HS2 IT USER RESEARCH PROJECT

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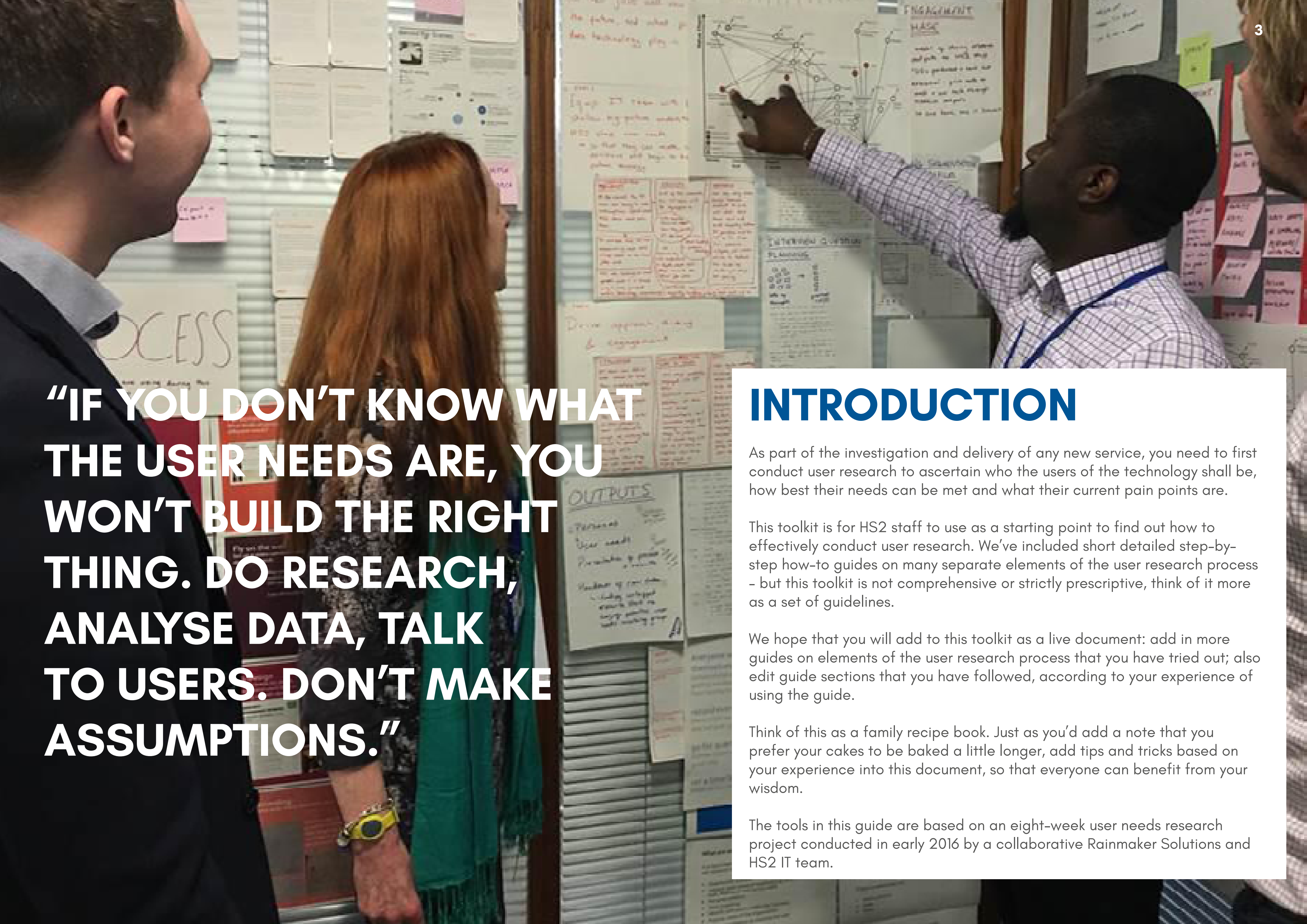


"IF YOU DON'T KNOW WHAT THE USER NEEDS ARE, YOU WON'T BUILD THE RIGHT THING. DO RESEARCH, ANALYSE DATA, TALK TO USERS. DON'T MAKE ASSUMPTIONS."

INTRODUCTION

As part of the investigation and delivery of any new service, you need to first conduct user research to ascertain who the users of the technology shall be, how best their needs can be met and what their current pain points are.

This toolkit is for HS2 staff to use as a starting point to find out how to effectively conduct user research. We've included short detailed step-by-step how-to guides on many separate elements of the user research process - but this toolkit is not comprehensive or strictly prescriptive, think of it more as a set of guidelines.

We hope that you will add to this toolkit as a live document: add in more guides on elements of the user research process that you have tried out; also edit guide sections that you have followed, according to your experience of using the guide.

Think of this as a family recipe book. Just as you'd add a note that you prefer your cakes to be baked a little longer, add tips and tricks based on your experience into this document, so that everyone can benefit from your wisdom.

The tools in this guide are based on an eight-week user needs research project conducted in early 2016 by a collaborative Rainmaker Solutions and HS2 IT team.

THE VALUE OF USER NEEDS

The very first Government Digital Service Design Principle focuses on User Needs:
"If you don't know what the user needs are, you won't build the right thing. Do research, analyse data, talk to users. Don't make assumptions."

By better understanding who your users are, HS2 IT will be able to increase **user satisfaction** through **delivering the right solutions, reducing timescales,** and driving towards improving **focus on strategic delivery**. By adopting a user-centric, agile and **iterative** approach, HS2 IT will be able to deliver IT services openly and efficiently.

Continuous user research will additionally have the effect of shifting the dynamic between HS2 IT and its users, and sends a clear message that the provider is dedicated to driving change by **helping users to work better.**

GDS have been at the forefront of the Government's push over the last few years towards a greater focus on **user needs** rather than **Government or organisational needs** and have published the excellent Government Digital Service Design Principles to encapsulate this way of thinking (see required reading section of this toolkit). However, far too often service providers still fall into the trap of not practising these principles.

Where this research fits in
'Service design' is the term used by GDS to describe a user-centric design process, involving four phases: discovery, alpha, beta, and live.

- Discovery: researching what users need.
- Alpha: divergent idea generation and early prototyping and testing.
- Beta: prototyping and testing.
- Live: delivering the service and iteratively improving it based on live feedback loops.

Read more at www.gov.uk/service-manual.

This process helps us make evidence based decisions on what we plan to deliver. User-centric design and delivery works best when it's flexible and reactive, allowing the research to lead to the best answers. Therefore, the service design process is usually conducted in an Agile fashion (see required reading).

This project sits within Discovery, although it's almost pre-Discovery: it's helping inform what systems need to be developed.

The importance of talking directly to the users
One of the most important things to remember regarding user needs is that **there is no substitute for talking to real users**. Often it is too tempting for service providers to gather 'requirements' from 'stakeholders' (not users!) perceive these to be the accurate user needs and then procure or build a system based on these foundations. The problem with doing this is that IT's 'stakeholders' are often too close to the technology world and therefore do not end up accurately being able to represent typical end users.

Assumptions of user needs can quickly become 'facts'. This is important to remember both for service designers trying to understand user needs for public facing services and for IT departments trying to understand the technology needs of their employees. The best way to accurately discover (and not just validate) user needs, is to go and gather information from the source - the users themselves.

Additionally, it is advised that user researchers get out of their parent department (often IT) and **interview users in their natural environment**. Doing this enables the researchers to better understand how different users can be from themselves and their team. Discovering user needs at source, both in terms of the user and their natural environment will enable you to get a much clearer picture of their ways of working, needs and pain points.

Changing the way we deliver IT could impact their working practices, and this can feed into business change, so understanding the context they're in is important to ensure the repercussions are positive.

THE VALUE OF USER NEEDS CONT.

Understanding what they are trying to do
Effective user research focuses on understanding not necessarily what the user is doing, but **what they are trying to do**. HS2 IT has a much greater chance of delivering successful services when they are fully informed of the wider context of their users' actions. This means that user research may often appear to have a very wide scope, even beyond the sphere of a project. However, this is a symptom of good user research: to find out what it is that people are doing in a broad context, and understand the impact of their unmet needs on their professional network.

A broad research scope ensures that a user research project is not boxed in by preconceived ideas about what an end solution looks like. The scope is narrowed as the research progresses, in reaction to new evidence.

The difference between user needs and user wants
Additionally, it is important to draw a clear distinction between user needs and user wants; the two can often be conflated. A good way of defining a user need is the **end goal that the user is trying to achieve**; the user want can be defined as **their preference** for how they would like to achieve it.

User Research does not involve simply asking users what they need to do their job; this approach will often just result in a list of wants. Effective user research involves deeply understanding what your users are trying to do – not just from what they say, but from observing their behaviour and reading between the lines – and using this understanding to design and build effective services that will help them achieve these goals.

How to express user needs
A well expressed user need does not predefine the way that the need will be met; the intention is that we give a set of user needs to experts (often programmers when we are designing IT systems) who will have a better idea of the range of ways of meeting these needs than we do as researchers.

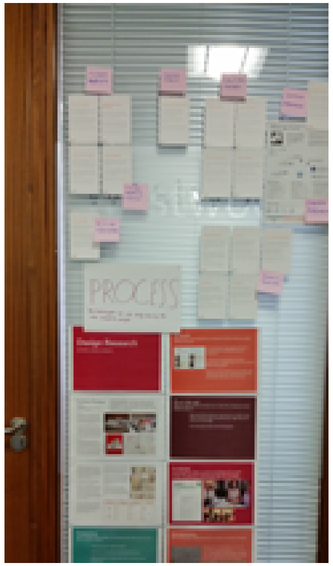
GDS have written some very useful resources about this – take a look here to find out how to write user stories (a standard way of expressing user needs). https://www.gov.uk/service-manual/agile-delivery/writing-user-stories

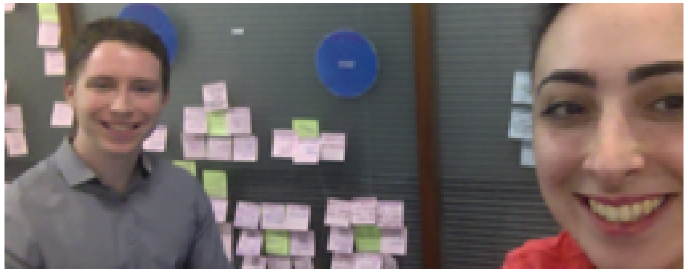
Functional and emotional needs
User needs are not just a set of requirements. It is important to understand the emotions users feel too; this can be a powerful source of evidence as to how current pain points affect users and why they need to be addressed.

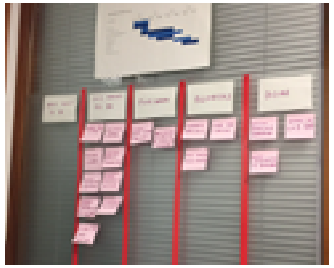
Capturing direct quotations from users you interview is a great way of ensuring users' emotions are expressed well.

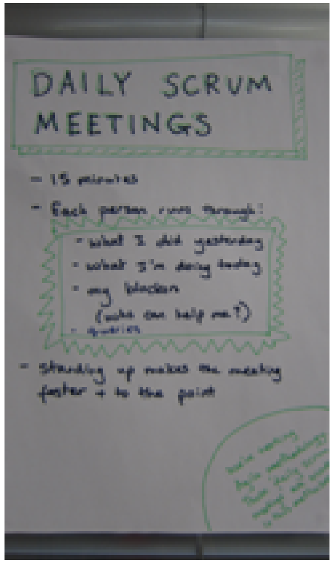
By understanding the emotions of your users, service designers can create solutions that people want to use, and minimises the support users will require.

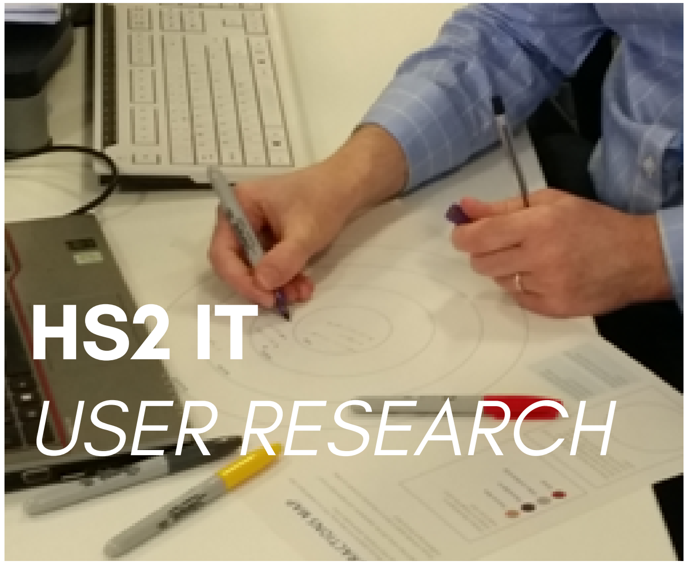
The HS2 User Research Project was charged with embodying the principles outlined above and taking user needs focus to the next level at HS2, kicking things off with a discovery research phase to understand the make-up of the organisation and the various ways of working, user needs and pain points in HS2. The following section outlines this project in more detail.





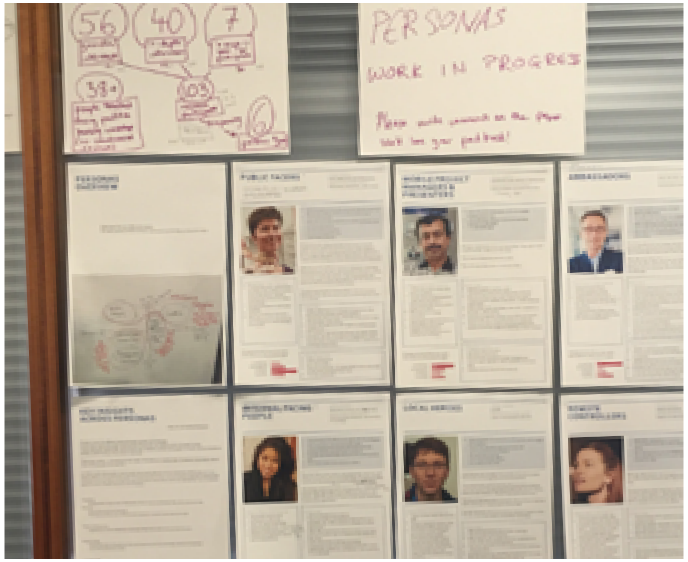


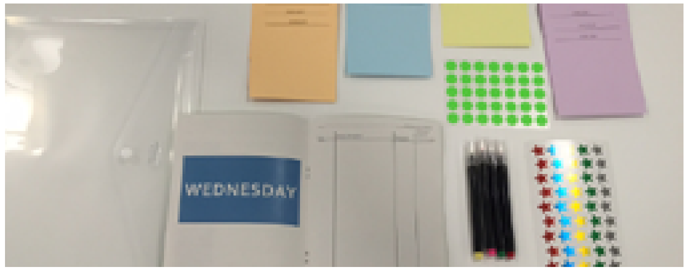




HS2 IT

USER RESEARCH





HS2 IT USER RESEARCH PROJECT BACKGROUND

This toolkit will often refer to the HS2 IT User Needs Project, conducted from January to March 2016. This section will briefly outline the need, aims and conclusions of the project to put this toolkit and many of its references into context.

Background
HS2 is currently at a critical juncture as it transforms from an organisation focused on the delivery of the Hybrid Bill, to a much larger one that will build the railway. In order to effectively support this ambitious organisation as it transforms and its requirements evolve, the HS2 IT Department saw the necessity to ensure they are set up as an effective enabler with the right capabilities, governance and approaches – to act flexibly and deliver IT services fit for purpose in response to changing user needs.

The Need
Whilst carrying out a capability review on HS2 IT in late 2015, Rainmaker Solutions made the core recommendation that HS2 must bolster user-centric design and delivery, concluding that user research should commence immediately and analysis of the data gathered must drive all decisions around organisational culture, ways of working and design and delivery of services.

Additionally, in early 2015, HS2 IT unveiled their vision **"to craft a digital ecosystem at the heart of a world leading railway experience"** – a robust commitment to understanding the needs of their users is imperative to meet these aspirations.

A broad user research initiative was therefore scoped; the HS2 IT User Research Project was charged with taking user needs focus to the next level by performing the research and removing the need for assumptions through analysing data and talking to real users in ways that differed from traditional waterfall requirements gathering techniques.

The key deliverables of this project were:

- To provide evidence based research to discover HS2 User Personas and the general needs of these users. Once developed and defined, these User Personas were to summarise the general ways of working, pain points and user needs of each group. User Personas are a way of communicating the types of people you are designing for. They can be described as representations of the goals and ways of working of a hypothesised segment of users. Further information on user personas and their uses can be found later in this toolkit. See: The value of 'User Personas' – when, how and why to construct and use them
- A project summary and toolkit that would enable HS2 user researchers to continuously reassess the needs of their users going forward – it was deemed crucial that HS2 recognise that this user research continues throughout the rapid evolution of the organisation.
- A catalogue of general user needs and pain points as well as key insights gained from the research.

This kind of research paints a picture of the organisational technology needs as a whole, but it does not point to very specific conclusive recommendations about every system in place. The broad and shallow look at the organisational needs is useful in helping make decisions about what issues should be prioritised; the high level personas and toolkit can be used as a starting point for any IT projects in the future.

Agile and design research
In conjunction with IT Business Analysis, Rainmaker ran a ten week agile user research project to achieve the objectives outlined above. The style of user research that the project team employed was 'design research'. Design research focuses on user needs and building empathy between users and designers (in this case, users being HS2 staff and partners, and designers being those creating and maintaining the IT systems they use). Empathy helps the designers put themselves in the shoes of the users, so they can better imagine what solutions will work: this gives them a better chance of success. Design research comes from the design industry, which is very competitive and requires creations to meet user needs exactly – or the products won't sell. We can now use the design research methodology to create IT services.

Continuous research
To respond to rapid recruitment and diversification our research will need to be continuously updated to reflect the changes in our deliverables and staff. Our User Research will allow us to keep staff focussed on their objectives rather than wrestling with the IT services.

This research work has allowed us to create a initial set of Users Personas which we can use now but with the understanding that they will need to be adapted over time as HS2 speeds towards our destination.

PROJECT PHASES

Sprint 1: Project Set-up	Sprint 2 - 3: Research Phase	Sprint 4: Analysis Phase	Sprint 5: Conclusion
Stakeholder mapping	Work out next round of interview questions	Repeated thematic analysis throughout previous phases and this phase to articulate pain points and needs	Create challenges document
Guerilla interviews	Design interview tools	Create project insights document	Make 'exhibition' with project outputs
Develop the brief	Book interviews	Create personas	Presentation to key stakeholders
	Conduct interviews	Create toolkit	Show & tell to staff to sense check
	Survey		Make film to document process
	'Week in your life' research kit		
	User needs workshop		
	Review existing sources of information		

PROJECT PHASES

The project was divided into five two-week sprints.

Sprint 1: Project Set-up

Sprint 1 involved initial scoping and early engagement of users. In early 2016, HS2 comprised of some 1300+ staff spread across four main locations in the London and Birmingham regions so it was important to construct a representative sample of users for the study. It was estimated that a representative sample of HS2's user base could be constructed from roughly 60 users. Not every user could be interviewed and the project team had six weeks to gain a suitable understanding of the organisation before moving into the analysis phase.

The team carried out a stakeholder analysis exercise to determine who in the organisation to contact to quickly achieve a suitable sample. These contacts were then engaged and scheduled for interview to discover user needs and unearth further contacts with different ways of working.

Additionally, the team ran a series of **'Guerilla Interviews'** across HS2 sites selecting random users for short, informal interviews to ascertain what they do and what pains they are currently suffering from. As well as enabling the project team to increase their understanding of the organisation and discover contacts for future engagement, the information from this research method was vital in shaping the structure and content of forthcoming in-depth interviews.

Sprint 2 - 3: Research Phase

In Sprint 2, the team designed a set of interview tools, began in-depth interviews and continued to mobilise further participants through to Sprint 3. The team approached the in-depth interview phase using interview tools - such as a typical working week diary and an interactions map - to be filled out with the interviewee rather than a set of questions.

This visual interview technique was used because people are often not fully conscious of detail in their relationships with technology and how it might compare to others. By working through open tool-facilitated questions and gaining a wide understanding of what HS2 users do, the researchers were able to listen openly, understand why people interact the way they do with technology and therefore **understand the user's' underlying needs rather than simply their surface level needs.**

In addition to interviews, the team designed **'Cultural Probes'** (branded as 'A Week in Your Life') as another way of gaining this understanding of user ways of working and needs. In this exercise, a group of selected users were given bespoke packs to log their daily activities for a week. On one day, the participants were tasked with taking one photo each hour to visually encapsulate the kind of work they are doing. The idea of this visual research is to help staff who are making strategic decisions about technology design and procurement to empathise with the experience of our technology users; images speak louder than words.

Sprint 4: Analysis Phase

In Sprint 4, the project team ceased interviews and carried out a series of activities to bring the project to a close. By this stage over 100 users had been engaged across all HS2's directorates: 56 of them through early engagement mini-interviews, 38 through in-depth interviews and 9 through cultural probes:

- A workshop was carried out to get all of the output from interviews and cultural probes in one place. A profile card was created for each interviewee.
- Workshops were carried out to cluster interviewee profiles using different variations to discover how HS2's users were best segmented and defined. Once agreed, this formed the basis of the final user personas.
- User needs, pain points and other insights were catalogued. Thematic analysis was carried out on these groups to discover, understand and prioritise overarching themes and feed this back to IT's strategic decision makers.
- The project summary and this toolkit was crafted that would enable HS2 user researchers to continuously reassess the needs of their users going forward.

Sprint 5: Conclusion

Finally, the full project deliverables were fed back to senior stakeholders and presented to HS2's users in a series of exhibition events. These events enabled the project team to sense check their findings and gain further insights from attendees which could be used to further inform the content of the profiles.

The user personas are now intended to be used by HS2 to ensure they are aware of what their users are currently doing, how they are doing it, and points where users feel their needs are not being met. The personas can be used during strategic meetings to keep in mind the variety of user types that exist within HS2. These vital insights can put HS2 IT in a strong position to improve their design, development and delivery processes and ensure valuable solutions are being provided to meet user needs across the board. However, it is important that these user personas are regularly reviewed and refreshed, especially as HS2 is such a fast-changing organisation, to ensure that they remain accurate and are able to add valuable insight.

Additionally, this toolkit is the template for HS2 user research on all future projects and across the organisation both for projects on a scale similar to this project, and for more individual and discrete projects, to ensure that user research continues throughout the rapid evolution of the organisation. **It is vital to understand that User Research never stops and must be applied to everything we do.**

SCOPING

WHO TO ENGAGE AS RESEARCH PARTICIPANTS

Take stock: stakeholder mapping and compiling contact lists
As soon as your user research project (or user research phase of a project) kicks off, it is important to get together as a team and take stock of your joint understanding as to which users need to be targeted and engaged to ensure you accurately capture the needs of relevant users for the project.

Gather whatever information you can find such as organisation charts to help you build up a coherent picture of the organisation and your user base. Agree upon the key stakeholder groups that need to be engaged, draw up this information in a list or map, and then start drawing up a list of contacts for these stakeholder groups.

It is useful to work out as a team where you all may have existing contacts and routes into various groups of users and **leverage these existing contact networks wherever possible**; one of the most time consuming aspects of user research can be the inertia of breaking into your user base.

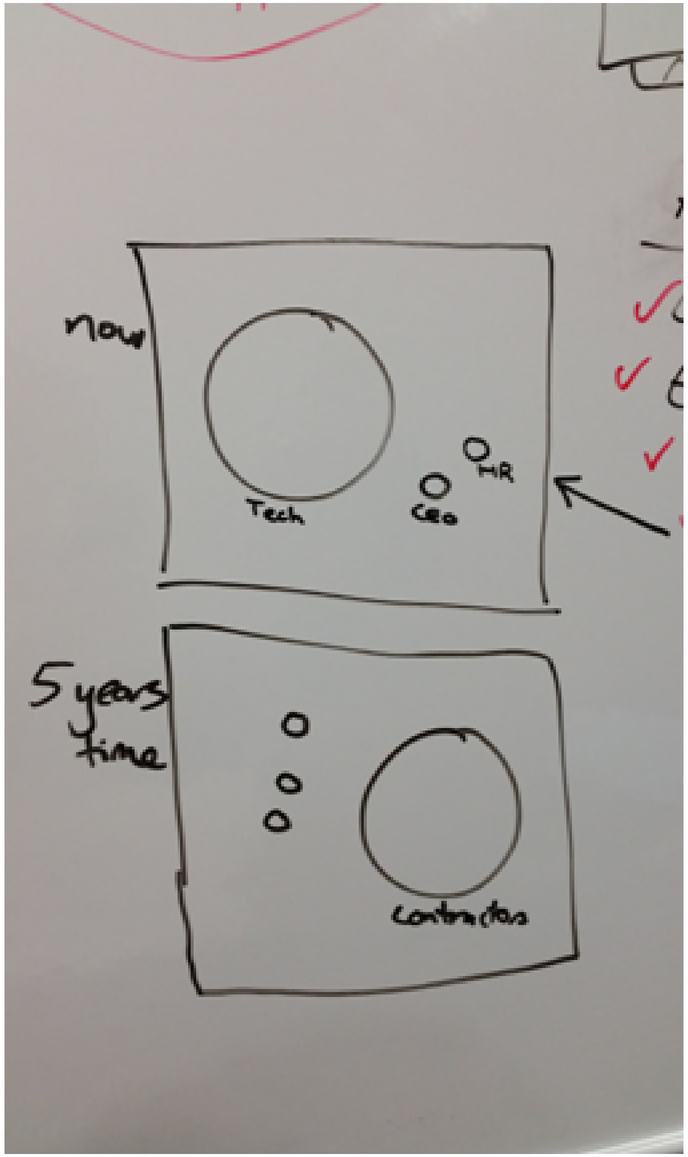
Top-down and Bottom-up
When carrying out a 'broad and shallow' project on an organisational level, such as the aforementioned HS2 IT User Research Project, it is advised to approach user engagement from both a top-down and bottom-up approach to ensure you effectively permeate the organisation from both sides.

Guerilla interviews (covered later) are a fantastic way of **randomly sampling** your user base and often result in you coming into contact with many representative (i.e. not predominantly senior) users.

Engaging senior stakeholders within your organisation and targeting users from a cascading, top-down approach ensures that you remain in control when targeting a representative spread of users across across an organisation.

However, sometimes it may not be possible or you may not have the luxury of time to engage users primarily through a top-down approach. In cases like this it is beneficial to go directly to a guerilla interview approach so that you hit the ground running and start talking to users immediately, rather than spending too much time just trying to decide on who exactly to talk to! Again, guerilla interviews do have the added benefit of being truly random sampling, one of the oldest research approaches in the book.

Guerilla interviews aside, utilising your project's senior stakeholders does have its advantages. You may find that many users will be very busy and could be unwilling to give up time to be interviewed. In cases like this it is beneficial to use your project's sponsors (who will likely be senior themselves) to to influence their peers within the organisation to **gain buy-in** to the project's importance at a senior level and use this influence to source further users to engage. Many users will be more encouraged to take time speak with you if it is endorsed and approved by their managers.



ENSURING YOUR SAMPLE IS REPRESENTATIVE

Cluster and Stratified Sampling

Approaching your users from a top-down and bottom-up approach will help you to engage a more diverse and representative range of users. On top of this approach, it is advisable to employ some aspects of both cluster and stratified sampling as guidelines for ensuring your interviewees make up an accurate picture of your user base.

Cluster sampling is accomplished by dividing the population into groups. These groups are called clusters or blocks. The clusters are randomly selected, and each element in the selected clusters are used.

In the User Research Project one logical way of subdividing our users was by the directorates they worked in as we hypothesised that due to the general purposes of these directorates, their users would have very different needs and ways of working from one another. As all HS2 members of staff are users of IT's services, it was vital that the project team ensured every area of the organisation was represented in this study.

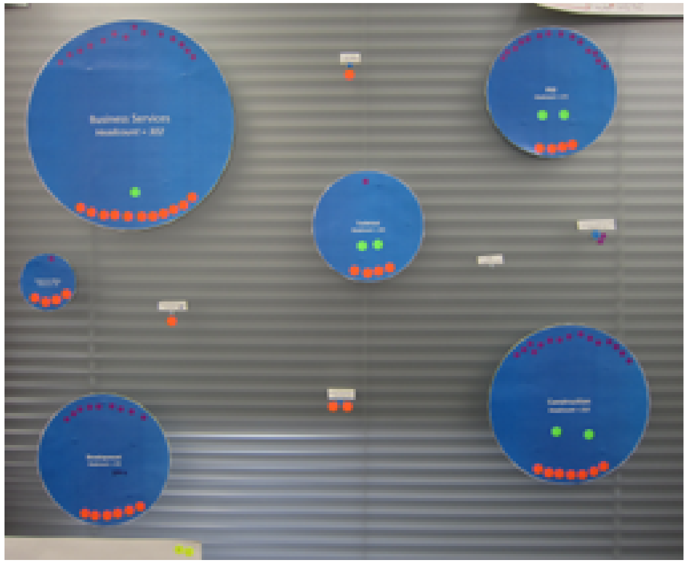
Stratified sampling is a probability sampling technique wherein the researcher divides the entire population into different subgroups or strata. You can stratify users by many conditions including age, gender, income and ethnicity. Though it is easy to get carried away with stratified sampling techniques, it is important to stay aware of your research project's sample spread in terms of these stratifications. An imbalance in interviewing, too many men and not enough women for instance, will have implications on the accuracy of your results.

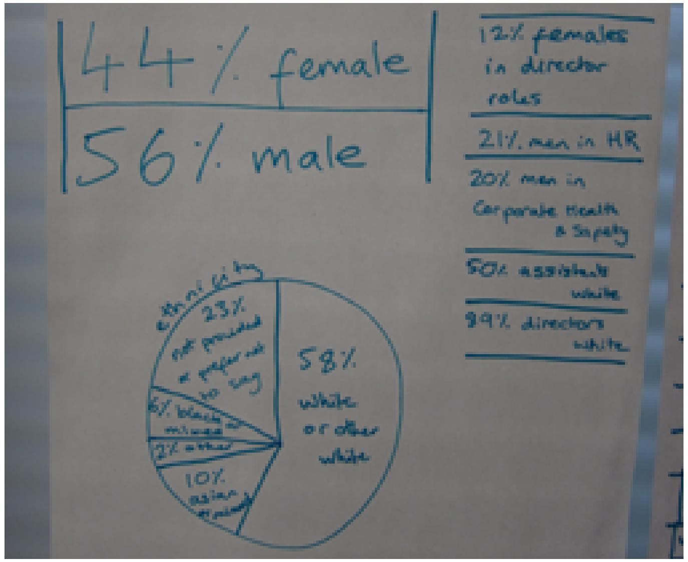
Maintaining an overview

Once you have agreed who you need to engage and have begun speaking to users, it is important to keep an easily accessible contact list that the whole team can refer to, to log who has been engaged and who is in the pipeline to be engaged.

This contact list will be your definitive source of reference to ensure that you are speaking to a representative spread of stakeholders, not prioritising one group over another and not wasting resource by targeting the same people or groups twice due to a lack of team coordination and communication.

It is also advisable to make a **visual representation** of these stakeholder groups, and display this in a visible place to your team, logging on the visualisation how many users have been engaged in each group, giving you an indication of where more resource and attention needs to be applied to maintain a truly representative sample.





HOW TO PREP FOR GUERILLA INTERVIEWS

Guerilla interviewing is an 'in the wild' research technique. It's a fast, cheap way of gathering information in the initial stages of a project. It doesn't take much planning at all.

We turned up at each of the four HS2 offices with bunting, research forms and enticing snacks chosen based on insider information as to what goes down well there. We set up camp for a few hours at a time an area with decent footfall – often near a kitchen area – and grabbed people as they came by.

Through this format, over four day-long and half-day-long sessions, we managed to speak with over 50 people across all sites, for between 10-30 mins each.

You will need:

- 2 or 3 friendly interviewers
- Food as bait/bribery
- Something to visually grab attention: a banner, posters, balloons, or bunting are all good options
- A handout explaining more about the project; A scaled down version of your project one-pager should suffice (we used an A5 print out)
- Research forms (bespoke designed for the project. We printed it but you might be able to do it on iPads)
- Pens
- A camera to document that you conducted these interviews (make sure to ask for consent before taking photos)

It takes time to prepare:

- A contact in the site you are going to, to ensure access
- A time and date to secure availability of researchers
- Printed materials
- Test the research form
- Practice conducting an open interview style – you'll find out more than what's meant to go in the boxes of your form
- Interview introduction script; and to practice it. Your team must have clear and consistent introductory lines to frame the interview and explain why you're interviewing them, and what will be done with the results, and how they can find out about the results.

What needs to be on the research forms:

- Consent for being interviewed tickbox (see later section on confirming consent)
- Questions that help determine the sample spread of the interviewees – helps you check you're speaking to a representative sample or not
- An icebreaker question (we got people to draw a picture of themselves; this also helped our researchers remember our interviewees further down the line)
- Three deeper questions for qualitative information
- Space around the form to capture what interviewees say 'out of the box'

What needs to be in the interview introduction patter script

- Why you're interviewing them
- What will be done with the results
- How they will be able to find out about the results
- Framing for the rest of the conversation that you will have – what kind of questions are you doing to ask in general

Forward planning

Occasionally we wouldn't tell people at the site that we were coming, and we just turned up. This still worked within HS2 sites, but if you are planning to go to a site you haven't been to before, or if you are going outside HS2 offices, it's safer to ensure a contact at the site knows you're coming so that they can advise you on where best to place yourselves and make sure that nobody turns you away.

Where you think you can get away with it, it's better to ask for forgiveness rather than permission, so it's useful to take the attitude where you don't over-plan and just turn up. This research is to benefit HS2 staff – it's possible that those who don't know about the project may be initially suspicious and block your research plans until you've fully explained what you're doing. It's in the spirit of guerilla research to just turn up, anyway!

Where to set up camp

Set up your bunting at a natural choke point near a kitchen or near a printer – anywhere where there is a natural flow of people passing, but they are not in too much of a hurry. Make sure to have a table to put the food bait and papers and pens on. Use a table that you can comfortably write on (or get a clipboard).

Further reading

Guerilla testing – GDS
https://www.gov.uk/service-manual/user-centred-design/user-research/guerrilla-testing.html
Explains how the Government Digital Service have conducted guerilla testing: they are testing a product rather than conducting early user research, though.

HOW TO CONDUCT A GUERILLA INTERVIEW

Guerrilla interviews are much less formal than interviews you may have conducted before. They involve asking passersby to speak with you, so they will be mentally unprepared, and they may be more resistant to speak with you if you seem to be about to speak with you at great length in a very serious way.

You're asking for them to be spontaneously generous with their time, so you have to put in extra effort to make it appealing for them to be involved. Here's how to conduct a guerrilla interview to get a useful level of detail in a short amount of time.

You will need:

- To have prepared for the interviews - see the previous section on 'how to prepare for guerrilla interviews'
- To stay hydrated, not hungry, and caffeinated if necessary - speaking with many people and smiling a lot is thirsty work!

How to persuade people to speak with you

- Have open body language, smile welcomingly and warmly: this helps you seem approachable.
- Ask something like: 'Do you have a few minutes to tell us about yourself? We're doing some research for HS2 IT today. Would you like some cake/a samosa?' In this way, you are directly communicating what it is you'd like from them, why you're asking them, and incentivising them.
- If you're offering something delicious, the chance to talk about oneself and opinions, and the chance to make a positive difference simply as a result of the chat, people are usually happy to engage, no matter what the research subject is.
- Avoid saying things like 'sorry for taking up your time' - this suggests that this time they are spending with you is not valuable. Make it seem that speaking with you is the right thing to do, for the benefit of themselves and for HS2.

Introducing the interview

It's important to get this right, so practice beforehand. Your introductory ice-breaker will explain why you're interviewing them, and what will be done with the results, and how they can find out about the results.

Interviewees must consent to being interviewed, and consent is only valid if they are informed with enough information. Be truthful, and reassuring. This frames the rest of the conversation that you have. Skipping your introduction changes how people answer questions - help them to say relevant things to you by being clear about what you're looking for.

Make sure to explain that you are doing this to better their working lives and you are genuinely interested in what you can do to help them. You are on their side and they'll give more thorough answers if they believe that.

Wrapping up

- Thank them and offer them more cake.
- Give them a handout about the project and tell them to get in touch if they have any questions or think of anything else useful to tell you.
- Ask if they want to be put on a mailing list about your results.

Read on for stylistic tips on guerilla interviewing...

GUERILLA INTERVIEW STYLE TIPS

During the interview
Make sure you have clearly defined and agreed with your team what the objective of asking each of the questions is. Without consistent guidance, it's possible that multiple interviewers will be attempting to get different kinds of information. Especially when speaking with many people, and asking few questions, it's important that you're extracting the same kind of information so that the different answers to the same questions can be compared usefully.

Since it's a short interview, appropriately guide your interviewee through questions. If they are speaking a great deal in response to one question yet have said they only have 5 minutes, try to limit how much they speak on each question. Attempt to find natural points to move on to ask the next question; if this is difficult, interrupt and say something like 'I'm aware that you don't have long, shall we talk about the next question?' As the interviewer, you need to be responsibly assertive in guiding the speed of the interview.

Let them talk
In guerrilla interviews, people are likely to share their 'top of mind' concerns naturally. Listen openly to what they have to say. The interview guides are just guides for you to check off that you're capturing certain kinds of information - beyond that, see what else you can find out that doesn't fit within your set questions. Often in this way you will find connections and ideas that you didn't know that you didn't know about (an 'unknown unknown').

For particularly friendly seeming people, you can ask if they consent to have a photo taken of them being interviewed. This is often useful in project reports and Yammer to explain your interview methods. Ask a colleague to take a photo of you and them 'in action' - not posed.

Stay engaged
If you are bored, your interviewee will feel it and may be less open with you. Be interested in what they have to say. Find a way to stay interested and curious about everyone.

Anarchy and awkwardness
Initially, some researchers can feel uncomfortable with the spontaneity of this research style. It's unusual and informal but that's why it works. The key is to make it feel natural - explain the value and impact that they have by being a research participant for this project you're doing.

Be reactive
If the team next to this kitchen has a deadline in an hour, find another kitchen to set up camp in. If nobody is getting up out of their seats to make a cup of tea right now, walk around with your box of sweets and see if you can catch people at their desks tactfully. Ask for 5-10 mins of their time for the research. You can do the guerilla interview at their desks or back at the kitchen.

By the end of the Guerilla Interview stage, you will have gained a much better understanding of the make-up of your user base and will be in a position to move on to more in-depth user research, using the insights gained from this stage to craft more probing questions within the context of the project. The User Research Project used insights gained on common pain points and ways of working gathered in the guerilla interview phase to shape the range of tools that they the project team then used to probe users in greater detail in the in-depth phase.

HOW TO DEVELOP YOUR BRIEF

Often projects start with a commercial brief that is worded broadly. The commercial brief given in kick-off sessions is rarely specifically articulated enough to be sufficient for the entire duration of the project. Part way through your scoping phase, it's useful to more clearly define the challenge at hand, and to define what is and isn't within the scope of the project in more detail.

Why you need to do this

If you are new to the project, as a researcher you have to get to grips with the context you're in. If you don't fully understand the context, you will not produce useful outcomes.

For example, a European social entrepreneur decided to help an impoverished African community through planting a field of tomatoes on nearby highly fertile land. This might have worked in Europe, but the entrepreneur was not familiar with the context in Africa. When the tomatoes grew ripe, hippos came to the field and ate all the tomatoes. He could have come up with a much more useful way to help them, if he had simply asked them why they were not using the fertile land. His initial brief may have been 'help an impoverished African community'. Perhaps if he'd had done his research, he would have found that the community had expert craft skills but were not making goods at scale because they couldn't find buyers. Perhaps then he could have redefined his brief, after a little research, as 'help an impoverished African community by connecting them with a sustainable market for their crafted goods'.

Exploring the challenge a little more prevents problems from happening further down the line. Without a well defined brief, you and your 'sponsor' may be on different pages, and you may produce an outcome they didn't expect (often not in the good way).

After some initial exploration of stakeholder mapping, considering what format of outcomes will be useful, and what research methods would be appropriate, you are likely to have a different understanding of the brief from when you first started. It's at this point that it's a good idea to check your newly well articulated brief back with your sponsor to ensure that they are happy with your approach. Give them an opportunity to ask for a change of direction if necessary at this point.

You will need

- Meetings with people involved in the project to talk through the context and meaning of the project
- A way of recording discussions during these meetings
- A way of showing your articulated brief
- Clarification sessions to to determine the scope of research; a contextual understanding of how the results will be consumed by others. It is beneficial to have your project's sponsors at these sessions to ensure that everyone is on the same page
- Thoughtful exploration of what your sponsor needs and what outputs and research methods may be most useful for them

How to develop your brief

1. Have completed some stakeholder mapping.
2. Have a think about what possible formats of outcomes you could use (think divergently - is a wordy report really the best format? A slide deck? A 5 minute presentation, or an hour? A video? Etc.) What would help your research land with the people it needs to inform?
3. Have a think about all the research methods you could use considering the kinds of information you need to glean, the time and resource available, and the research participants you are likely to encounter, and decide which would work best.
4. Schedule to meet with people involved in the project.
5. Discuss the meaning of the project with these involved people: what is the intended effect? What's the most important thing that will change following this project? What's the second and third most important changes to make? What will the outputs be used for? Record these conversations (on your laptop, or with pen and paper - whatever suits you).
6. Either during or after the meeting, clearly write a brief following the format below.
7. Schedule to meet with your sponsor (we did this about a week and a half into the 8-week project).
8. Show your sponsor your brief and ensure they are happy with it.

EXAMPLE BRIEF

This is what our brief ended up looking like after we'd refined it.

What needs to be in the brief:

- A simply stated question
- The intended effect of the project on stakeholders once it's complete (may be helpful to break down into bite sized chunks)
- A description of the status quo to explain why the project is needed
- Outline of methods used
- Format of outputs
- Agreed deadlines

Extra benefits

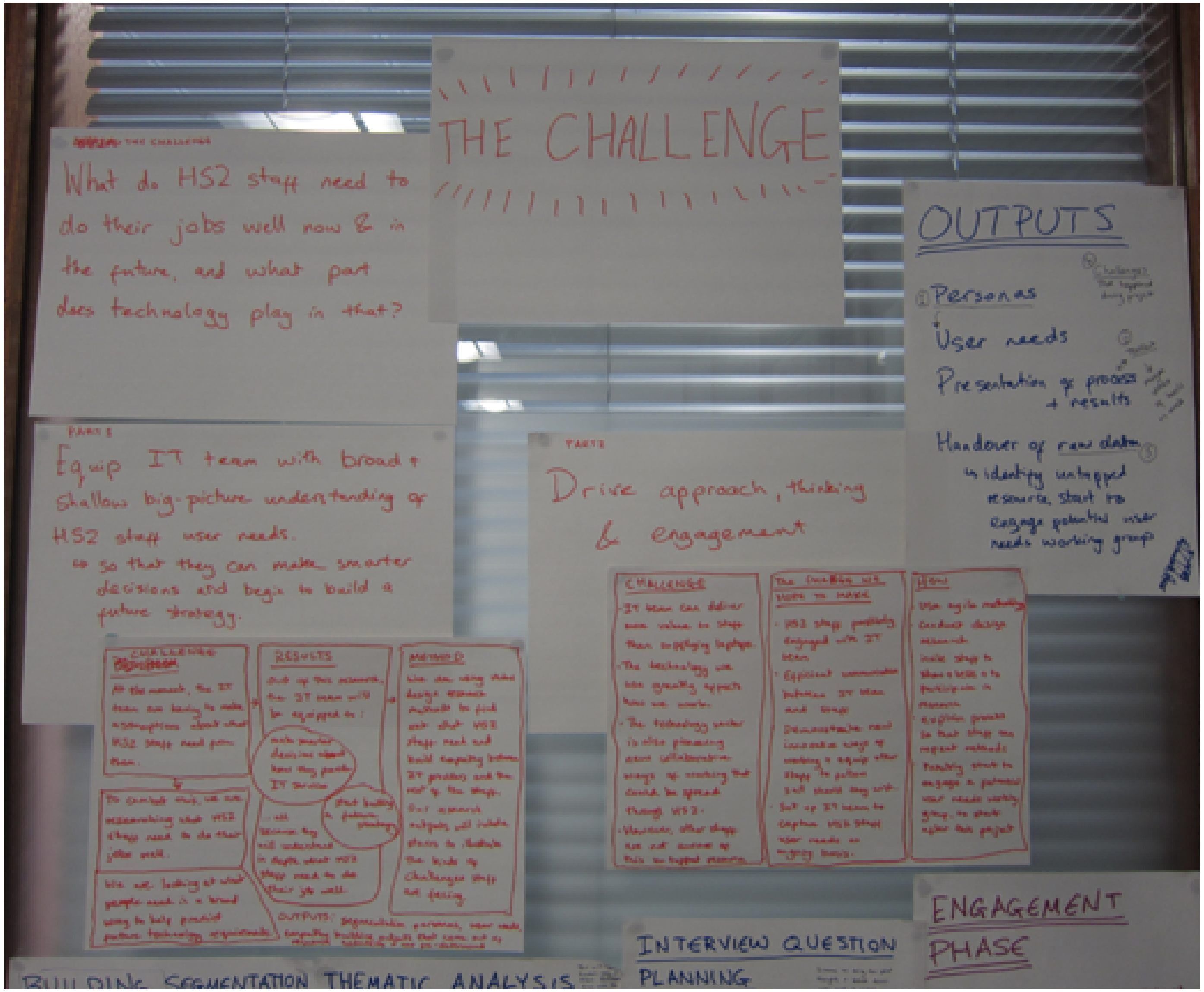
- Showing sponsors your research methods can help them trust you more
- Sponsors can feed in extra lines of questioning or extra helpful contacts
- You now have a clearly defined brief that you can look at everyday to ensure you're on track
- If your sponsor is unhappy with your outputs but your outputs are true to the brief, you have an agreed brief to refer back to: it's a sort of contract

Further reading

Problem definition by DIY Toolkit

diytoolkit.org/tools/problem-definition-2

Includes a template and short video to help you write a brief.



IN-DEPTH RESEARCH

HOW TO BOOK INTERVIEWS

Communication consistency
Once you have agreed which users you need to engage and interview, you will need to effectively reach out to them to secure time to speak with them.

It is important that users understand the importance of your project and how it affects them so that they are incentivised to take time out of their often busy schedules to talk to you.

An effective (and time-productive) way of doing this is to develop standard **clear and consistent messaging** that can be presented to your user base by any of the project team, wherever necessary.

This can simply take the shape of a **'one-pager'**, outlining the goals, processes, methodology, participants and schedule of your project. A fully informative one-pager can be sent to all stakeholders and prospective interviewees to pro-actively answer any questions they may have about the project and ensure they understand its importance.

Cascading
As covered previously in this toolkit, you may choose to engage your users from a **top-down approach** to ensure you maintain in control of targeting a representative sample of users.

By interviewing senior stakeholders in each of your target stakeholder groups, you can gain their buy-in to the project's aims and objectives and utilise their knowledge of their directorates, teams and colleagues to identify further users to interview both at their level and further down the chain.

It is important to not only interview senior stakeholders and **ensure that you do work your way down** throughout an organisation / stakeholder groups. If anything, users get more service-dependent outside of the senior levels of an organisation, and they are generally the greatest group in terms of numbers, making capturing their needs incredibly important.

Following up on Guerilla Interviews
You may have interviewed some users through Guerilla methods outlined earlier in this pack. **Do not hesitate to leverage these contacts** later on in the research process, particularly if you are struggling to gain adequate representation in all stakeholder types.

The questions asked in the in-depth interview stage will have been developed significantly since the guerilla stage, meaning that a lot of value can be found in returning to interview these users in greater depth and **gain insights that would otherwise initially have not been captured**. Creating a network you can draw upon out of previously engaged users can be a project saviour if approaching users through a top-down approach is proving difficult.

Be agile and reactive
As mentioned previously in this toolkit, it is important to **keep an overview** of who you are planning to engage and who you have engaged, and to maintain an understanding of if you are interviewing a representative sample of users.

You may find yourself in the position where you need to divert more attention to a stakeholder group where engagement may be lacking in order to **balance your research**. By effectively keeping an overview of your engagement and running a project following an agile methodology, you will put yourself in the best position to be reactive to emerging issues.

Additionally it is good to know when you have captured enough information from one particular area. There is not much point in continuing to interview users once you are repeatedly hearing the same answers; your resources are likely much better off deployed elsewhere, uncovering new insights.

USING INTERVIEW TOOLS

INTERVIEW TIPS

Framing the interview
As highlighted previously in this toolkit, it is very important at the beginning of any interview to frame the interview and the wider project correctly to the interviewee in order to put the upcoming discussion into the right context and ensure you are getting the right answers.

For example, many users may start trying to second-guess your aims and what you are trying to find out and may start talking about their colleagues' ways of working and user needs rather than their own.

By introducing and framing your research succinctly, and ensuring the interviewee understands that they are the user you are focussing on, you will enable yourself to get the most relevant, accurate feedback. It's worth talking as a team before interviews to come up with a script, and adapting it iteratively as you see how interviewees respond to your framing.

Utilising interview tools
The HS2 IT User Research Project decided on employing interview tools to facilitate user research, rather than just relying on a set of predefined questions. The value of this is a much more interactive, less formal interview whereby the interviewee feels more relaxed and is more engaged in the information capturing process. Additionally, **well designed interview tools can help an interviewee provide more accurate input.**

A set of visual A3 paper tools were developed for interviewers to fill in with the interviewee. One of which was a blank week-view calendar to facilitate interviewees outlining what their typical working week looked like and enabling the interviewer to feed the output back to them, to ratify and develop its accuracy.

Many people would find it difficult to be able to simply verbally describe a typical working week for them without any reference points to point to. The project team received positive feedback from users that this tool and an **'interactions map'** – where interviewees used coloured pens to draw out who they interacted with on a daily, weekly and monthly basis and what tools they used to do it – enabled them to deliver their answers more accurately than if they were just asked to rattle off a list from memory.

Interviewer roles
It can be very effective (if you have sufficient resource) to commit two interviewers to each interviewee. The benefit of this approach is that the interviewers can perform **distinct, complementary roles.**

As outlined previously, in the HS2 IT User Research Project, interactive tools were used to ensure that the interviewee was actively participating in the research and being suitably engaged to generate valuable insights.

This approach required one interviewer to be fully focussed on guiding the interviewee through the tools and capturing data directly from the horse's mouth, onto the tool sheets. The role of the second interviewer in this case was to ensure that the questions the tools were designed to ask were being answered, jot down extra insights that the first interviewer may have been too engaged to capture and look out for opportunities to ask more probing questions to follow up on emerging information.

When employed effectively, having two interviewers also gives the interview a more **informal, group discussion-like feel** and makes the experience less like a formal, questions-based interview for the interviewee.

Another benefit of this approach is that the chances of having unproductive silences, where the interviewer scribbles down notes, is minimised as the other interview can pick up the slack.

It is worth noting however that allowing silence is not always a bad thing! Interviewers should **resist the temptation to prompt, help out or try and answer an interviewee's question for them.** Often when a silence is left hanging, an interviewee may open up and disclose further information – giving people time to think is no bad thing either, especially when you are seeking valuable qualitative insights.

INTERVIEW TIPS CONT.

Maintaining the right style and demeanor
As highlighted earlier. It is important that user research does not feel like an interview. The style of an interviews should be kept **loose and informal** so that the interviewee communicates what's important to them.

Avoid closed and leading questions and try to make the interview feel less like... an interview! Here we're looking for anecdotes of how people use technology and endeavour to understand why people interact the way they do with technology. Since people are often not fully conscious of detail in their relationships with technology and how it might compare to others, we cannot ask questions directly to find accurate answers - we have to **listen openly** and **figure out the right questions for this particular interview as we go**, to find out more detail in the interviewee's experience.

It is important that the interviewee feels comfortable and understands that **there are no right or wrong answers**. This can be achieved by following the steps above, from framing the interview correctly, right through to maintaining an open, welcoming style throughout.

Keeping time and maintaining focus
There are times when the best-framed interviews just need some extra steering to maintain focus and gather relevant insights.

Some users will be prone to extended monologuing or providing far too detailed information which can really eat into the time of an interview and prevent you getting the wide range of insight you need.

It is up to the interviewers to **steer things back on course** when you become aware that the current path is not delivering the best value. It is possible to be **assertive yet polite** by gently reminding wandering interviewees of the unfortunate time constraints of the interview and highlighting the tools and questions that still need to be worked through.

HOW TO PUT TOGETHER A SURVEY

Results first – what do you want to gain from the survey?
Before beginning to write questions for the survey, think about what you want to achieve from the survey – when the survey closes what do you need from the survey for it to be a success? This thought process will help you ensure that the survey is designed appropriately and the appropriate questions feature in the survey to get the results you require.

Generally you would look to survey an audience to get a better understanding of their pains and needs, this may be around what a particular group of people are trying to achieve with a product or to gain an insight into what a wider population think about a particular service. Writing a **survey aims statement,** a short sentence that summarises the aim of the survey, can be of assistance here.

Who do you want to engage with the Survey ?
Within a survey, the population is all of the members of the group you are interested in. It is widely accepted that it is not possible for you to survey all of the population (unless this population is very small), so you pick a sample of the population that broadly reflects the needs, pains and thoughts of the wider population.

Generally, the wider your survey the more responses you will need to ensure the results are reflective of the wider population. Also, understanding who you need to engage with will help decide how you wish to conduct the survey.

A handy survey sample size calculator is available at:
https://fluidsurveys.com/survey-sample-size-calculator/

How will the survey be conducted ?
Generally a survey can be conducted:
- Electronically
- Face to face
- By telephone

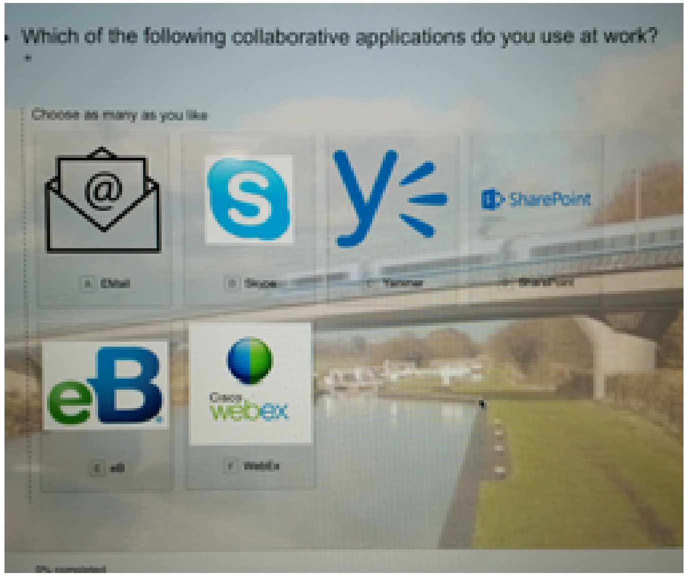
Electronic surveys are generally cheaper (or even free) to undertake and allow the participant to complete the survey at their leisure – however the participant can choose to simply ignore the survey or exit part way through the survey.

On the HS2 User Research project, we utilised a survey tool called Typeform as we wanted to keep the survey group engaged with a highly visual online survey. Typeform isn't the only survey tool available, SurveyMonkey is commonly used for quick online surveys as it is free of charge and easy to use.

Our preference to Typeform was due to a **more engaging user experience** – amongst other features, Typeform displays one question at a time, and allows graphics to be used for answers. This attractive UX received positive feedback from users who completed the survey.

Face to face surveys are can be resource-heavy to undertake, but allow the surveyor to get a deeper level of understanding and build easier rapport with the participants, who are unlikely to exit midway through the interview.

Telephone surveys may be less resource-heavy than face to face (but more resource-heavy than electronic). They allow the surveyor to get a deeper level of understanding about the participant, but the participant can easily exit part way through the survey by ending the phone call.



HOW TO PUT TOGETHER A SURVEY CONT.

Survey Question Design
The design of the questionnaire can be split into three elements:

1. Determine the questions to be asked
2. For each question determine the question wording and select a question type
3. Design the overall sequence of the questionnaire

Determining the questions to be asked should link back to the first step, **what do you want to gain from the survey?** Survey questions can be either quantitative (data orientated) or qualitative (text orientated), with best practice suggesting that you use a combination of both in a successful survey.

Depending on how you are conducting your survey, you may be able to use a combination of qualitative and quantitative questions to get a better, deeper understanding from your participants.

For example, on the User Research Project, we asked participants how comfortable they were using a software application, which was a quantative 1-5 number based question. For users that selected 1 or 2, a follow-on question asked them why, allowing them to enter a free format text based response. This gave us valuable qualitative data, enabling us to understand why people were not comfortable using an application.

Survey question types may be defined for you if you are completing an electronic survey, as the survey tool will only allow certain types of questions. In general, using a mix of questions keeps the participant engaged, too many open questions (i.e. What could we do better?) can cause participants to exit midway through the survey.

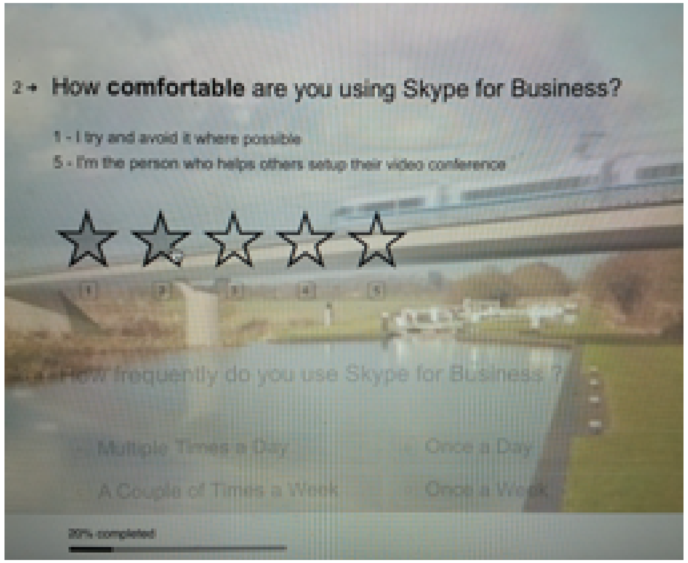
Further information on different types of Survey questions can be found at: *http://www.socialresearchmethods.net/kb/questype.php*

The sequence of the questionnaire should have a logical flow, with questions being asked in natural groups. The survey shouldn't be too long; a long survey will cause participants to exit early. When designing an online survey, it is useful for the users to be continuously notifying them of how long they have left to complete / how many questions are remaining.

Analyse the Survey Data
The analysis of the data generally falls into one of two areas, the quantitative (numerical) data and the qualitative (written) data. The quantitative data is the easier of the two to analyse; this can normally be completed using Microsoft Excel to produce charts and calculate averages within the data. Be careful not to produce charts just for the sake of it – you need to be able to draw solid conclusions from the data as well as charts.

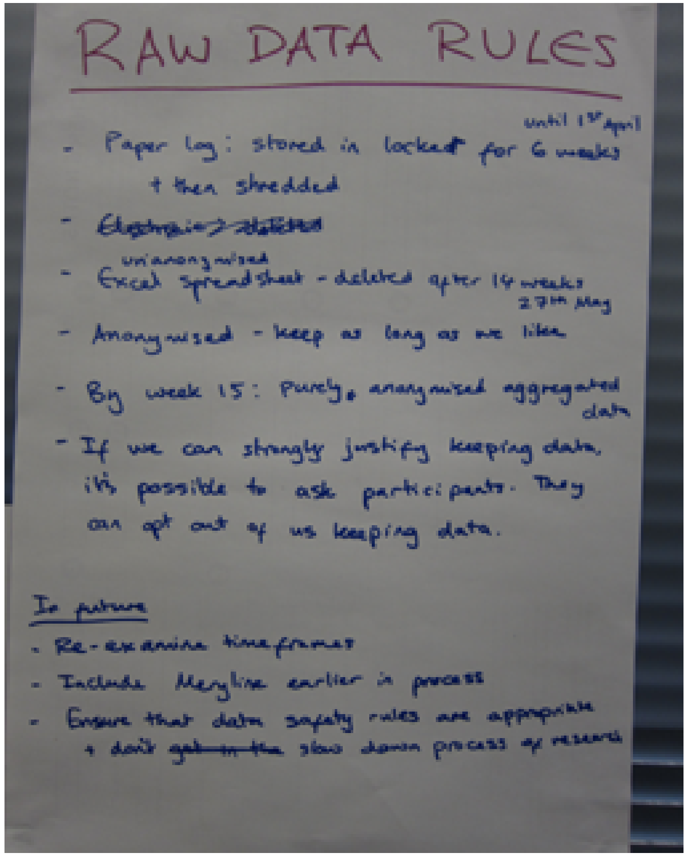
Qualitative data analysis can be more difficult as it is subjective. However, this is often where effective analysis can deliver real value. Spend time to read through the responses and try and look for patterns, categorising responses often helps but be careful not to assume you understand the respondent's answer; ensure you read it thoroughly.

A popular visual way of qualitative analysis is a **word cloud**. A word cloud takes the text data you input and based upon the frequency of the words in the text produces a series of words, the more frequent the word appears in the input text the more prominent the word is in the word cloud.



Useful survey tools
https://www.typeform.com
https://www.surveymonkey.co.uk

HOW TO PUT TOGETHER A CONSENT FORM – AND WHY



User research often involves collecting data that is deemed personal to an individual. The data is defined by anything that can identify a specific person by direct or indirect association. This being the case the data must be treated as sensitive and handled in the appropriate manner in accordance with the Data Privacy Act.

Don't let this put you off. There are some simple steps to take to protect your research participants:

1. Before collecting any personal data the person you are going to gather it from must be clear on what you are collecting, why you are collecting it (the end goal) and how the data will be treated while in the possession of team. Typically this involves explaining the value of user research at the beginning of an interview.
2. The person you are asking for the data from must give their consent to you using it based on the information you have supplied to them in step 1. Their consent must be given in the form of a physical signature.
3. The information given in the consent form must stipulate time frames for how long the data will be held for, where it will be stored, by what secure method and how it will either be deleted or anonymised at the end of the exercise.
4. There must be a process in place to remove any individual's personal data from the exercise if an individual requests that this happens. Evidence must be given to the individual to prove that the data has been destroyed and cannot be used any further.
5. Proof must be available upon request to any individual that any of the above steps have been followed should they need it.

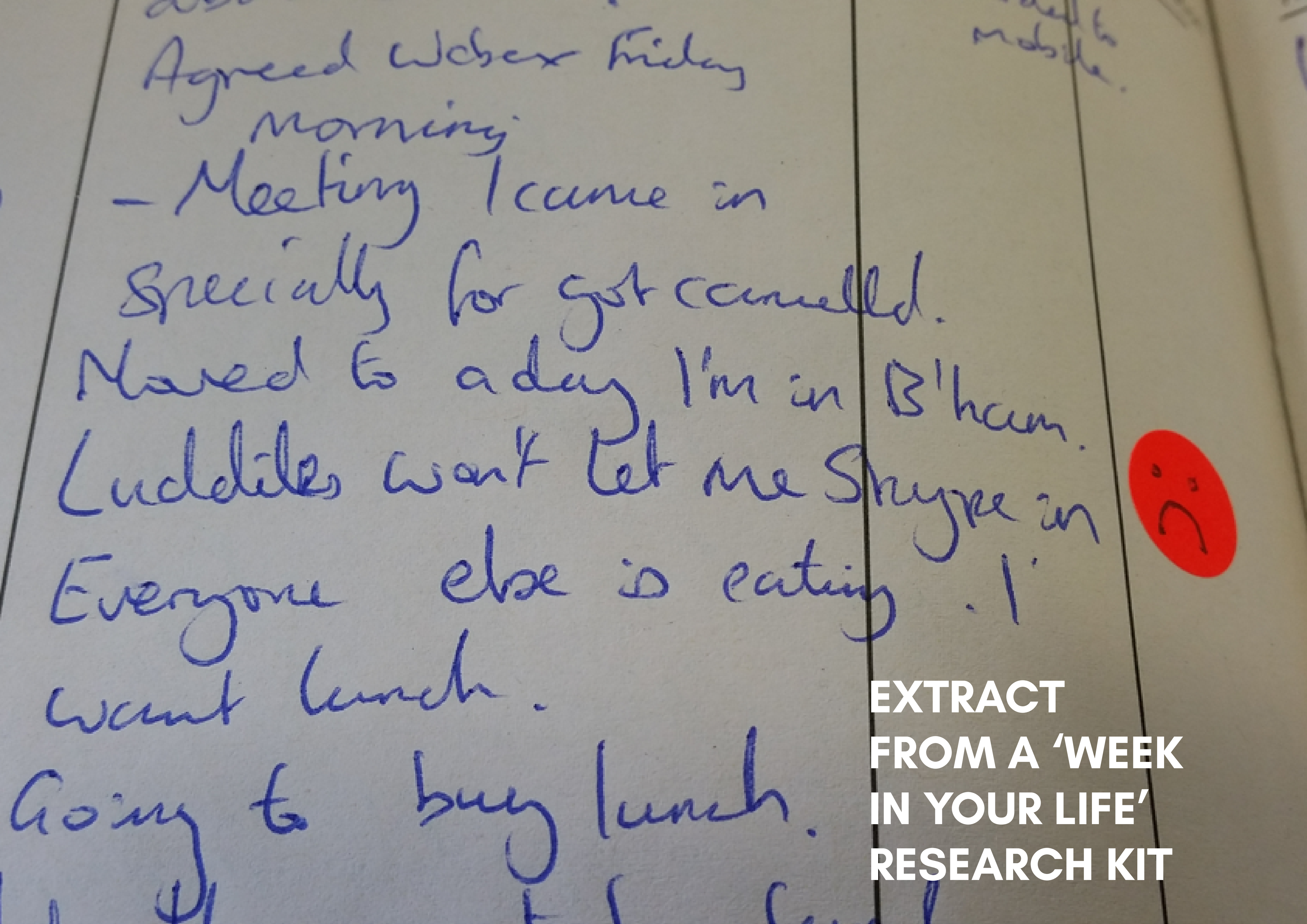
None of an individual's personal data can be used until signed consent is given. If personal data is supplied without consent, then signed consent must be sought straight away or it should be destroyed without being used.

The consent form must include sections covering:

- Purpose
- Security and retention
- Reference to Freedom of Information Act 2000 and Environmental Information Regulations 2004
- Contact details of the Data Protection Officer for queries
- Section on The Individual's consent

Each form must be appropriate to the exercise and assistance in constructing such a form can be sought from the Data Protection Officer in the Cyber Security team of Information Management, IT.

Example copy for the consent form used in the User Research Project can be found in the appendices of this toolkit.



EXTRACT FROM A 'WEEK IN YOUR LIFE' RESEARCH KIT

HOW TO PUT TOGETHER A 'WEEK IN YOUR LIFE' RESEARCH KIT

'Cultural probes' are also known as diary studies. In HS2 we called them 'A Week In Your Life' so that participants would intuitively understand what we were asking of them, and to make the distinction between this research project and other work currently going on regarding culture in HS2.

'Cultural probes' are useful in gathering intermittent, in-depth detail from a small sample of people over a period of time. By logging what they are doing with reference to the topic you are researching, you can find out about their actions as they actually happened, not as they perceive they happen as you'd find when you conduct interviews. See appendix for more detail on the instructions we put in our research kit.

You will need:

- Good, carefully considered questions to ask.
- Participants who are willing to invest their time in this research.
- A way of analysing all of the raw data - set aside time to do this.
- Five weeks - two weeks to gather interest and design the kit, one week to run the research, and two weeks to gather the kits and analyse the data (two weeks in case some people are unwell or require extended chasing up to recover their kit).

It takes time to prepare:

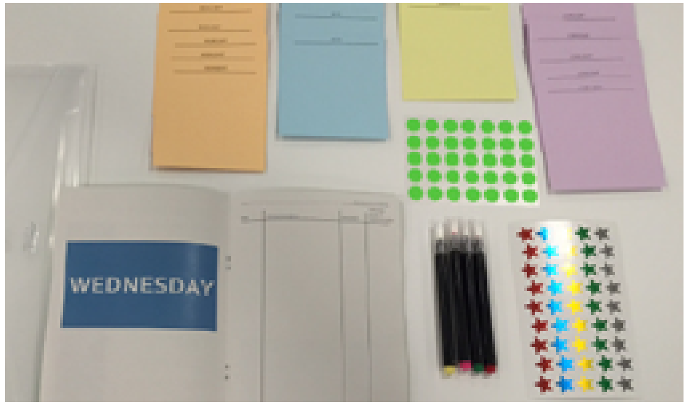
- The research pack itself: is it digital or physical? If it's physical, who is it going to be designed by? Do you have access to printers? If it's digitial, doing research about which product to use and how you shall purchase it takes time.
- A willing group of participants.

Cultural probe considerations

- Is the cultural probe simply a log, or are there further exercises? How are these exercises structured?
- How can the probes be as engaging and pleasurable to do as possible?
- How are participants going to fit the logging into their daily work patterns?

Tips based on feedback that we got from our prototype (please learn from this and build on our trial):

- Don't rush into giving out the kits without a kick off session all together. All participants should come together at the start of the week that is to be recorded to understand what the research is for, take a first look at the kits and the questions they pose and have the opportunity to ask any questions. This session also motivates people to take part because they see each other being involved.
- Digital logging of activities may be easier for people to use than a paper log. Some users may be reluctant to write notes and carry an extra item around with them. Digital logging may be integrated with certain systems, so it may be possible to automatically record certain bits of data without the manual input of participants. However this may need to be procured so depending on your spending power this could take longer.
- Make sure the exercises don't take longer than the participants expect. We put a lot of reflective analysis at the back of the book - it was useful for us but was unexpectedly time consuming for the participants.
- Some exercises that worked well in interviews didn't work well in the cultural probes. This is because subtle tools work through conversation but not through paper instructions. These subtle tools could have been translated from the interviews into a simpler version for the cultural probes.



- It would be useful to have a reflection and feedback session at the end of the exercise where participants can summarise their week to reduce the amount of reflective analysis included in the pack; they can also feed back how effective they thought the cultural probes were and how they could be better next time.
- We asked for a highlight and a lowlight for each day; we asked for this to be filled in at the end of the project. Some people would have preferred to do it one a day instead of all in one go at the end. It was suggested that there could be a daily prompt.

Recommended digital cultural probes

https://dscout.com
http://www.experiencefellow.com

Further reading

Cultural Probes, Bill Gaver, Tony Dunne and Elena Pacenti
http://www.m-iti.org/uploads/Ga99.pdf
The seminal widely read paper about cultural probes and how they were employed in 1999.

HOW TO RUN A CROWD-SOURCED USER NEEDS WORKSHOP

When you're short on time but need to understand the big picture of how a system is working out across the organisation, you can run a crowd-sourced user needs workshop.

Selected representatives ask their colleagues about their interactions, feelings and ideas with regards to a system. The representatives report their findings back at a user needs workshop. The qualitative information from across the representatives is then analysed using thematic analysis; if possible, engage the representatives in this phase of the process too, to help them see how their research effort is going to pay off.

Aim
Gather user needs and ideas together from across directorates. Feed this into further work to determine which of the possible procure-able solutions would fit the needs best.

You will need

- A willing group of representatives who are able to speak with colleagues.
- Instructions for the representatives on how to ask questions to their colleagues, and a question list/ template.

Example agenda - 60 Minute Workshop
5 mins
introduction by facilitators

15mins
Present crowd sourced user research. 2 mins each going round, each person presenting their gathered user needs from their directorates using their paper tool. Put sheets on wall as they go.

10 mins
Problems. Get all the problem down on post it notes - each person responsible for own post it notes

5 mins
Cluster problems together (see 'Thematic Analysis')

5 mins
Define areas of problems - write a sentence to describe each problem succinctly for next workshop

10 mins
Ideas. Get all the ideas down on post it notes - each person responsible for own post it notes

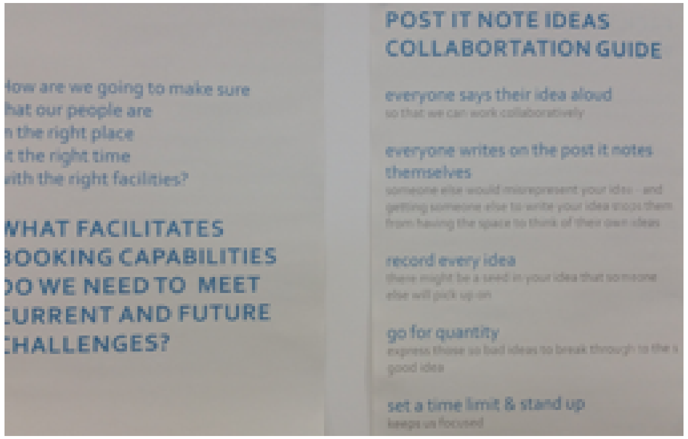
10 mins
Cluster ideas together

Risks

- The representatives may not understand the importance of having to prepare for the workshop by conducting research, since this is not a typical kind of workshop.
- There is more risk of bias by your representatives if they have never conducted research before.
- If they haven't gathered user needs, they can still be useful in problems and ideas exercises, but the depth of insight will be shallower since it's with fewer people and they've thought about it less.

Variations

- Rather than a workshop, the results could be fed in by email for one person to analyse. However, there's a risk of losing useful information that would have otherwise been identified through conversation and reflection amongst the representatives.
- The workshop could be exclusively for sharing and reflecting on the research conducted through speaking, without any post-it note analysis. (This could be done after the workshop by the team.)



USE EXISTING SOURCES OF INFORMATION TO IDENTIFY PROBLEM AREAS

Sources of information can be readily available from the IT Service Desk.

Typically the IT Service Desk will collect data on the calls it takes. Using this data for trend analysis will help IT identify problems which are occurring consistently to multiple users. An IT Service Desk is primarily focussed on resolving a problem as quickly as possible but if you look at the same data from a user research perspective you can identify additional issues.

Supplementing your data with data from other sources can provide additional insights into your users' pain points.

For example: "I hate using this system, it always crashes."

Are there users that frequently access a system from out in the field? Is an application bandwidth sensitive?

Combining your data on your interviewees with the Service Desk data can allow you to draw possible solutions which may not be otherwise apparent.

For example is the prevalence of service desk tickets about a particular system towards new employees, or employees that have been with HS2 for a longer period of time? If it is new employees this might help identify a failure in onboarding, or if they have been here longer, are they trying to use a particular system beyond its capabilities?

Reviewing the IT Service Desk tickets can help you establish if the system does always crash and if it does crash is this a system issue or a user issue. A user issue could be the system crashes if the data is entered in the wrong format or if required data is missing. Improved user training or changes to the user interface may resolve issues with the system.

Staff Surveys
Staff Surveys are frequently carried out by the **Internal Communications** team and can often highlight pain points which may or may not support any findings from your research. Again trend analysis should have been performed on this data but the findings of your own research may offer you additional insight into how trends can be analysed.

Further reading
Lily Dart: No Excuses User Research
http://www.slideshare.net/LilyDart/no-excuses-user-research
Practical information on using existing sources of information to continuously find out about what issues users are experiencing. Details how to make use of complaints and bug reports, transaction audits, and search logs.

ANALYSIS

HOW TO DO THEMATIC ANALYSIS

Thematic analysis is a way of analysing qualitative data. The result of interviews is a myriad of jumbled nuggets of information - opinions, ideas, anecdotes, 'pain points', and more. Thematic analysis is a way of making sense of common strands of information across the multiple interviews you have done.

Understanding the variety of insights within each common strand helps us understand the big picture - we get to see facets of the issue from different angles. This helps us understand the need for change better, and helps us come up with more appropriate solutions.

Here we describe how to do thematic analysis of pain points, but you can use it for much more than just that - the technique is also useful for ordering and connecting initial ideas during idea generation sessions.

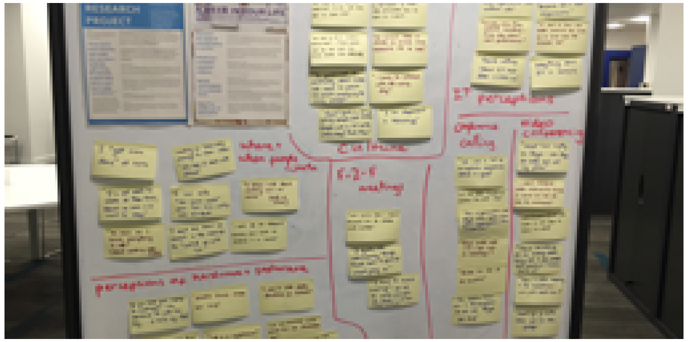
You will need
- Post-it notes
- Sharpies
- Blank wall space
- Team members involved in the research

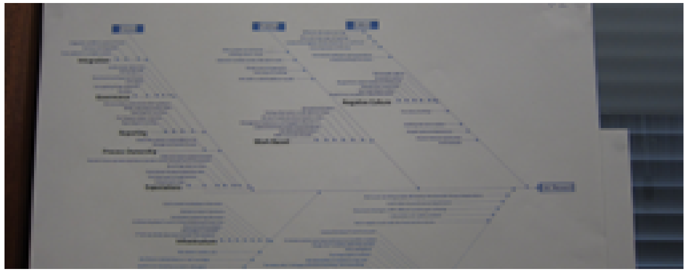
Break down the raw data into nuggets
Go through your raw data. Scan the research for anything that is a pain point or a barrier to getting work done efficiently, comfortably or happily. Write down site specific or role specific issues if the extra detail is required to contextualise the pain point.

Write each pain point down on a post-it note, with different perspectives such as 'internet is slow' vs 'it takes a long time to load a web page', or even 'it takes a long time to make decisions' vs 'the governance slows things down'. Put all of these post-it notes on a wall.

Use the same colour post-it notes per team, make sure there is no ambiguity written on the note, so that it is understood and legible for everyone.

Play with groupings
- To thematically gather these bits of information, start with the obvious, e.g. the same words/phrases used repeatedly. Take them to a different part of the wall/board.
- Not all pain points will not fit into a theme, but this does not invalidate them.
- Once you've spotted a common thread, it may be helpful to write the theme on a new post-it note, maybe of a different colour.
- Try different ways of grouping the remaining notes, communicating with the team as you go.
- The first kinds of grouping may not work. It is trial and error until the grouping works better. It may be that you have to rename themes on the second colour of post-it notes.
- If one theme is much larger than other themes, break it down further. If a theme is high level and encompasses a variety of different unconnected problems, consider whether it would be useful to break the theme down further to unpack the discrete problems.





Ways of presenting the themes
Fish bone diagrams and mind map diagrams are two ways of diagrammatically presenting the detail resulting from thematic analysis.

The result
A set of articulated themes coming from the user research, with examples in narrative descriptions.

Potential next steps
Depending on the results, the next steps could be:
- Noticing where we are thin on information within these themes, and seek to conduct further research.
- Create a new round of research questions to deepen understanding of all of the issues.
- Articulate the problems as needs and beginning idea generation and co-design workshops to come up with solutions.

Further reading
Thematic analysis, Design Research Techniques
designresearchtechniques.com/casestudies/thematic-analysis/
Describes a version of thematic analysis using a coding system; this version would be more useful to you if you have a particularly large quantity of nuggets of information.

THE VALUE OF 'USER PERSONAS'

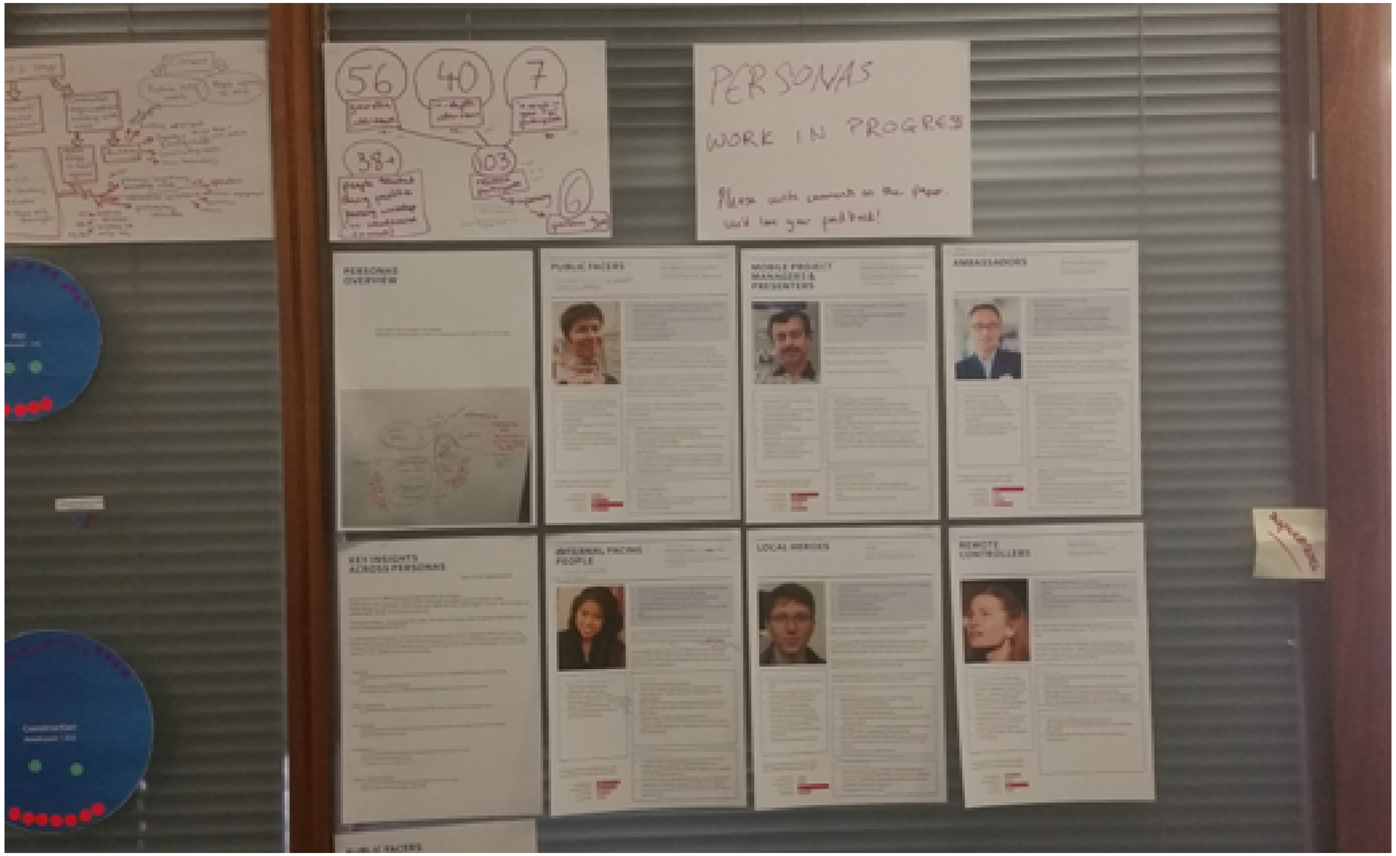
User Personas are a way of communicating the types of people you are designing for. They can be described as **representations of the goals and ways of working of a hypothesised segment of users.** There is no one right way to make personas - or do segmentation, or profiling. As user researchers we must do our research and present what we find. We listen deeply without too many specific questions in interviews.

Personas can add value to an organisation by helping to explain, in an engaging and empathic way, **who users are, what they need and the key issues they face as users of a service.** Sticking personas with pictures on the wall and using them in workshops has been known to help put a personal, human face on otherwise abstract technical data.

User personas provide a more communicable medium of explaining user needs to developers and can help design teams avoid common pitfalls such as the **'Elastic User'** i.e. when stakeholders can define users according to their convenience.

The six user personas captured in Spring 2016 express the six segments of HS2 staff at the time. It's important to review whether the personas still fit as the organisation evolves; new staff with new roles are being recruited, and so the make-up of the organisation will change.

In particular, we predict more 'do-ers' joining: staff lower down the hierarchy chain with less strategic power, that will have a certain kind of as yet unidentified service use profile. Additionally, pain points will certainly change and more needs will become met as IT introduces ever better services.



KINDS OF PERSONAS

EMPATHY BUILDING EXERCISE

Dave
dad
42
Likes:
Golf
Dislikes:
annoying children

Persona made during a problem finding session: staff involved in project get together and, based on their knowledge of the user group, create archetypal users – normally three or four. It takes 20 minutes to write up the whole persona. The details are made up – an amalgamation of several users who are similar to each other. Builds empathy. Helps frame ideas. 'Would Dave use this concept?'

JOB PROFILING

The
Courier
Delivers packages
to clients.
Time pressured.
Must not lose/
break packages.

Job profile with needs included. Describes job role and needs within role. Includes highly typical characteristics e.g. says 'CEOs are normally older + have been in other roles in the past'

SEGMENTATION

Client
facing
staff
Ideally wants
positive interactions
with clients.
How compares
to other
staff

Segmentation segments. More broad than job roles – groups roles together. Contains information diagramatically about how they compare to other users. Based on careful analysis of research. Ways of segmenting may be bespoke or a consultancy may apply their typical segmentation model.

↓ KINDS OF SEGMENTATION
mobility
digital literacy
size of network
pioneer/performer/stuck
extrovert/introvert
early adopter/mid/late
earnings
~~age~~
city dweller/not

REAL PERSON PROFILE

Actual example of a typical user, with name disguised. Quote ~~may be~~ ~~direct or something~~ is direct from the user. Includes ideosyncracies of this person. Several other actual examples of this kind of user are shown alongside, so that together they create an understanding of the typical user, and individually they help people imagine the users to create empathy.

Alex
the courier
Enjoys his job
Has kids
"I love delivering
value to clients"

Created from interviews with actual picture used where possible.

DRAWN OUT TO DISCUSS KINDS OF PERSONAS

HOW TO CREATE PERSONAS

There's more than one kind of 'user persona'. There are personas that are drawn up quickly at the beginning of a co-design session: see previous page and 'further reading'.

The personas described here are based on user interviews, and are a way of segmenting types of user by need.

The process of trying out different clusters has much in common with the process of thematic analysis.

You will need

- A profile for each of the people you have interviewed on a card, with a bit of blue tac on the back. The profile should include their role, needs, pain points, and general observations from the interview. The profile will partly serve as a memory trigger for the researchers.
- Raw data to hand, in case information which hasn't been formally written up becomes relevant during discussion.
- Wall space.
- All the researchers together in one room (conferencing calling is not going to work - this is a highly visual and interactive session).
- If relevant, a spreadsheet with numerical/binary information about the interviewees to hand, which can be sorted by order during the workshop.
- A list of cluster types to try out as a guide (e.g. try clustering by who they are mainly in contact with; where they are based; whether they prefer using iPads or laptops; etc.).
- To have already done some reflection individually about what sort of clusters exist.

Step by step guide

1. Get your interview cards and try clustering them in one particular way from the list of clusters to try out. If one cluster name in the set doesn't seem to be working, try renaming it. Try out lots of combinations and have fun but don't discuss the groupings too much initially, just put where it feels right.
2. If you have very broad big groups, try creating additional subgroups.
3. Check that each interview card fits into the clusters at the end of the round.
4. Note down the cluster types developed for this round, and which interviewee fits into each cluster.
5. Repeat steps 1-3 with other ways of clustering. Keep a playful attitude to stay open minded to new possible directions. Divergent thinking is useful at this stage.
6. As well as clustering, you can try ordering your interview cards, for example by time spent doing a particular thing, if you have that information.
7. Compare the records of clusters to each other. Find correlations. It's possible to take an output from step 5 and map it on axis against another set of clusters to create multi-dimensional clusters.
8. Once you've played with the clusters, and you've found a set of clusters that feel right - that feel as though they accurately describe the user types - give names to your cluster types.
9. Use a template to capture the needs and description of each cluster type. Do this as a team, or split off into pairs. Use the interview cards to extract this information.

10. Compare the written up personas against each other. Does that cover everything?
11. Have the personas written up neatly.
12. Add in photos to help engage with the persona. (Tip: use **Creative Commons** 'reuse with modification' option on Google image search to use images legally for free).
13. Find extra supporting information to add to the personas: can you back up the personas with quantitative data? What are the key characteristics of this persona that nobody else has - and is there data to support that? Add this to the personas.

PERSONA WORKSHOP TIPS

Initially ignore job titles
Take care to initially ignore job titles as you want to base your analysis on their working habits not how what their job role is. Even managers at similar levels can have different working traits which you want to identify.

If in doubt, sustain your disbelief
It is unlikely you will be happy with your first groups – that's to be expected; just keep playing around with groupings. The exercise might feel chaotic, especially with a diverse set of users, but it's worth going through the confusion to get to a point where you've found groupings that make sense.

Why we don't use computerised sorting to create personas
Card Sorting can be a more effective means of grouping your data than computerised sorting. Guerrilla Interviews by their nature are spontaneous and users may describe their work traits or pain points using different language making it difficult to automatically sort your results. That is not to say you can't use a data analysis tool at later stages of the project but initial personas should be created manually.

The result
Your final objective should be to have every interviewee in a group with others that share the majority of their working traits. No two interviewees will ever be exactly the same but common themes will emerge. Don't have more than 7 personas – it's difficult to remember more than 7 items at a time.

Further reading
Personas by DIY Toolkit
http://diytoolkit.org/tools/personas-2/
Includes fantastic description of personas and a tool to help you create them.

Introduction to User Personas by UXLady
http://www.ux-lady.com/introduction-to-user-personas/
Background detail about value and usage of personas.

Free photos to use for personas by Jon Abbett
http://mlkshk.com/user/jabbett

NEXT STEPS

WHEN TO USE YOUR USER PERSONAS

Now you have your user personas, how are you meant to use them?

Have a physical version on the wall
We suggest printing them out and sticking them on a wall near where you often work, so that your users are at the back of your mind whenever you are working.

Refer to in early strategy meetings
During strategic meetings to discuss technology to be procured, bring your personas up on the screen. Consider the impact of the technology on each of them. Is the technology you're discussing relevant to one kind of persona only? Discussing the personas will help you clarify as a team who your users are for this project.

Use personas to map needs regarding a particular service
For some projects, the Spring 2016 personas may be enough. Each time you do a project, you can map your research against the identified persona groups. How might it advantage them? Who would have the most teething problems? Would anyone become disadvantaged?

However, it's likely that for most projects, you will need to create new personas to describe the stakeholders and their needs with regards to this particular technology. Members of the public and suppliers were out of scope for our Spring 2016 personas but will have to be scoped as HS2 progresses. You can use the Spring 2016 personas as a starting point to create project-specific personas.

Jolt your empathetic memory
If nothing else, just looking at personas during the strategic process will help you make decisions with your users in mind. At its simplest, the personas can act as a refresher in what HS2 staff are like.

New joiners
Send the personas pack to new staff. The personas will help them understand the makeup of staff in HS2, and ultimately who they are working for. This can clear up misconceptions about staff early on for the new joiner, and will accelerate the appropriateness of their ideas.

HOW TO ENGAGE RESEARCH PARTICIPANTS INTO CHAMPIONS

During a user research project some of the participants will be identified as extra enthused and very supportive about the exercise and fully understand the value. It is of benefit to the organisation to use these people to support future initiatives where user research is being used. These people are known as 'Champions'.

What is required of a Champion?
A Champion is someone who is proactive in understanding current and future needs of their team or business area within the organisation. They have their finger on the pulse of what is happening on a day to day basis within their area and quickly feed this information into the user research team. This allows the both the individual and the User Research team to work together proactively and understand what is required to continually meet user needs.

To do this effectively the Champion will need to be skilled in some of the basic areas of user research so they can do some of the initial information gathering and present it to the User Research team in a structured format that allows the team to carry forward the needs captured.

A Champion must also have some influence over the area they are working in which will allow them to undertake a proactive and effective role. The work will be above and beyond their day job and many at times impact their day to day work. So agreement and buy in from their line manager will be required. This may mean supplying their line with information on how user research works.

How will a Champion interact with the user research team?
The Champion should stay in regular contact with the user research team. This can be on an ad hoc basis and when day to day work permits. The user research team should also have a regular monthly meeting with the champion which may include other champions from areas that all interact or across the whole organisation. This will encourage joined up thinking. In these meetings Champions will be expected to discuss:

- Evolving user needs
- Needs that may impact other business areas
- Any fundamental changes in strategy that will impact users
- Learning and Development needs of their user community

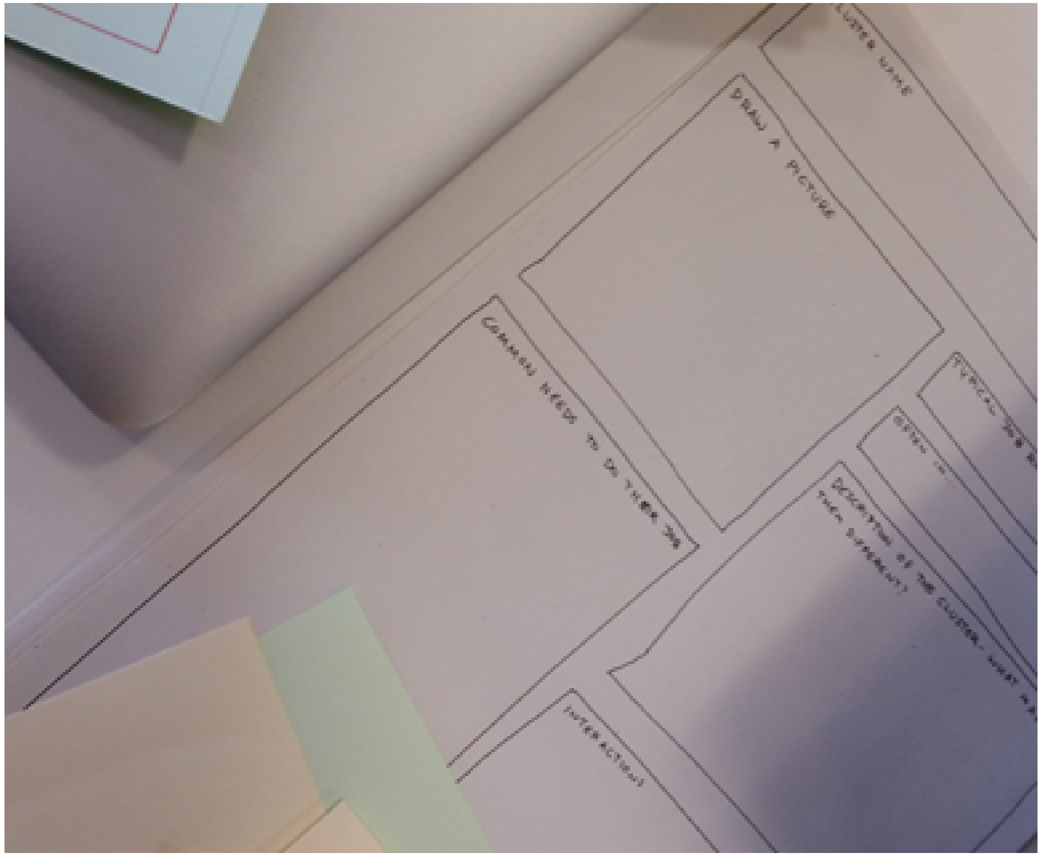
Impact
The role will be instrumental in making sure that the needs of users in a business area are being communicated clearly and are being understood and addressed by the user research team. Most of all the role should be fun and allow the Champion to partake in user research work.

HOW TO ADD TO THIS TOOLKIT

There is an editable version of this toolkit in your shared document system; it is a Word document. If you have tried out a research technique described here, please add in your own experience of what worked and what didn't into the Word document. Share your tips so that other people can benefit from them.

If you've tried out a research technique not described here, please do add it in as a new section.

You can update the document, then save it as a new version in your shared document system. Please contact Martin Williams to discuss how to do this.
Martin.Williams@hs2.org.uk



CREDITS

With thanks to all our research participants for engaging so enthusiastically in this new form of research to HS2.

Many thanks to Jan Ford and Jeremy Foot for sponsoring this research project, and to Rainmaker Solutions for engaging the IT Business Analysts in the user research process. Thanks to the Business Analysts for all their hard work and for experimenting with the relative chaos of agile, qualitative research.

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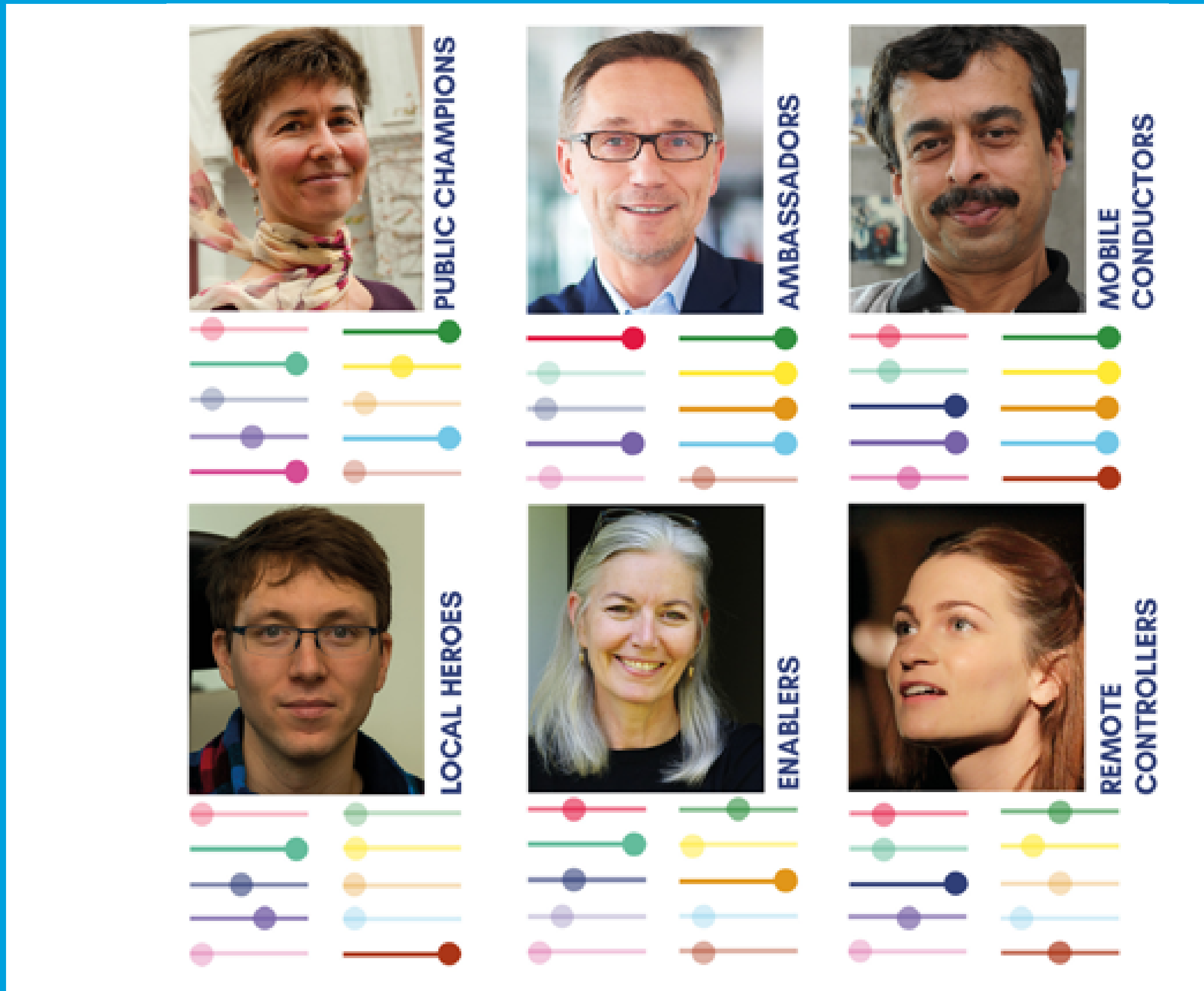
APPENDIX

SPRING 2016 HS2 USER PERSONAS



*Defining persona traits**

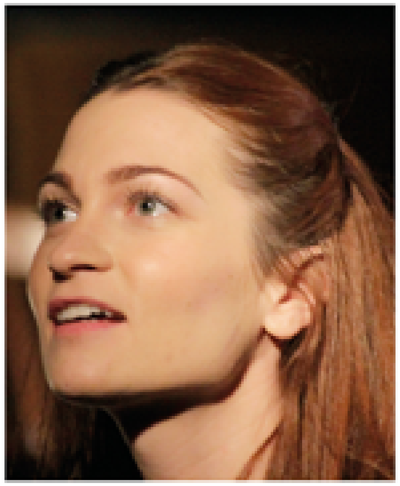
- Strategic
- Do-er
- Manages suppliers
- Interaction with external contacts
- Interaction with public

- Works in multiple locations
- Works on the move
- Works across HS2 sites
- Regularly works off HS2 sites
- Specialist software use

**Not everyone fits perfectly into a persona - the scales may not be reflective of you in every single aspect.*

REMOTE CONTROLLERS

KEY CHARACTERISTICS
MANAGES PROFESSIONAL SERVICE CONTRACTORS BY PHONE & EMAIL, WORKS ACROSS MULTIPLE HS2 SITES
TYPICAL JOB ROLE
SUPERVISORS; MANAGE STAFF AND PROCESSES



Remote Controllers **remotely task manage** Professional Service Contractors (PSCs) from an HS2 site. They don't often work on the train.

They go for face to face meetings in **other HS2 sites** but many **wish they didn't have to** - video conferencing isn't working yet for them. When they do meet PSCs face to face, they may ask for them to come to HS2 offices. They rarely travel to somewhere that isn't an HS2 office.

They use a **mix of specialist role specific software** (e.g. Bravo) and **general apps.**

INTERACTIONS

- Communicates with **PSCs** by **email, phone and conference call.**
- PSCs generally account for a small chunk of their interactions - around **10-15%** on average - however it's an important part of their role.
- Generally **75% of interactions are with HS2 colleagues**. They may travel around HS2 sites to meet colleagues.

COMMON NEEDS TO DO THEIR JOB

- To be readily contactable by colleagues and external parties by **email and phone**.
- Less commonly, may need **access to specific software**, similar to the Information Processors - however this is mainly for **monitoring progress and supervising** their Information Processor colleagues.
- To be able to work in different HS2 sites equally well.
- To be able to **collaborate with and task manage** both internal and external parties.

COMMON PAIN POINTS

- Has to use **conference call workarounds**; i.e. video conferencing sound quality is poor so use two tools, Skype for visual and conference call for audio.
- **Heavy laptop and power pack** (have to carry between HS2 sites).
- Difficulties **task managing their external partners** (PSCs via e8).

Somewhat strategic
Supervising technical work
Manages suppliers
High interaction with external contacts
Low interaction with public
Sometimes works in multiple locations
Rarely works on the move
Sometimes works across HS2 sites
Rarely works off HS2 sites
Occasional specialist software use

Average amount of hours per week...
scale relative to other persona types

in meetings	8
on the phone	4
on laptop	25
travelling	1

MOBILE CONDUCTORS

KEY CHARACTERISTICS
MANAGES PROFESSIONAL SERVICE CONTRACTORS
WORKS ON THE MOVE
USES SPECIALIST SOFTWARE
TYPICAL JOB ROLE
ENGINEERS AND PROJECT MANAGERS

Manages **Professional Service Contractors** (PSCs) by email, face to face, and through task management software.

Mobile Conductors **often travel to external sites.** They may be driving to parts of the route to check progress. They may occasionally **work remotely** out of a PSC site, and they **regularly work on the move.**

They use **mobile phones** more than other personas. They may be interacting with the public. They exchange information in and out of HS2, and often use **specialist apps.**

INTERACTIONS

- They prefer to meet **face to face** where relevant.
- Not unusual for at least **25%** of their time on a daily basis spent interacting with **PSCs, the public, or other external stakeholders.**
- Common to regularly interact with **other government departments** such as DfT, Network Rail, TfL, Local Authorities (on route) etc.

COMMON NEEDS TO DO THEIR JOB

- **Collaborate on documents with external parties.**
- **Connectivity in remote locations** - they need to be able to communicate with others, and to access information.
- Effectively **task manage PSCs.**
- **Demonstrate route information** to stakeholders on the move.
- **Powerful technology** for modelling and huge documents that they are reviewing. Laptops don't support this kind of work and can often crash.
- A **vehicle** to get to remote parts of the train route.

COMMON PAIN POINTS

- **Unreliable connectivity** leads to problems accessing route information remotely (using G-Viewer).
- No access to document and task management systems (e8) access on the move.
- Current e8 work orders systems are poor for **task management.**
- Often have to **carry multiple devices** - iPad is well liked but not fit for document work.
- Laptops are reported as being **heavy** to carry around.

Somewhat strategic
Supervising technical work
Manages suppliers
High interaction with external contacts
Some interaction with public
Usually works in multiple locations
Usually works on the move
Normally works across HS2 sites
Regularly works off HS2 sites
High specialist software use

Average amount of hours per week...
scale relative to other persona types

in meetings	19
on the phone	4
on laptop	15
travelling	14

ENABLERS

KEY CHARACTERISTICS
PRIMARILY WORK WITH INTERNAL HS2 STAFF
WORKS ACROSS MULTIPLE HS2 SITES
TYPICAL JOB ROLE
MANAGERS AND INTERNAL ENABLERS

Enablers are **primarily in contact with internal HS2 staff**, though they do occasionally meet with external contacts. They aren't spending a great deal of time managing suppliers or professional service contractors, unlike other personas. This group often **manage teams** and/or have many contacts within the organisation in order to **influence others** and achieve their goals.

The strategic power they have is focussed on **enabling their team** to perform effectively. Their decisions affect the style and spread of their team's services to the rest of the organisation.

- Somewhat strategic
- **Do-er**
- Sometimes manages suppliers
- Low interaction with external contacts
- Low interaction with public
- **Sometimes works in multiple locations**
- Doesn't work on the move
- **Normally works across HS2 sites**
- Rarely works off HS2 sites
- Low specialist software use

Average amount of hours per week...
scale relative to other persona types

in meetings	12
on the phone	6
on laptop	17
travelling	10

INTERACTIONS

- Daily face to face contact is **90% internal** involving their team and the wider organisation - often work with colleagues in other directorates. **Travel between HS2 offices** mainly to speak with HS2 colleagues.
- Often likes to go over to someone's desk to see them (will use the green light on Skype to check their presence).
- Prefers **face to face** meetings and emails.
- Will generally have some interaction with related Other Government Departments (OGDs) as well as external stakeholders relevant to their role / profession - both email and face to face occasionally.

COMMON NEEDS TO DO THEIR JOB

- Seamlessly **interact with colleagues** in other sites.
- Does not need contact with external parties as much as other personas, but still has some - most people in HS2 speak with external contacts.
- Ability to **work from home**.
- **Produce documents** for internal teams to benefit from.
- Stay abreast of new better ways to manage their team, beyond Outlook.
- **Standard software user** (with some role specific specialist apps).

COMMON PAIN POINTS

- Use **tools that are not fit for purpose**: using standard software to do complex things specific to role, e.g. using shared mailboxes to manage work flow or doing complex planning on spreadsheets rather than bespoke tools.
- Using **multiple devices for different functions**, e.g. no document collaboration tool that works on iPad.
- **Difficulty finding contact details** of internal staff they need to speak with.

INFORMATION PROCESSORS

KEY CHARACTERISTICS
USE SPECIALIST SYSTEMS
WORK IN ONE LOCATION
'SWEEPERS'
TYPICAL JOB ROLE
'DO-ERS', SUPPORT, ADMINISTRATION, COMPLIANCE

Information Processors may manage a few people, but predominately they create and manage documents and systems. As problem solvers, they're the last line of defence, fire fighting urgent issues. There's a high proportion of **contractors** in this group.

They are generally tied to **one HS2 office** and will sometimes work from home. They are often desk bound (and use desk phones) - they're always on their laptops. Typically Information Processors don't commute far, and don't work on the move.

They have a high dependency on print, and some have reported paper scanning en masse as part of their roles. Tend to use **specialist apps** such as eB, SAP.

- Relatively not strategic
- **Do-ers: doc management, technical, etc**
- Contact with suppliers
- Some interaction with external contacts
- Rare interaction with public
- Works in one location
- Doesn't work on the move
- Works in just one HS2 site normally
- Doesn't work off HS2 sites
- **High specialist software use**

Average amount of hours per week...
scale relative to other persona types

in meetings	4
on the phone	2
on laptop	31
travelling	12

INTERACTIONS

- They're mostly **internal facing**, though many interact with professional service contractors via email.
- Prefer **short ad-hoc face to face meetings** to scheduled meetings. Mostly assist colleagues in the wider organisation via email. Face to face interaction with their own team.
- Has to be **responsive**, often not as in control of their workload as other persona types - they are **do-ers**.
- Commonly have **high system use and therefore dependency** - if the system goes down, they won't be able to work.

COMMON NEEDS TO DO THEIR JOB

- To be in close contact with **internal HS2 staff**: colleagues and supervisors.
- Their roles often require **uninterrupted access to specialist systems** e.g. SAP and CRM.
- To be able to **review detailed documents and to update information at the same time**: typically achieved through the use of two screens. (Hot desking could be problematic if two screens are not available to them anywhere).
- Visibility of colleagues' diaries.

COMMON PAIN POINTS

- They are **likely to report systems problems** because they are intimately acquainted with and dependant upon their particular specialist systems.
- They will repeatedly experience the same problems if they don't report it and often complain of system patches causing added, unanticipated problems.
- Unable to access systems they are dependent on (such as eB) when on the move. Makes them feel **tied to the office**.

AMBASSADORS

KEY CHARACTERISTICS
STRATEGIC
ON THE MOVE
SENIOR STAKEHOLDER MANAGEMENT
TYPICAL JOB ROLE
DIRECTORS AND STRATEGISTS

- **Highly strategic**
- Not doing technical specialist work
- Doesn't manage suppliers
- **High interaction with external contacts**
- Low interaction with public
- **Usually works in multiple locations**
- **Usually works on the move**
- **Normally works across HS2 sites**
- **Often works off HS2 sites**
- Low specialist software use

Average amount of hours per week...
scale relative to other persona types

in meetings	26
on the phone	5
on laptop	14
travelling	17

Our Ambassadors are our **strategic decision makers**. They're usually (currently) London based and **big travellers**. They **meet extensively** with a huge variety of **external stakeholders** and spend a great deal of time in **face to face** meetings. They're primarily permanent members of staff.

They often have **iPads**. They may use conference calling but do not yet use video conferencing. They often have a laptop or iPad open during meetings, and may follow a meeting using the boardpad app. They're more likely to be **early technology adopters** than any other group.

INTERACTIONS

- Common to spend large chunks of their time in face to face **board meetings, panels, and decision making bodies**; may be **making presentations**.
- Contact with **external stakeholders** such as DfT; Network Rail; National Audit Office; influential people relevant to their area of work; colleagues from other directorates; PAs.
- They **prefer face to face meetings** where possible to manage relationships effectively.
- **High email volume** for this group.
- **Not much desk time**: admin and emails must be done on the go.

COMMON NEEDS TO DO THEIR JOB

- Email access on the go.
- Internet access on the go.
- To work whilst travelling.
- **To be able to work anywhere equally well** – in any HS2 site and in any site they are visiting.
- To **be physically at face to face meetings** to manage relationships with external stakeholders.
- To **digitally display** their many board papers and presentations, so they're not overloaded with physical copies.

COMMON PAIN POINTS

- Current devices offer a lack of **privacy** to allow for working on the move.
- **Laptops are too big** for working on the train, and they are also **too heavy** to carry around everywhere.
- Not being able to access apps on the go (e.g. admin expenses on SAP and route info etc.) means that they have to wait until they are on an HS2 site to get their **admin** done.

PUBLIC CHAMPIONS

KEY CHARACTERISTICS
PROJECT-BASED CONTACT WITH PUBLIC; REST OF THE TIME WORKS IN ONE LOCATION
TYPICAL JOB ROLE
COMMUNITY ENGAGEMENT, PRESENTERS

- Relatively not strategic
- **Do-ers: information flow**
- Some contact with suppliers
- **High interaction with external contacts**
- **Frequent interaction with public**
- **Works in multiple locations**
- **Half work on the move**
- Works in just one of the HS2 sites
- **Frequently works off HS2 sites**
- Low specialist software use

Average amount of hours per week...
scale relative to other persona types

in meetings	7
on the phone	5
on laptop	30
travelling	14

Acting as **links to the outside world**, Public Champions include our community engagement teams, and our market intelligence gatherers. When they're not **travelling to external sites**, they tend to be based out of **one office** where they spend the majority of their time, but will also work from another location or home. They may **work on the move** (half of our sample did). **Meeting frequency is variable** depending on active campaigns and engagement cycles.

Often they're very connected with other areas of the organisation to have **access to many sources of information** in order to **create presentations** to show stakeholders such as **members of the public, potential suppliers** and **professional service contractors** (PSCs). Without being Ambassadors, they help **information flow** in and out of HS2 but do not set strategic direction. They may prefer to work on **paper** sometimes.

This persona type will likely grow as HS2 progresses.

INTERACTIONS

- Members of **public**, **parliamentary** contacts, **local authorities, potential PSCs/suppliers** and **DfT.**
- **Face to face**, lots of **emails**. May have **high phone usage.**
- This external engagement is set to exponentially increase as HS2 progresses.

COMMON NEEDS TO DO THEIR JOB

- To be able to show members of the public a presentation **in a field in the middle of nowhere** – requires a portable device, internet connectivity and access to latest route information (G-Viewer).
- Be **physically present** with public/PSCs.
- Access to emails **on the move.**
- May have to **work in the evenings and weekends** to meet members of the public.
- Look professional and approachable.

COMMON PAIN POINTS

- Hard to keep on top of high email volume.
- Remote connectivity – accessing up-to-date route information (G-viewer) doesn't work in the field, so they have to bring printed maps which causes difficulties.

INTERVIEW TOOLS

RESEARCHER'S NOTES

For capturing the headline detail of each interview, to make for faster analysis. Use during and STRAIGHT AFTER interview. No excuses. Schedule in 10-15 mins after each interview to digest information. If you need to make rough notes, please use the back of this sheet.

Name

Interview date

Email address & phone number

Interviewer name(s)

Interview location

☐ Interviewee consented to photos and video capture

☐ Potentially suitable for diary study / future mapping?

Further contact to interview (who has different experiences)

Role

Directorate

Date started (and date finishing)

Time at HS2

What were you doing before this job?

Headline pain points

Headline need(s) to do their job well

Top insight from this interview

Describe personality

☐ On the move?
Circle between offices / to external sites

☐ In frequent contact with stakeholders?
Circle contractors / parliament / members of public

☐ Primarily specialist software?

☐ First to get new gadgets?

Circle Public / Private / Third sector

Circle Construction / Rail / Civil service / Other?

Circle Pioneer / Performer / Belonger

Days per week in each:

☐ 1CS

☐ Sanctuary

☐ Euston

☐ Birmingham

☐ Home

☐ Other - where?

☐ Contract

☐ Perm

Pioneer
Innovative self starters, broad-minded, experimenters, early adopters, will do activity even if nobody else has tried it.

Performer
Make the most of life, active and aspirational, visible, likes attention and recognition, will do activity if endorsed by person of high status.

Belonger
Likes comfort and familiarity, will follow not lead, will do activity if everyone else is doing it.

INTERVIEW CHECKER QUESTIONS

Allow time for answers to arise out of the other tools before directly asking these questions - the tools should find the answers to most of these questions by themselves. These questions are written out to ensure we have baseline consistency.

Typical Working Week questions

Is this exercise answering the following questions?

- ☐ Do you feel enabled to work on the move, at home etc?
- ☐ Are your devices sufficient?
- ☐ What specialist software do you use?
- ☐ How could HS2 be improved with technology?
- ☐ How does technology help you at work?
- ☐ How does technology hinder you at work?
- ☐ Any personal technology that you use at work that you think would work well at HS2?
- ☐ What does a successful week look like to you?
- ☐ Can we take a photo of this interview?
- ☐ Who can we talk to in your area who would have different ways of working and different needs?

Interactions Map questions

Is this exercise answering the following questions?

- ☐ Do you work in the same location as the people you need to interact with?
- ☐ Do you find it easy to collaborate with everyone you work with?
- ☐ What is your preferred method of communication? (Mobile, landline, email, VC, face to face, IM, etc)

Nice-To-Have questions

- ☐ How easy is it to find out who you need to speak to and get their details?
- ☐ How good do you feel your understanding of the wider organisation is?
- ☐ What functions do you use on your smartphone? Would you like to use it more?

TYPICAL WORKING WEEK

Draw a picture for us about what your working week looks like.

- Commuting time
- Normal working hours
- Time off site
- Time travelling between sites
- Time in meetings - what kind of work? With whom?
- Time doing work alone - what kind of work? At desk? Emailing/other?
- Work out of hours - what kind of work?

Hours spent travelling per week *on average*	*Hours spent* video conferencing *on average*	*Hours spent* on the phone/dial in *on average*	*Hours spent* F-2-F meetings *on average*	*Hours spent* on laptop/desktop *on average*		

	MON	TUES	WEDS	THURS	FRI
before 9am					
9am-12noon					
12-3pm					
3pm-6pm					
6pm onwards					

What shouldn't be changed? What would be annoying if the IT team changed it?

Weekend working:
how long?
how often?
what kind of work?
devices used?

How long could you work for without technology?

Any useful tech, devices, apps, software etc. to recommend that you use in your personal life/used in another job?

What takes too long that should be quick?

What would make your life easier?

INTERACTIONS MAP

Map out who you speak to on a daily basis, then on a weekly basis, then monthly, every 6 months, and annually or less.

What's their name, job role, organisation, and relationship to you?

If you regularly engage with multiple teams/groups for the same reason, please just capture the name of the team/group on this map rather than naming every individual.

Do you normally speak to them on the phone, by email, on video conferencing or face to face?

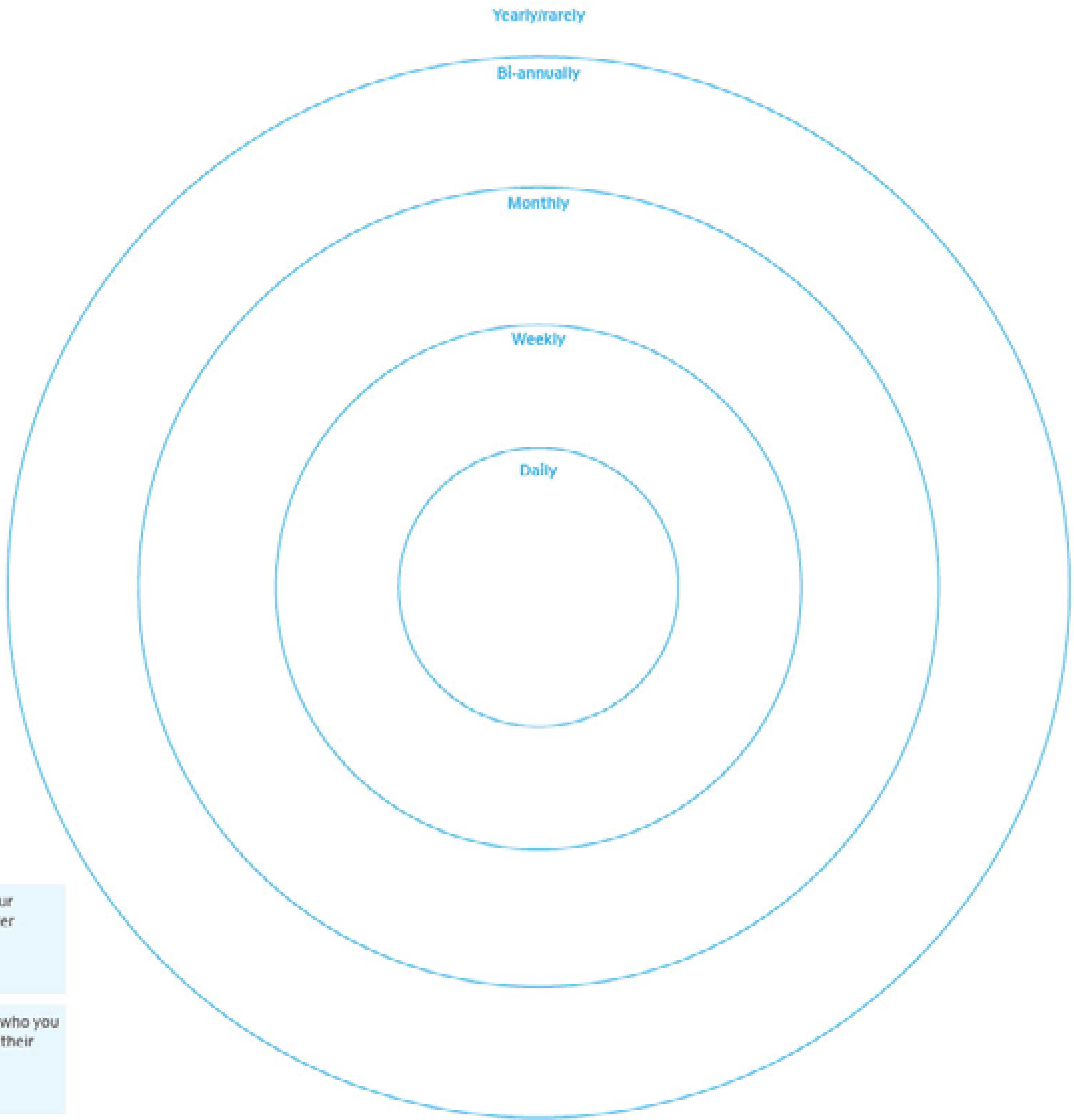
Choose coloured pens or stickers to change the colour code if you wish.

- Face-to-face
- Phone/dial-in
- Video conferencing
- Email
- Instant Messaging

Draw a pie chart to represent how much time you spend talking to different kinds of people; e.g. HS2 HQ staff, contractors outside of HQ, and the public.

How good do you feel your understanding of the wider organisation is?

How easy is it to find out who you need to speak to and get their details?



INTERACTIONS MAP EXAMPLE

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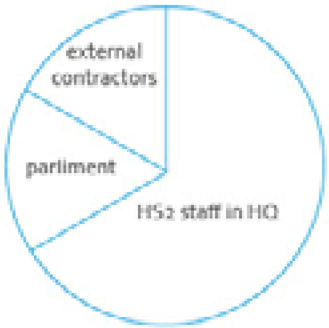
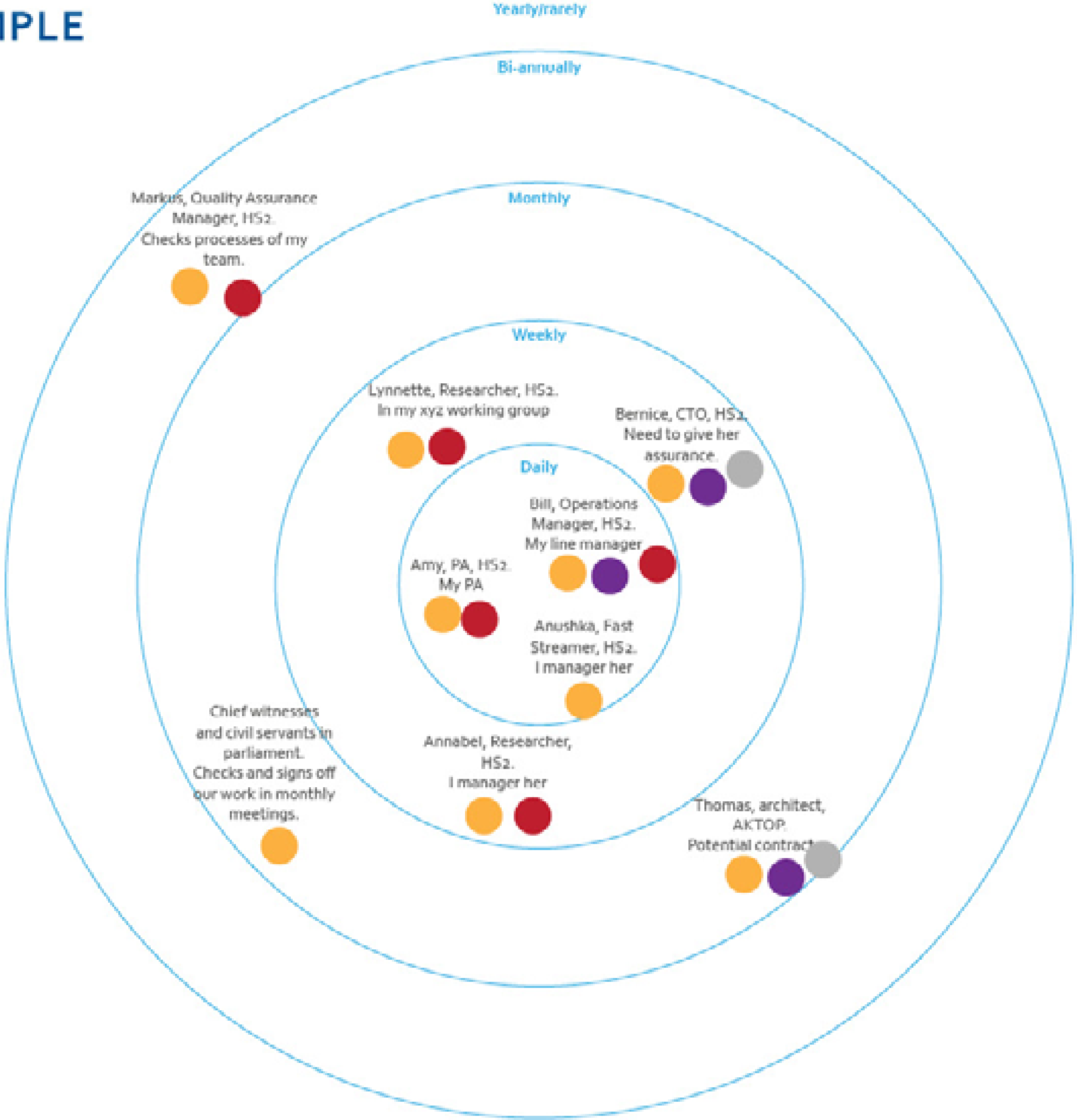




EXAMPLE CONSENT FORM COPY

User Needs Project Privacy Notice
This notice is provided to you as part of our obligations under the Data Protection Act 1998 (or DPA 1998). This notice forms part of our overarching Privacy Notice, which can be found by accessing the following link. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/491198/HS2_Privacy_Notice _102015.pdf

This notice explains the purposes in which High Speed Rail Two (or HS2) is proposing to collect your personal data as part of the User Needs project. This is a consent led process, meaning we will only process your personal data with your explicit consent. Therefore, you are encourage to read the below notice, and only providing your consent when you are satisfied with conditions in which your personal data will be processed by us as part of the User Need project.

Purpose
In order for HS2 IT to understand what our staff needs are to do their jobs well now and in the future and what technology plays in that, we need to understand the needs of the user.

You have kindly volunteered to help us understand our user needs more by providing us information about your normal working week. Such data includes your work locations, your interactions, the systems and devices that you use, and your opinions on how things can be improved to make your working life that much easier through the use of HS2 technology.

The information that you provide will help us build a set of generic, but representative set of user profiles, allowing the HS2 IT team to understand HS2 staff needs and interactions with both technology and other users. This will help us to make SMARTER decisions on IT capability and deployment in future ensuring that the user needs remain at the forefront of our IT strategy.

All the data that we ask you to provide is purely voluntary, therefore, if you are uncomfortable in providing your personal information in response to any of the questions asked please feel free to skip that question.
Security and Retention

Your personal data will only accessible by dedicated project personnel. Your paper log will be stored in a locked cupboard and will be retained for 6 weeks before being shredded on HS2 premises.

The data provided within your paper log will be transferred onto an Excel spreadsheet, and will be held in this spreadsheet format for a maximum period of 14 weeks before being securely deleted. This spreadsheet will be stored on an encrypted laptop, within a password protected file, stored on an appointed user's personal drive.

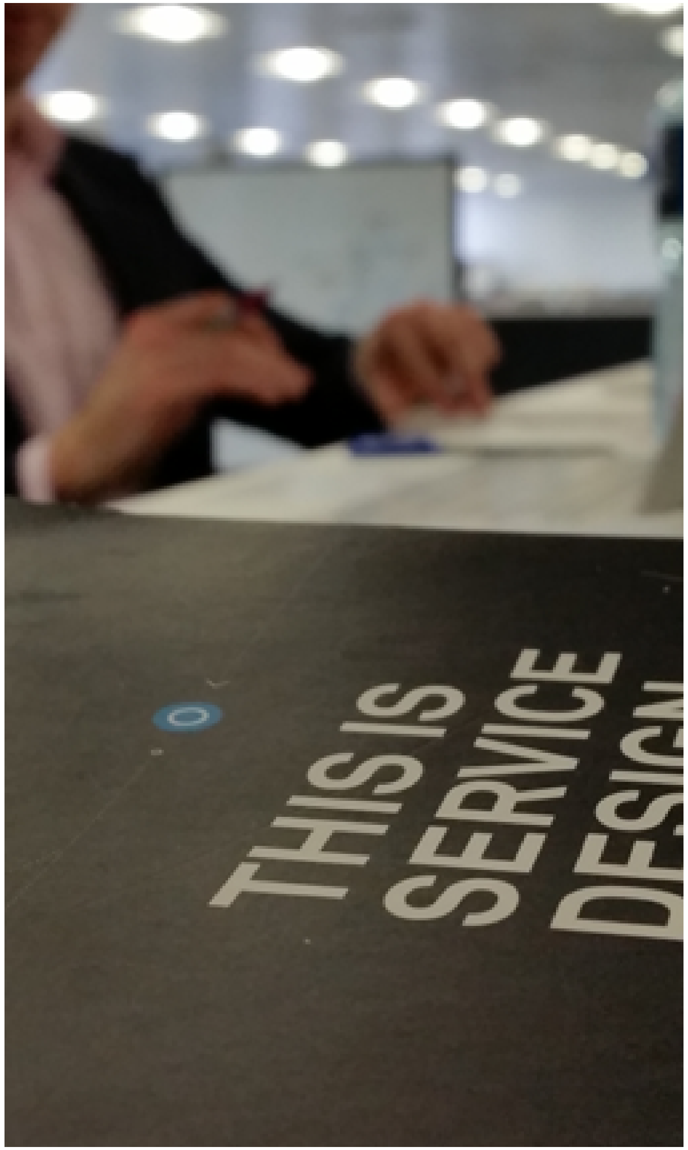
At week 15, the data collected will consist of purely aggregated, anonymised data, meaning we (or anyone else) will no longer be able to identify you from that data.

Freedom of Information Act 2000 and Environmental Information Regulations 2004
You are asked to note that we are obligated to disclose certain information under the above legislation etc. This may mean that the information in which you provide within your log may form part of a public disclosure in future. However, where the legislation allows, we will endeavour to withhold any personally identifiable information about to you.

Further Information or Enquiries
If you would like further information regarding the way in which we intend to process your personal data you are invited to contact the HS2 Data Protection Officer, Merilyne Knox, who will be able to assist you.

Your Consent
I have read and understood the above privacy notice.
I understand that this is a voluntary process and is not connected with my performance or
contract of employment in anyway.
I also understand that this is a consent led process, and I know that I can withdraw my consent at any time by contacting the HS2 Data Protection Officer.
I give my consent to HS2 to process my personal data as outlined above.
Name..
Department..
Signature.......................................
Date...............................

SUGGESTED FURTHER READING



The importance of Qualitative research
https://userresearch.blog.gov.uk/2014/09/16/sample-size-and-confidence/
The key is:

- Trying to be random in the selection process
- Make sure you hit the known big segments. Be those by directorates, gender, age, seniority, etc.
- If you learn new segments, incorporate those. Eg "those who never/sometimes/always touch IT"
- Make sure any known small groups that are non-typical are covered. eg Private Office in Gov, maybe parliament people here.
- Know when to stop. This is when you are not learning any more insight worth the effort. Or, you run out of budgeted time and money.
- Realise this effort is direction setting. We are not selecting the next prime minister or conducting an HR study. We are looking at what areas we need to understand needs better in, or where we've misunderstood them.

Sample size, mix and reliability
https://www.nao.org.uk/wp-content/uploads/2001/06/SamplingGuide.pdf

No Excuses User Research
http://www.slideshare.net/LilyDart/no-excuses-user-research

User needs and user centred design
https://www.gov.uk/service-manual/user-centred-design/user-needs
https://www.gov.uk/service-manual/user-centred-design/user-research

GDS Service Design Manual,
https://www.gov.uk/service-manual

Agile approach to project management
https://www.gov.uk/service-manual/agile-delivery/agile-government-services-introduction