Phase 2: Generate solutions

Check and record insight during the second execution phase and use this to develop usable prototypes.

Understand your users

Prioritise user needs identified in Phase 1, and clearly address theses in prototypes.

Risk

If these options haven't been explored, the end product is unlikely to satisfy user needs.

The project can show that...	Metrics
We have prioritised the user needs identified in Phase 1 and shown clear reasoning for that prioritisation.	**Yes:** User needs to be addressed are documented and prioritised. **Partial:** User needs are documented but not prioritised. **No**: We did not carry out user research, or have not documented the findings.
Supporting materials: • Learning about users and their needs – Gov.uk – An overview on how to start learning about the people who use your service and why it's important to do so • 20 Product Prioritization Techniques: A Map and Guided Tour – Folding Burritos – This guide covers 20 popular product prioritisation techniques • Flow Design Processes – Focusing on the Users' Needs – Interaction Design Foundation – Learn how to focus on user needs by designing user flows	
We have addressed the prioritised user needs in the prototyped solution	**Yes:** Design elements clearly map to prioritised user needs, and this is documented. **Partial:** Some design elements map to user needs but these are not prioritised needs. **No**: We did not carry out user research, or did not refer to it when designing.
Supporting materials: • Design Thinking: Get started with Prototyping – Interaction Design Foundation – A high level overview of what prototyping invovles and why to use it • Paper Prototyping: Getting User Data Before You Code – Nielsen Norman Group – How to user test early design ideas at an extremely low cost with paper prototypes • Test Your Prototypes: How to Gather Feedback and Maximise Learning – Interaction Design Foundation – Six best practice tips for gathering feedback on your prototypes	
All members of the team engaged with the user research, saw users being exposed to the prototype solution (directly or indirectly) and discussed these findings collaboratively.	**Yes:** All members of the team saw users engaging with the prototype (directly or through video footage) and/or participated in workshops/events exploring the findings. **Partial:** Most members of the team saw users with the prototype or came to workshops. **No:** Only a limited number of team member of the team observed users.
Supporting materials: • How to Collaborate with Stakeholders in UX Research – Nielsen Norman Group – Article describing how you can make UX research more efficient and effective by getting everyone involved • Agile, collaborative, influential usability testing – lunchtime meetup write up – Website and Communications blog – A blog post on how the UX Service runs collaborative playback sessions when usability testing • A guide to collaborative sketching – Website and communications blog – Blog post on the benefits of collaborative sketching workshops including the materials needed and a step – by – step guide	

- A Simple Introduction to Lean UX – Interaction Design Foundation – Article on the benefits of collaboration through the Lean UX methodology
- What is co – design? – Design for Europe – Article explaining what co – design is and a list of the benefits of this method

The prototype solution(s) evolved as a result of testing with representative users	**Yes:** Prototypes(s) have been tested with representative users and have evolved iteratively. **Partial:** Prototypes(s) have been tested but not with representative users and/or improvements identified as needed haven't been made. **No**: We haven't tested any prototypes.

Supporting materials:

- Design iteration brings powerful results. So, do it again designer! – Interaction Design Foundation – Information on using your findings to inform design iterations and the impact of doing so
- Case Study: Iterative Design and Prototype Testing of the NN/g Homepage – Nielsen Norman Group – A case study of how the NN/g homepage redesign relied on rapid iterative prototyping, and usability testing, to balance multiple design objectives.
- Usability Evaluation Methods – Usability Body of Knowledge

Users were clear how the prototype solution addressed their needs	**Yes:** Users clearly understood how the design being prototyped could help them. **Partial:** Users understood how it could help them after a simple explanation. **No:** Users did not think the prototype was a useful tool, or only understood after protracted explanation.

Supporting materials:

- Design Thinking: Get started with Prototyping – Interaction Design Foundation – Learn about how prototyping is an integral part of Design Thinking
- 10 Essential Usability Metrics – Measuring U – Here are 10 metrics you should be familiar with and ready to use in any usability evaluation.

We have gained appropriate consent for participation in our research and data recording	**Yes:** We are clear that we have all necessary consent in place. **Partial:** Some of our research had to be discarded as we didn't have the right consent. **No:** All of our research had to be discarded as we didn't have the right consent.

Supporting materials

- Getting informed consent for user research – gov.uk – Information on obtaining informed consent during research
- We have observed users trying to engage with the prototype solution in their previously established context
- Consent form template – Advanced Common Sense – A usability testing consent form template from Steve Krug's website

Design for context

Observe users using the prototype and make sure you document any other contexts you uncover.

Risk

Insufficient understanding of the users' context(s) of use means the end product is unlikely to be effective in all common usages.

The project can show that...	Metrics
We have observed users trying to engage with the prototype solution in the previously established context.	**Yes:** We have directly observed (live or through video footage) a relevant number of users interacting with the prototype. **Partial:** We have observed only a small number of users. **No:** We have not observed any users.
Supporting materials • Usability Testing – Interaction Design Foundation – A constantly – updated definition of Usability Testing and collection of topical content and literature • Rocket Surgery Made Easy – Advanced Common Sense – A summary of 'Rocket Surgery Made Easy, The Do – It – Yourself Guide to Finding and Fixing Usability Problems' – a reccomended resource for conducting usability testing • Downloads – Advanced Common Sense – Useful usability testing downloads from Steve Krug's website • Any new, previously unknown contexts that users engage with your current product or service in, have been reported and accommodated into future user engagement • Usability 101: Introduction to Usability – Nielsen Norman Group – A definition of usability – how, when, and where to improve it and why you should care • Prototyping: Learn Eight Common Methods and Best Practices – Interaction Design Foundation – Detailed overview of common prototyping methods and testing process • The Value of User Testing with Prototypes – UX Planet – Blog post describing the importance of user testing prototypes Throughout the life of a project	
Any further contexts of use identified at this stage have been reported and accommodated into future user engagement.	**Yes:** We have fully documented any new contexts identified, to be tested in the next phase; or we have already identified all contexts in Phase 1. **Partial:** We have identified some further context(s), but haven't fully documented them. **No:** We know there are undocumented contexts of use.
Supporting materials • Context of Use Analysis – Usability Body of Knowledge – Information on collecting and analysing information about intended users, their tasks, and the technical and environmental constraints. • Decisions relating to development have been informed and altered based on user validation of the prototype(s) • "It Depends": Why UX Is Dependent on Context – Nielsen Norman Group – Short video highlighting why context matters • Optimizing for Context in the Omnichannel User Experience – Nielsen Norman Group – Article explaining why you need to create usable context – specific experiences	

Design for inclusivity

You must show you understand the law around providing services to users with accessibility requirements.

Risk

If this isn't met, not all users will be able to use the end product.

The project can show that...	Metrics
The prototype solution has been tested for accessibility.	**Yes:** We have tested all the accessibility implications of the built solution using the prototype, with real users. **Partial:** We have tested the accessibility implications with testers playing the role of users, or we haven't been able to properly test the accessibility due to the limitations of the prototype. **No:** We have not tested the accessibility implications of the prototype.
Findings from accessibility testing are being addressed as part of development plans and/or support and mitigation strategies.	**Yes:** We have fully documented the findings and have a clear plan in place to address issues. **Partial:** We have a clear idea of what needs to be addressed, but only a partial plan on how to address these. **No:** We haven't made any plans to address these issues.
Supporting materials • Web Content Accessibility Guidelines (WCAG) Overview – WCAG – This page introduces guidelines and other standards related to web accessibility. • Accessibility – Interaction Design Foundation – A constantly – updated definition of Accessibility and collection of topical content and literature • Making your service accessible: an introduction – gov.uk – A full introduction on how to make your service accessible from gov.uk	

Always evidence decisions

Explore design options that meet your users' needs.

Risk

If this isn't met, the end product is unlikely to be fully useful and usable.

The project can show that...	Metrics
Development decisions have been informed and altered based on user validation of the prototype(s).	**Yes:** Full usability testing has informed iterative development of the prototypes, with documented justification of why each change has been made. **Partial:** We've only tested the prototype with a limited number of users, or some significant finding have not been incorporated into the design. **No:** We haven't tested the prototype, or none/very little of the feedback generated has been used to improve the design.

Users could complete tasks using the preferred prototype solution in an effective, efficient and satisfying way.	**Yes:** A relevant number of users were able to complete tasks in an effective, efficient and satisfying way. **Partial:** Users were able to complete tasks effectively but not efficiently; or we only tested with a limited number of users. **No:** Users could not satisfactorily complete tasks; or we did not carry out usability testing.
Supporting materials • Success Rate: The Simplest Usability Metric – Nielsen Norman Group – Information on how you can measure users' ability to complete tasks	
Any new user needs and problems identified since the initial user engagements have been logged and prioritised.	**Yes:** We have fully documented any new needs identified, to be tested in the next phase; or we are confident we identified all needs in Phase 1. **Partial:** We have identified some further needs, but haven't fully documented them. **No:** We know there are more user needs but have not documented them at all.
Any problems uncovered in usability testing have been addressed or are being addressed as part of project plans.	**Yes:** All problems have been addressed or there is a clear, documented plan to address any outstanding problems. **Partial:** Some problems have not been fully documented. **No:** There are known problems that have not been addressed and there is no plan to do so.

Evaluate continuously

Keep involving users in the digital development process.

Risk

Insufficient engagement means user perspective is likely to be diluted or lost.

The project can show that...	Metrics
Plans for continuous evaluation of work-in-progress have been executed and are ongoing	**Yes:** We are carrying out the evaluation plans documented in Phase 1 and we have a clearly documented plan for ongoing evaluation. **Partial:** We have not fully followed the plan, or have only a partial idea on how this will be ongoing. **No:** We have not followed the plan form phase 1, or we have no plans for ongoing engagement.
Users have been exposed to multiple iterations of the prototype solution(s).	Yes/Partial/No
Supporting materials • Design iteration brings powerful results. So, do it again designer! – Interaction Design Foundation – Information on using your findings to inform design iterations and the impact of doing so • Case Study: Iterative Design and Prototype Testing of the NN/g Homepage – Nielsen Norman Group – A case study of how the NN/g homepage redesign relied on rapid iterative prototyping, and usability testing, to balance multiple design objectives	

Be consistent, but not uniform

Do all you can to make the design consistent and sensible.

Risk

Not meeting this means the project won't meet University design and branding standards, and that the overall Digital Experience across University services will be fragmented and inconsistent.

The project can show that...	**Metrics**
The EdGEL criteria that was agreed in Phase 1 has been followed.	**Yes:** The criteria have been fully and clearly met. **Partial:** The criteria have been mostly met. **No:** The criteria have not been met.
Existing elements and components within the EdGEL have been used where possible and as a priority.	**Yes:** All components use EdGEL, or there is clear, documented justification where they have not been used. Partial **No:** EdGEL has not been referred to.
New elements and components have been created to fill any gaps that the EdGEL does not fill at this point, and these have followed the standards of the EdGEL (font, colours, logo etc).	**Yes:** All non-EdGEL elements still follow the EdGEL standards. **No:** There are elements in the design that don't refer to EdGEL standards.
The team member who has working knowledge of the EdGEL is still confident in using the EdGEL and can follow it into development.	**Yes:** The lead developer or other key team member has a strong understanding of EdGEL standards. **Partial:** The lead developer has a limited understanding of EdGEL but no direct experience; team members not on the development team have a strong understanding. **No:** There is no full understanding of EdGEL standards within the team
Any questions that have arisen regarding the use of EdGEL have been addressed with the EdGEL team.	Yes/Partial/No