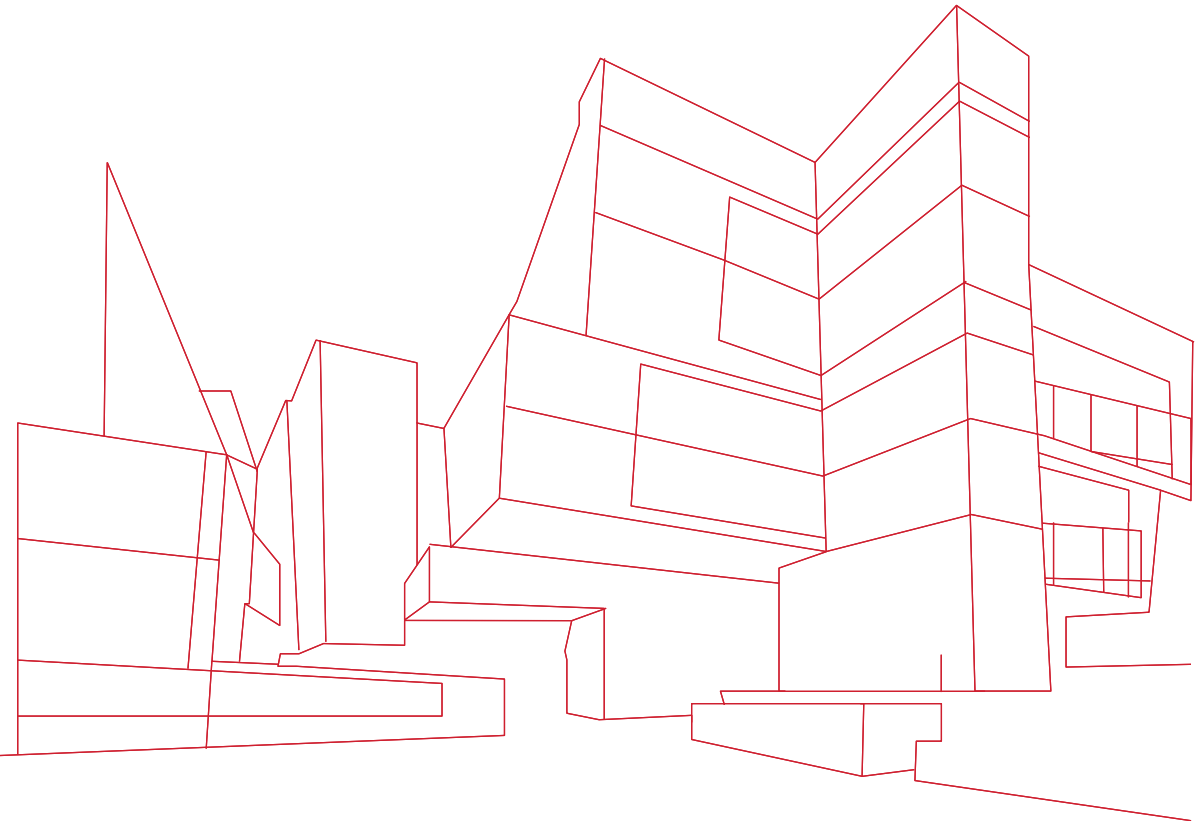


Project

Customer Loyalty and Dynamic Seat Reservation system

CloseR

Connect. Engage. Reward.

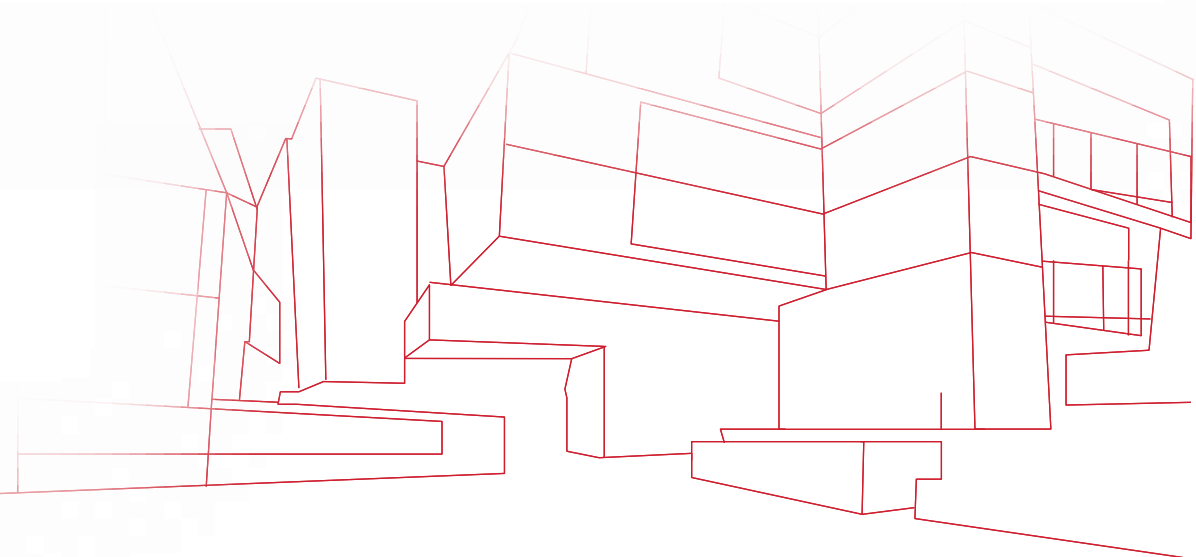


Consortium

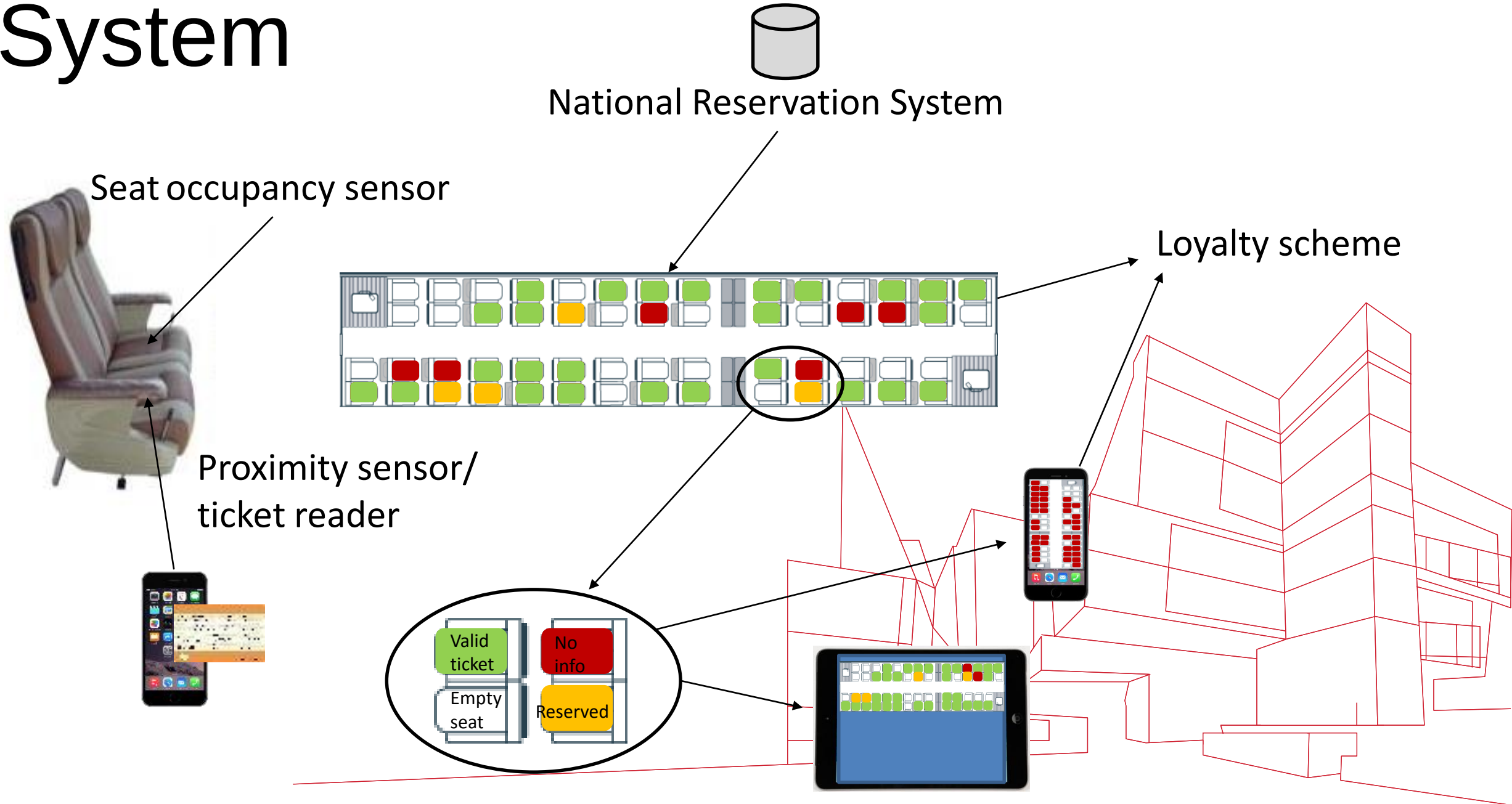
Collaborative research between academic institutions
and industry partners in the UK



LOYALTY | PRIME



System



Study

Participants and data points

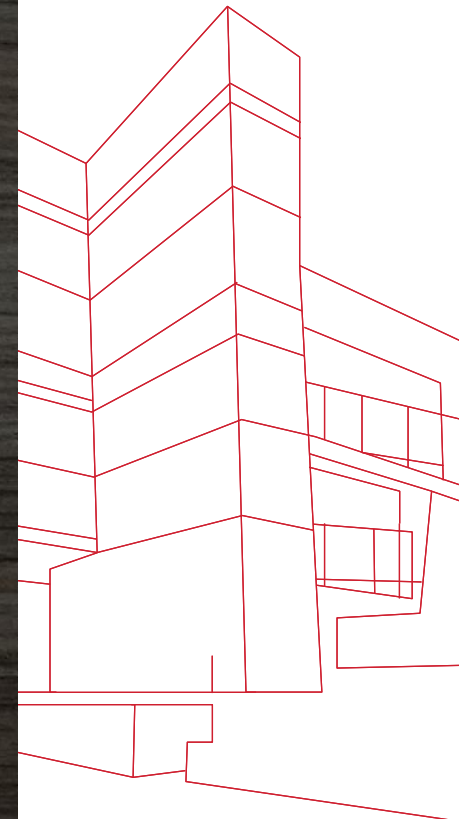
Method	Participants	Average duration per participant (minutes)	Total data points
Semi-structured interviews	20	27	703 statements tagged
Questionnaires	50	-	248 statements tagged

Materials

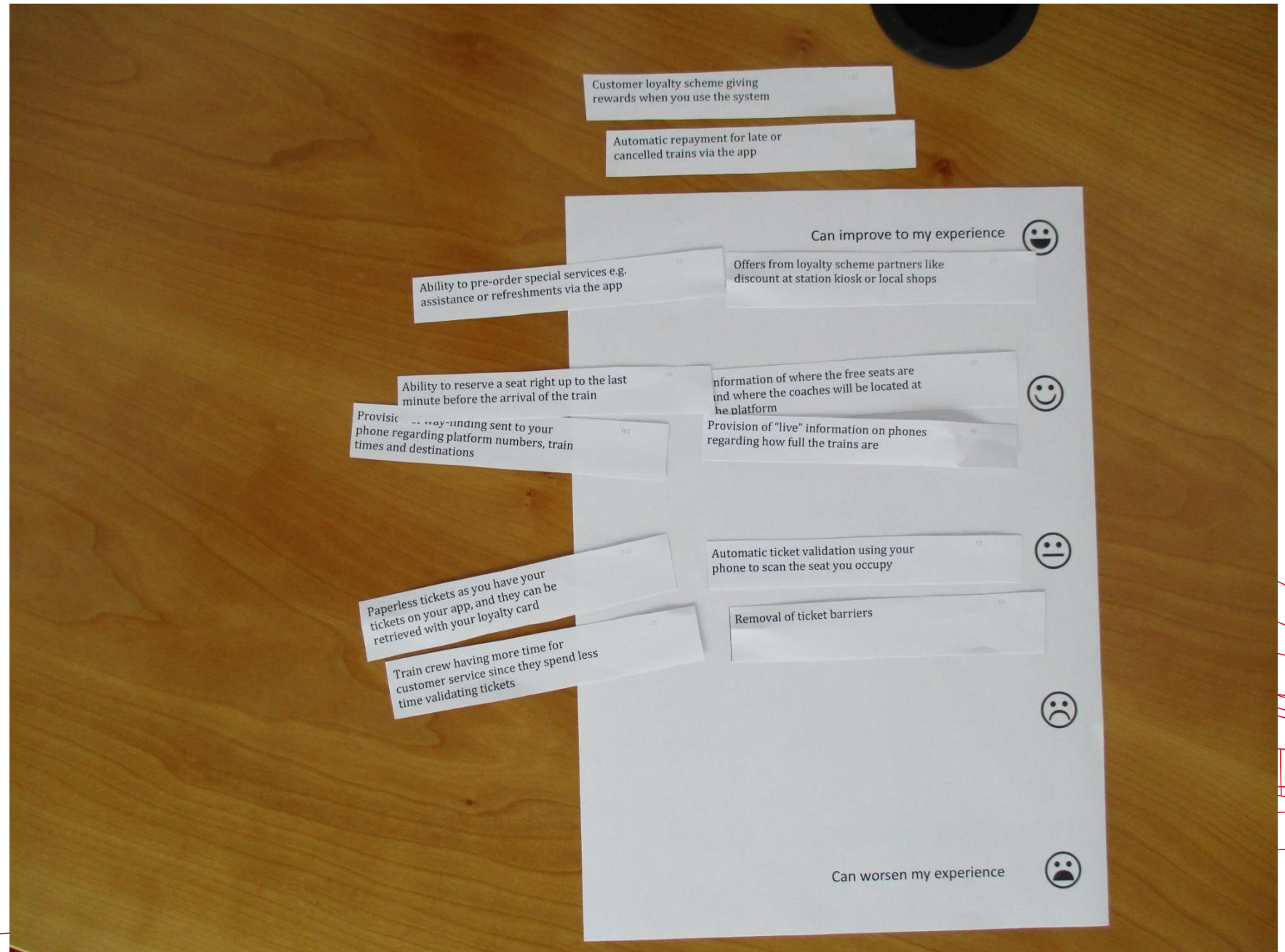
#4

With CLoSeR

PLANNING AND BUYING	TICKET COLLECTION	WAYFINDING	BOARDING	SEAT LOCATION	TICKET VALIDATION	ALIGHTING
	✓	✓	✓	✓		✓ 😊
✓					✓	😊
						😐
						😞
						😡



Materials



Analysis

Look for

Search In

Internals

Find Now

Clear

Advanced Find

Internals

Name	Nodes	References
Participant 01	75	210
Participant 02	54	130
Participant 03	68	137
Participant 04	55	113
Participant 05	61	111
Participant 06	65	133
Participant 07	62	129
Participant 08	52	115
Participant 09	60	123
Participant 10	56	124
Participant 11	33	56
Participant 12	72	149
Participant 13	72	149
Participant 14	52	99
Participant 15	52	105
Participant 16	70	138
Participant 17	66	146
Participant 18	53	105
Participant 19	51	95
Participant 20	42	75

Participant 01

Participant 02

Participant 03

Participant 04

Participant 05

Participant 06

Participant 07

Participant 08

Participant 09

Participant 10

Participant 11

Participant 12

Participant 13

Participant 14

Participant 15

Participant 16

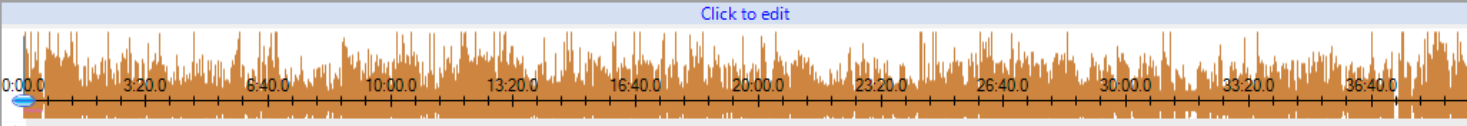
Participant 17

Participant 18

Participant 19

Participant 20

Click to edit



	Timespan	Content
1	0:00.0 - 0:31.0	45-54 Female Leisure - w. family Rugby - Glasgow
2	0:31.0 - 1:04.7	Explaining Journey Experience Map
3	1:04.7 - 2:11.2	Right, there is one thing that I would say. I have a standard journey that I usually try and do, I have a specific train that I go for in the morning, which is a quarter to 7 train that takes me straight through to Glasgow in the morning. I always try and book that train, and then the same coming home. So I only look for direct trains, so there's a limited availability. There's actually less than there used to be because they upgraded Rugby Station, or the West Coast lines. And there's less choice now (laughs) for direct trains.
4	2:11.2 - 2:24.1	But I book through trainline and erm its ... reasonably ... straightforward. Do you want me just to put a tick?
5	2:24.0 - 2:41.9	Ticket collections I usually erm order my tickets in advance and then go to the machine in the station, and that usually works okay.
6	2:41.8 - 2:51.5	And do you always buy in advance? And do you have specific time-frame, if some days before?
7	2:51.5 - 3:32.8	I'm usually trying to get the cheaper tickets, because the train tickets are (laughs) very expensive. Though, erm, I try and book them a round about 6 weeks before. But you've got keep any eye because they suddenly release the cheap ticket. So you've got to keep checking when that is, and then just by luck you get it and then you have to make sure you buy it before they've all sold out. You may check your ticket thinking that's the one I'm going to go for, you go back to buy it and its gone. So, erm.
8	3:32.8 - 3:45.5	And then, when you go to the station how do you locate the platform and...
9	3:45.5 - 4:50.0	This is maybe going to skew your results a bit, because its a standard journey I know usually what platform it is. And I'm familiar with the stations at Glasgow and Rugby. There doesn't seem to much last minute platform changes because its a virgin train as well. I would say, when they were talking about who would run the West Coast line I was hoping that virgin would keep it because my experiences having traveled that journey for a long time have always been very good. Really only once have I experienced a delay, and that was

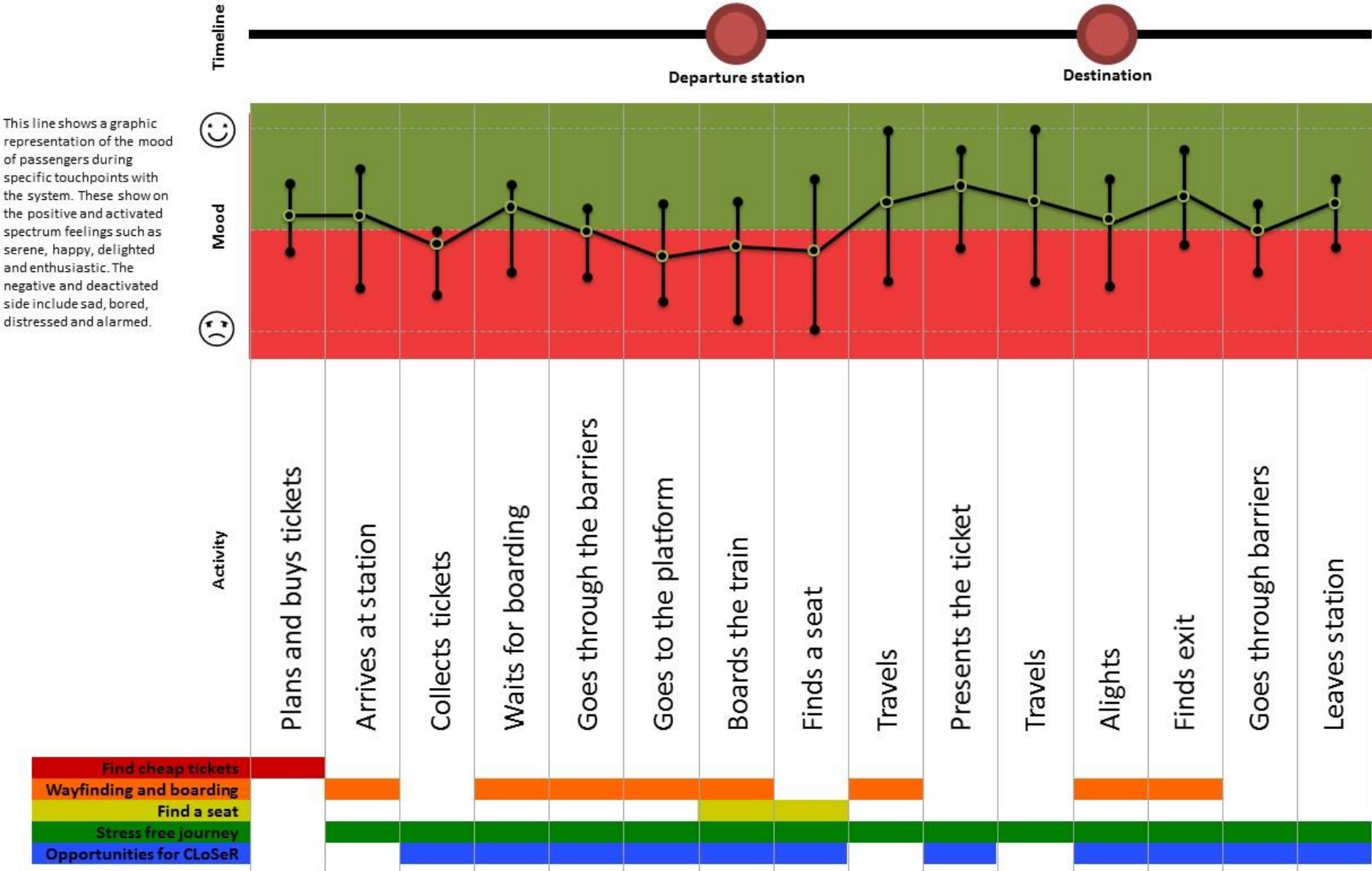
Map

PASSENGER JOURNEY MAP
Based on 20 interviews and evaluations by passengers, as part of the CLoSeR project.

SCENARIO
This map represents the average train journeys taken by our participants. These routes are mainly long distance services in which passengers can reserve a seat, and interact with train managers during the ticket validation process.

GOALS AND EXPECTATIONS
Passengers have the following goals when travelling by train:

- Find the cheapest ticket for their journeys
- Have a stress free wayfinding and boarding
- Find a seat
- Have a stress free journey up to the final destination



Goes through the barriers

Goes to the platform

Boards the train

Finds a seat

P3: Ticket barriers are always annoying.

P13: One annoying thing is the train is at the platform, but you aren't told until 5 minutes beforehand that you should go, and there's a swarming.

P17: I used to get the ten past 8, it was absolutely horrendous. Like fully elbowing people to get in. It's horrendous, and dangerous.

P18: Where I really struggle at a different station is where you should stand at the platform. So if you've booked a seat, where should you be standing so you don't have to run up the platform when the train arrives.

P3: I never bothered trying to find my seat because I'd just get on the nearest coach to me, that's fine, as long as there's space. But I won't go and hunt down where that seat is. I just seat in whatever seat I can find, even if I do have a seat reserved.

Presents the ticket

Travels

Alights

Finds exit

P1: By checking tickets it's giving them a reason to be going up the train and interacting with people. If somebody's got a problem, they stop and talk to them.

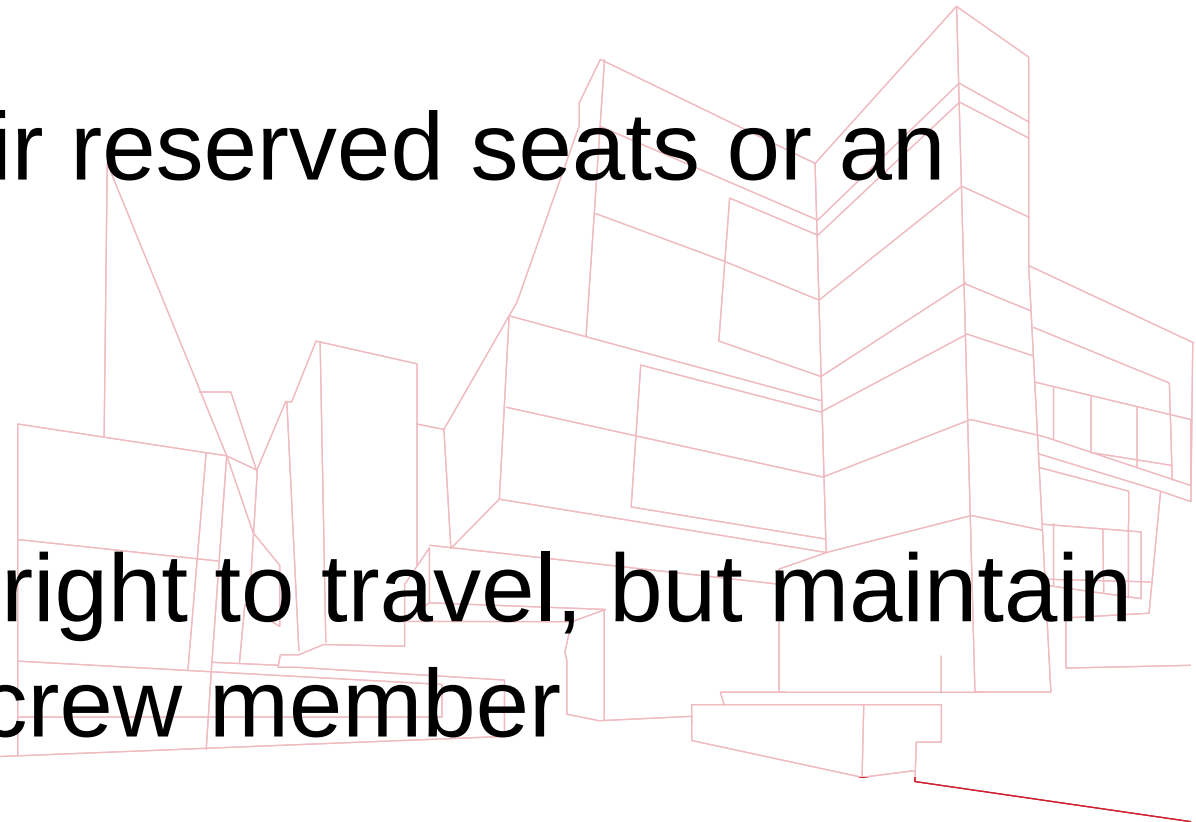
P8: Checking the ticket doesn't really inconvenience me to be honest. It almost in a way gives some reassurance that if you're travelling without a ticket you will be caught.

P5: What I don't understand though is why do you have to go through the barriers anyway, if you've already had it stamped. It's like a double check.



Recommendations: What passengers want

- A stress-free navigation through stations up to the seats on a train
- An easier way to locate their reserved seats or an empty seat
- Avoid crowded trains
- A better way of proving the right to travel, but maintain the physical presence of a crew member



Parallel study – Passenger personas

"I could be subject to spam... and I must admit, I do get annoyed by apps"

Openness to electronic ticketing:

Openness to dynamic reserving:

- Even if you could reserve with a season pass, reservation isn't available on my commute anyway.

- Electronic ticketing is great for my commute, but complicated if I have to store my kid's tickets too.

- Wayfinding is handy with kids, but I don't want it tied to a loyalty app.

Openness to Wayfinding:

Openness to loyalty scheme:



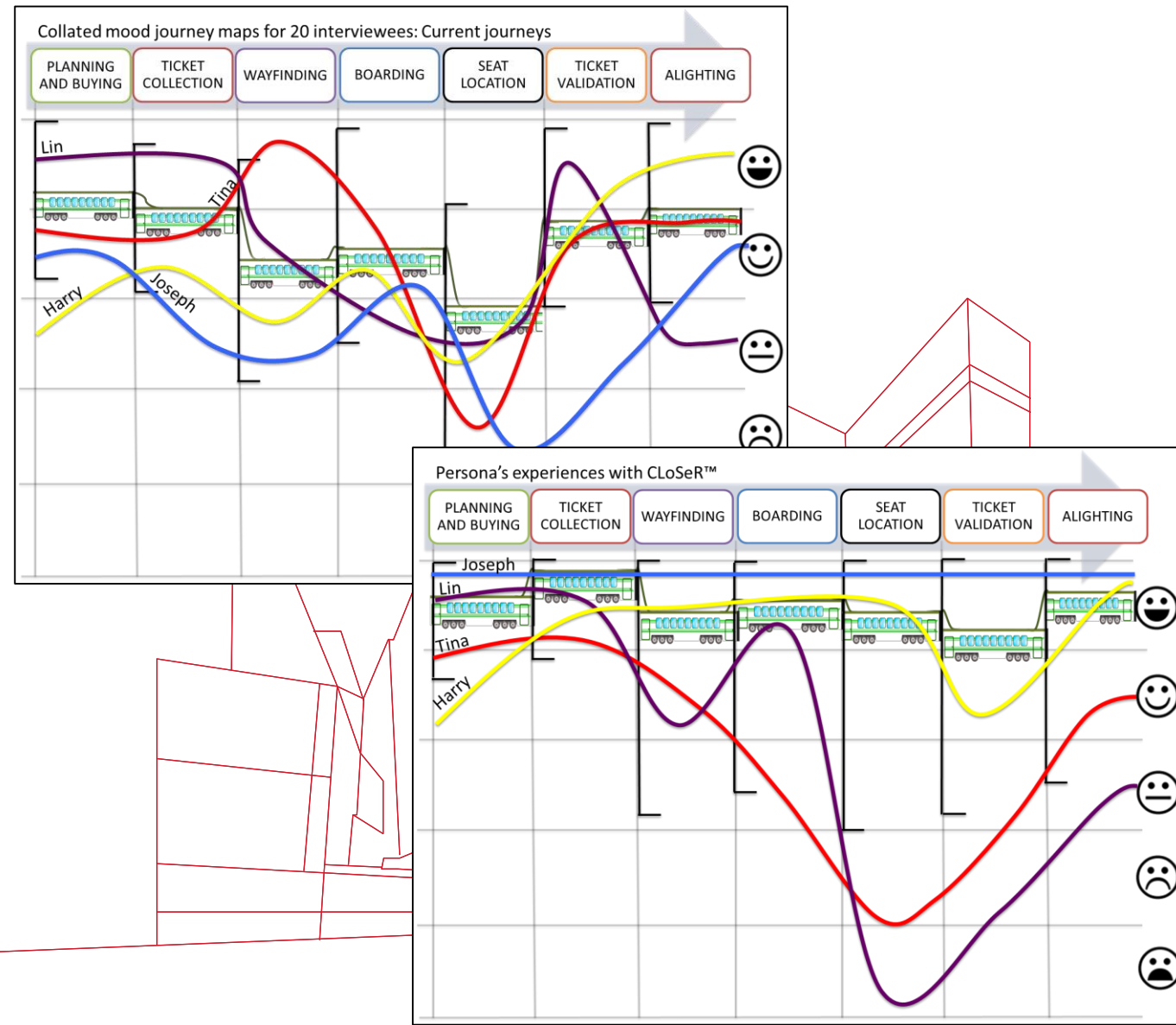
Tina Harris

Age: 37
Occupation: Investment Banker

Tina has been commuting to London for nearly 20 years. She is very familiar with the train system, also travelling on longer journeys with her children to see family.

Tina expects train services to always operate **functionally** and **reliably**, she expects as much seeing how much her season pass costs. Importantly, Tina wants to feel that she is being given the best **value for money** possible. A shrewd investor, Tina is **skeptical** towards the implementation of new technology. She sees a loyalty scheme and interactive software as pointless **sugar coating**. She suspects that technology will result in staff redundancies, and she likes having train managers present as a symbol of authority.

A mother of three, when Tina travels with her family it is more stressful. Its hard to handle both **temperamental children** and **poor train organization**. She is thankful that **people often give up their reserved seats** for her children. She also jokes at the idea that if many used the app, **everyone would rush towards the free seating**, canceling its possible benefits.



"It provides reassurance for getting on the train... good for peace of mind."

Openness to electronic ticketing:

Openness to dynamic reserving:

- Likes receiving exclusive benefits - likes remaining independent, using his phone instead of asking people.

- Technology means progress. - Excited about getting a wait through the app.

Openness to Wayfinding:

Openness to loyalty scheme:



Joseph Hay

Age: 51
Occupation: Business Executive

Joseph travels by train infrequently, mainly for business reasons on long journeys to large stations. As a high-level executive, he thrives in environments where he feels in control and successful.

Joseph remarks that current systems usually allocate random seats and he often moves to another one he prefers, as he likes to concentrate and do some work or read.

He is vocal on the difficulty to reserve and locate a seat. He has often had to stand for long periods on journeys. He is frustrated with the ticket validation process, which he considers unnecessary and redundant with the ticket barriers in place.

An app used for dynamic seat reservation attracts Joseph because he regards emerging technology as a sign of progress. He sees a loyalty scheme and Wayfinding information as ways of increasing his being in control, independent and looked after, however he suspects he won't be rewarded by the loyalty scheme due to his infrequent travel.

"Is it working out the cheapest cost for me?"

Openness to electronic ticketing:

Openness to dynamic reserving:

- Harry doesn't trust that an app for loyalty or reserving will find him the best and cheapest deal.

- Wayfinding is too complex for apps. - Doesn't normally reserve a seat. - Excited about positive environmental impact.

Openness to Wayfinding:

Openness to loyalty scheme:



Harry Tarin

Age: 22
Occupation: Retail assistant

Harry travels mainly for leisure purposes, sometimes also using the train to get to work. He is young and positive in regards to travelling and using the train.

Harry does think the train service is too expensive. He doesn't think he would use a seat reservation app. However, he can use its benefits for others and he won't longer journey. Given the variety of stations he travels to, he is also unsure whether Wayfinding information would always be correct and helpful.

Harry is wary about apps affiliated with TCC, unless they would help him find the cheapest tickets. Similarly, he is unconvinced that a loyalty scheme would be personally beneficial.

Although he isn't sure he would regularly use the app, he is excited and positive about new technology. Harry still believes a train manager is necessary to ensure fare dodgers are caught. So this staff presence is also a barrier-reserve-reserving on his phone fails for issues like Wayfinding.

"I prefer talking to people."

Openness to electronic ticketing:

Openness to dynamic reserving:

- Unable to use electronic ticketing - Unconvinced with reserving from platform screens, staff assistance would be wasted. - Staff help Lin around the station - Should like a scheme, if it didn't require a smart phone.

Openness to Wayfinding:

Openness to loyalty scheme:



Lin Ford

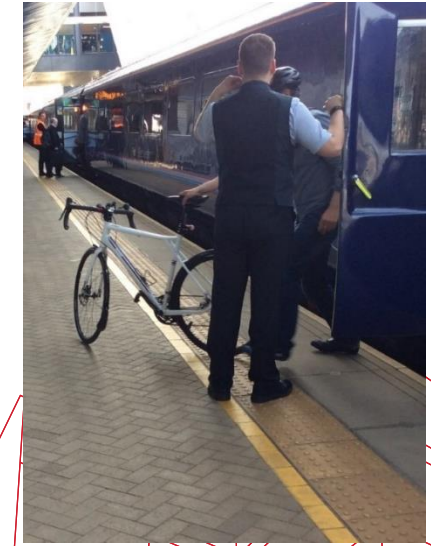
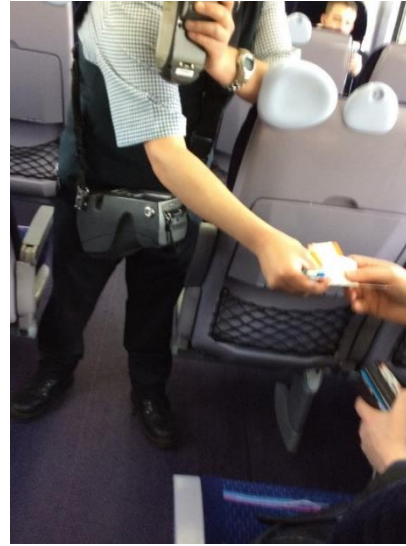
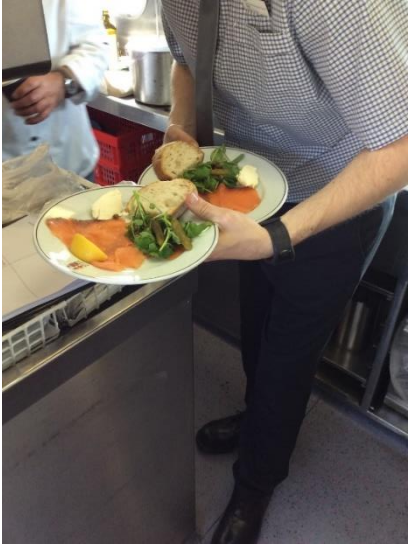
Age: 70
Occupation: Retired / Carer

Lin uses the train for social purposes, keeping herself busy by visiting friends and family. She travels with her husband, William, who has severe arthritis. Growing up in Liverpool, Lin has always been capable and confident in busy environments.

Though active, because of her husband needing special assistance, Lin wants train travel to be as simple as possible. It is also important that members of staff are available to help and interact with her; they make her feel at ease and help with her husband. She is quite positive and has very few complaints about current train services.

Lin does not have a smart phone, nor will she be comfortable with major changes to the reservation or ticketing process. She isn't opposed to other additional passenger assistance measures, but needs reassurance that with this change she will still be catered. Keeping using memory, a loyalty scheme that was available to her without a smart phone would make her happy.

Parallel study – Crew shadowing



Samantha

48, 20 years of experience

- She doesn't mind manually checking every ticket, she wants to see every passenger and be visible in the process
- She's concerned that some people may not be able to use new technologies
- She believes that the current processes are in place for a reason, there are limitations within the industry that have to be respected
- She works hard to perform all her roles by the book
- She doesn't want to see technology reducing her roles and threatening her job

Recognise that there's a problem



Acceptance of change



Familiarity with technology



Dedication to revenue protection



Perception of job security



Charles

31, 4 years of experience

- He would like to see a modernisation of the train systems. He feels a bit embarrassed with the very old machines he has to use, and believes that new technology can make his job better
- He likes to chat with passengers as he goes along, giving extra information about connections (with the help of his staff phone) or making witty remarks when the situation permits
- He recognises that it's difficult to sustain a high level of performance during a 3 hour journey
- He is keen on his commission so he would appreciate saving time checking valid tickets to concentrate on sales

Recognise that there's a problem



Acceptance of change



Familiarity with technology



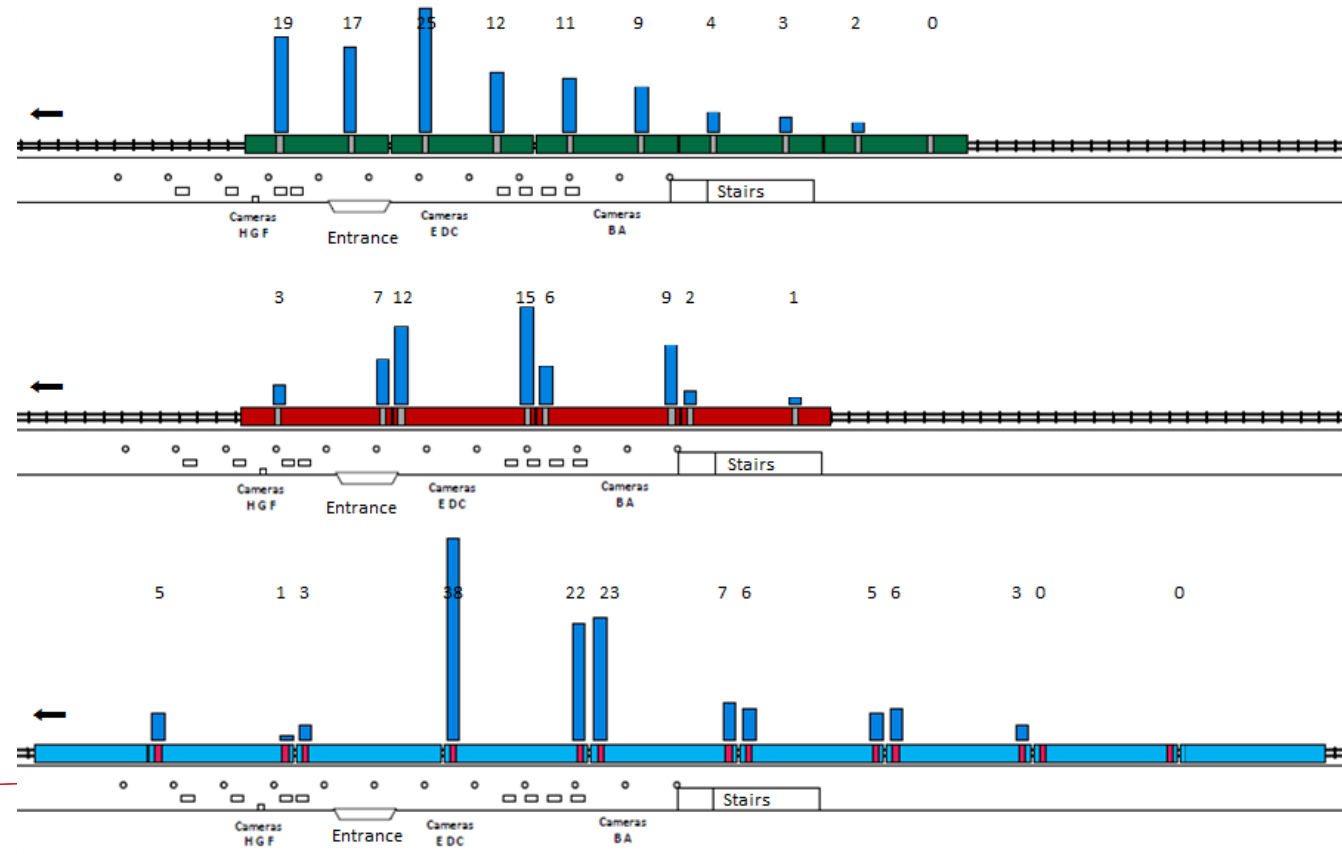
Dedication to revenue protection



Perception of job security



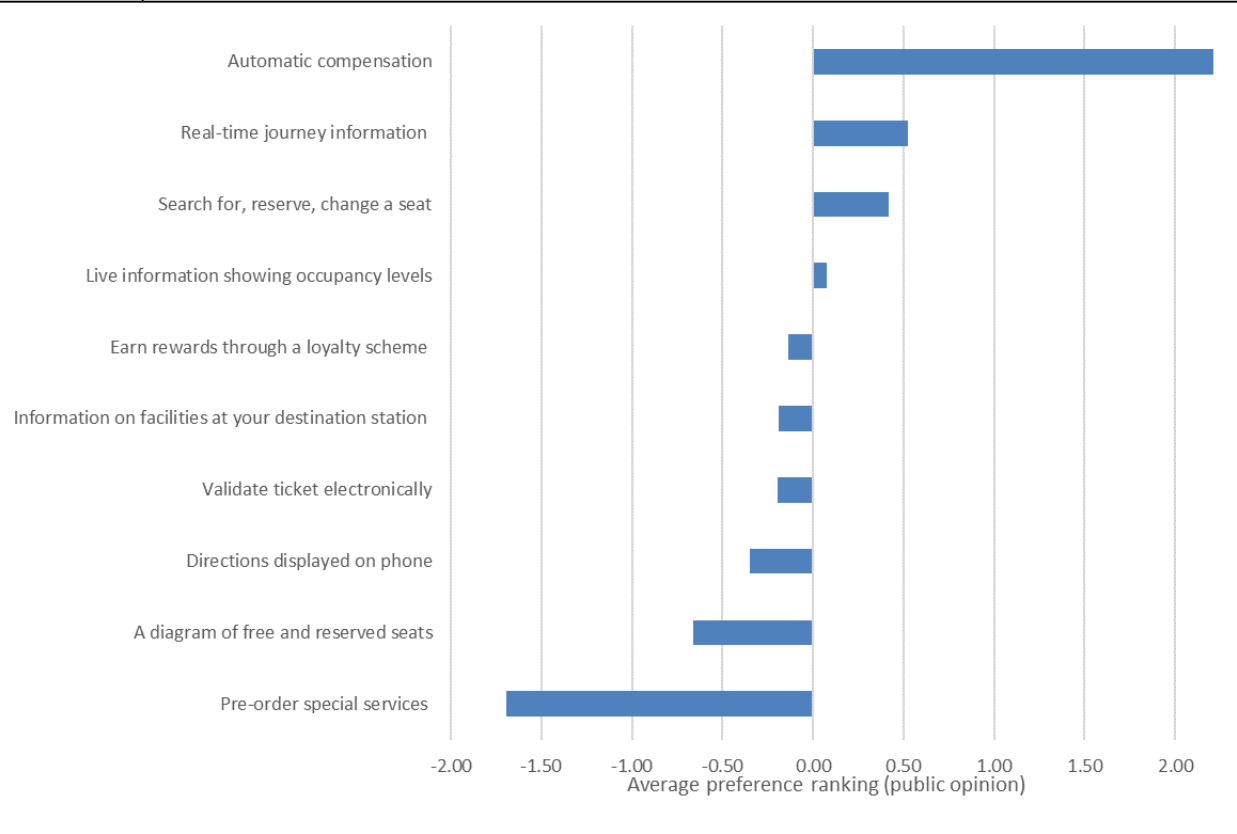
Parallel study – Platform observation



Parallel study – Best-Worst Scaling Survey

Q11. Imagine that you have booked a train journey lasting approximately 2 hours. Please indicate which **one** of the options below that would be **most preferred** when travelling and **one** option that would be **least preferred** when travelling

Most preferred		Least preferred
☒	Ability to search for, reserve and/or change your seat before and during your journey	☐
☐	Access to live information showing the occupancy levels of current and future trains	☐
☐	Directions displayed on your phone to help you find your platform and your seat on the train	☐
☐	Ability to validate your ticket electronically at your seat, so you don't need to present your ticket for inspection	☒

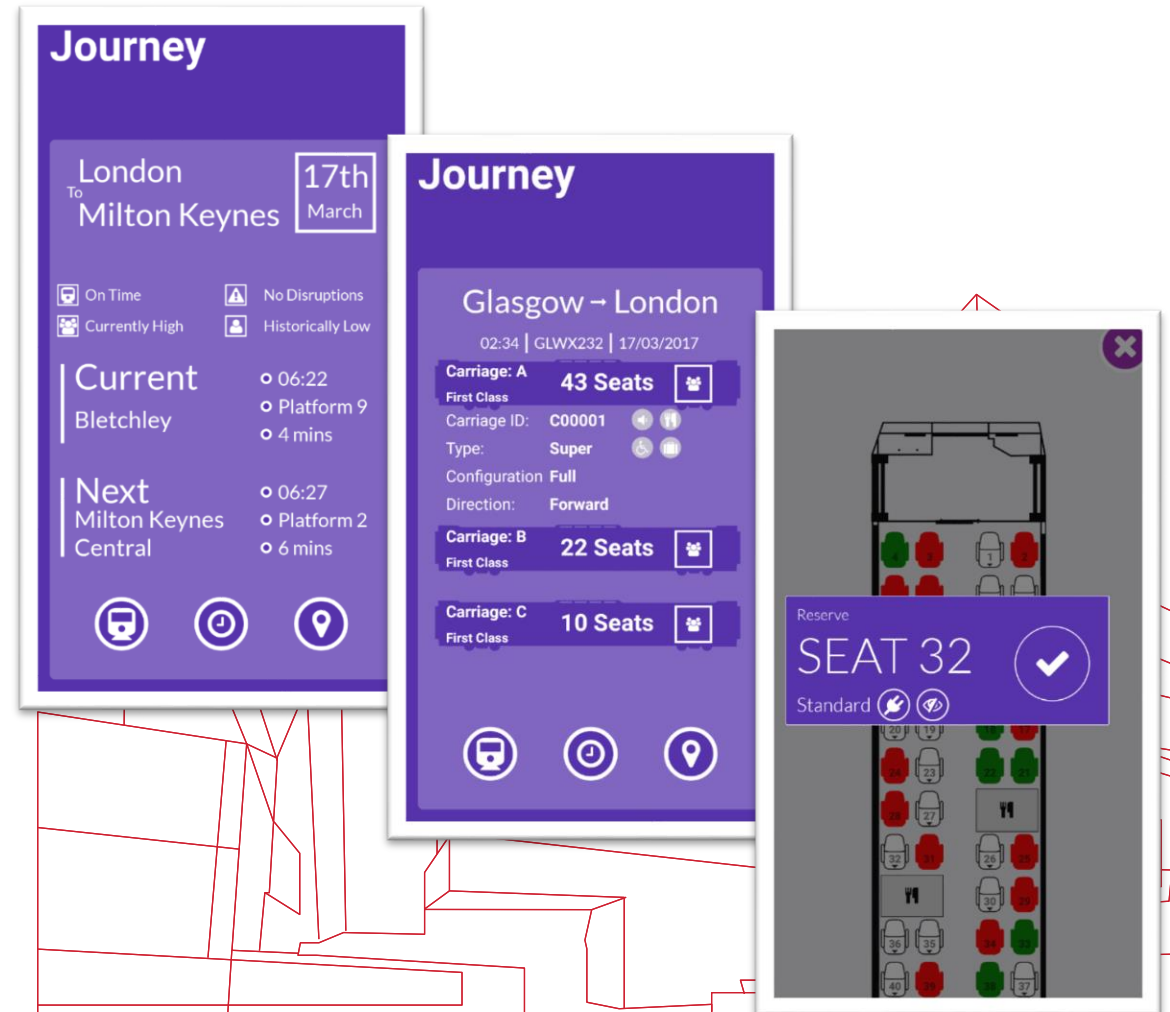


Parallel study – Usability evaluation



<i>OLED</i>	<i>Characteristics</i>
Positives	Immediately noticeable Good contrast
Negatives	Readability does not change with different light levels Poor formatting of text, only four lines of text Glare in bright environments Hard to read
<i>E-ink</i>	<i>Characteristics</i>
Positives	Information is clear, easy to read, text spaced out Good in bright environment Good contrast
Negatives	Hard to notice the display, does not stand out Difficult to notice the information on the screen

Next steps – Integration and simulation



Thank you

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