

2020 QSD UX Research Plan

Version 1.0 | March 18, 2020

Program goals

- Identify opportunities to improve the user experience of Unity Next
- Provide actionable data to iterate on Unity Next
- Guide strategy for revisions to QCNet.com

Program objectives

- Test individual features of Unity Next well in advance of development
- Evaluate overall usability of specific workflows
- Provide benchmarking data to evaluate overall user satisfaction with Unity Next
- Mine user sessions for insights to inform additional research
- Gather data to inform IA of QCNet.com

Research team

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Target dates are estimates based on roadmap and delivery schedule, therefore they may change due to factors outside our control.

Version history

Version	Date	Notes	By
1.0	March 18, 2020	Initial version through Q3	Eric Stoltz

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Overview

The UX research program for QSD includes a variety of forms of research, with each methodology selected to achieve specific objectives. While there are other research projects UX may collaborate with, not all might be UX-specific, although there may be overlap in some studies. For example, a NPS score does not typically provide actionable UX data, as it is geared more towards business needs and includes variables out of the scope of UX interventions. However, a narrowly focused NPS module with the proper wording could be useful in some UX benchmarking.

The following are some typical UX research methodologies and the cases for which each is best suited.

Quantitative methods

TASK RATING

The task rating asks the user to evaluate ease of use on a five-point scale, often with stars. Opportunity for free-test feedback is provided as an option. This format is best presented at the end of a process and allows not only for establishing a benchmark and tracking improvement, but also allows the user to call attention to specific pain points that may not yet have been identified. In this way it combines quantitative and qualitative data.

TASK TIMING

In situations where the complexity of a task can be evaluated by the time it takes, especially in comparing UI variations or an iteration versus previous time analysis, the user may be timed on her ability to perform a task in a moderated setting on a prototype or the actual software. The resulting data is qualitative because it measures numerical increases/decreases in task completion.

TASK COMPLETION

In a facilitated setting, the user is asked to complete a set of tasks and the researcher records whether she was able to complete the task. In this regard quantitative data is collected. Often, though, in this form of study even richer qualitative data is also collected that can help answer **why** the user was unable to complete a task, or was not able to complete it immediately; this type of data provides direction for iteration to relieve any pain points.

A/B TESTING

Where there are sufficient numbers of users to obtain valid results, A/B testing can provide objective data to show that one variant of a UI or UI affordance provides superior value over another. Typically the desired outcome of such a test will be determined by business interest or hypotheses to improve learnability/usability.

Qualitative methods

TASK COMPLETION

As mentioned above, this form of study offers both quantitative and qualitative data that can not only prioritize pain points for intervention, but also uncover **why** the user was unable to complete a task, or was not able to complete it immediately. This type of data provides direction for iteration to relieve any pain points.

USER INTERVIEWS

In conjunction with established business needs and goals, interviewing customers can provide insights into their specific workflows. Especially when combined with passive observation by the researcher, these interviews can provide essential understanding of a real-life workflow rather than institutional assumptions.

PERSONAS

Development of anonymized personas help guide UX design and prevent self-referential design, a bias where the designer or stakeholder presumes that their mental model is the same as a user's and consequently makes decisions based on erroneous assumptions.

PAPER PROTOTYPING

Providing users with flat images of proposed UIs and asking their input with a guided script can help in questions of findability and identifying user expectations and assumptions about interactivity.

SME INTERVIEWS

Subject matter experts can provide valuable insights based on their extensive experience in customer interactions and best practices. Some sources may not be typically thought of as SMEs, but may have valuable insights, such as customer service agents who can explain the most common problems customers contact them about, or internal lab users or sales people who can act as surrogate users in constrained situations due to their extensive customer contact.

SESSION REPLAY ANALYSIS

Regular review of session replay sessions, and effective classification of actions and funnelling of workflows represented in these sessions, can help the researcher discover heretofore unmet user needs or unexpected flows that may need to be streamlined. Such sessions can also uncover user mental models that conflict with the UI or specific affordances.

Q2 study plan

Research to support the following Unity Next roadmap features:

- Evaluation mean and SD
- QC Lot Viewer
- Restart float
- Help Center hierarchy
- Data import
- Rules
- Reports

Initiate ongoing overall research:

- Session replay

QCNet

- Data to guide IA planning

Session replay

Target study date:	Begin April, ongoing
Requirements:	SessionCam (requires pasting of code snippet into application)
Recruiting goal:	All users
Location:	Remote
Complexity:	Low

GOALS

- Understand user workflows.
- Identify previously unknown pain points or sources of confusion.

PROJECT BACKGROUND

Task completion user studies seek to be as complete as possible and often require testing of hypotheses. There are likely, however, user issues that were not imagined or expected in task completion sessions. Therefore regular review of session replays can identify not only problems, but new features and flows that will make the software better for users.

RESEARCH QUESTIONS

- How are users interacting with the software?
- How do expected funnels perform?
- Are there unknown funnels or flows that we can discover?

METHODOLOGY

SessionCam sessions are categorized and analyzed on a regular basis to uncover new insights into user workflows and interactions.

SCREENING CRITERIA FOR PARTICIPANTS

- None; all user sessions are saved for possible replay. Not all of the sessions may be helpful to review. For example, extremely short sessions would generally be filtered out.

REPORTING

- Reports will be provided as insights are uncovered.

QCNet information architecture

Target study date:	April
Requirements:	Card-sorting software
Recruiting goal:	5-12 user surrogates
Location:	Mix of remote and local in-person
Complexity:	Low

GOALS

- Identify navigation categories that resonate with users.

PROJECT BACKGROUND

As part of a revisioning for QCNet, there is a need to create categories that make sense to users rather than just repeating the current hierarchy without sound rationale.

RESEARCH QUESTIONS

- Where would the user expect to find the existing content of QCNet?
- Can these categories be used for a future closed-sorting exercise?

METHODOLOGY

The user will be presented with an unstructured list of content and asked to organize it in categories of her own choosing (open-sort).

SCREENING CRITERIA FOR PARTICIPANTS

- Generally familiar with the needs of clinical lab workers at various levels

REPORTING

- Executive summary
- Card sorting results

Evaluation mean and SD

Target study date:	April
Requirements:	Paper prototypes
Recruiting goal:	5-12 participants, users or user surrogates
Location:	Mix of remote and local in-person
Complexity:	Medium

GOALS

- Test product concept with the target audience.
- Reveal friction points and confusing experiences.
- Gain insights for product iteration priorities.

PROJECT BACKGROUND

The evaluation mean and SD feature already underwent testing in Australia. Further refinements were requested after the testing, and the resulting options need validation before proceeding to development. As the question involves whether users can understand a particular affordance, an interactive prototype is not necessary.

RESEARCH QUESTIONS

- Does the user understand the binary choice of fixed or floating statistics?
- Does the user need to see both options as labels?
- Is one version more effective than the other?

METHODOLOGY

The user will be asked a set of questions as to what specific interface affordances mean to them and what they would expect from interacting with them.

SCREENING CRITERIA FOR PARTICIPANTS

- Supervisor level
- Is very familiar with the concept of fixing a mean and SD, why one would do this and the factors involved in making decisions in this area

REPORTING

- Executive summary
- Task completion results
- Verbatims

QC Lot Viewer

Target study date:	May
Requirements:	Working software, configured environment, test accounts, video recording
Recruiting goal:	5-12 participants in beta program, select sales reps
Location:	Mix of remote and local in-person
Complexity:	Medium

GOALS

- Test product concept with the target audience.
- Reveal friction points and confusing experiences.
- Gain insights for product iteration priorities.

PROJECT BACKGROUND

To date research has included general interviews undertaken during Australia user testing around the initial UI. No user testing has been conducted on the final form of the product. In addition to task completion, some business needs will also have to be validated.

RESEARCH QUESTIONS

- Is the purpose of the feature immediately clear to the user?
- Can the user successfully navigate the feature elements?
- Can the user obtain the information she wants with ease?
- Is there a clear benefit to the user from the feature?
- What additional information/functionality would be helpful to the user?

METHODOLOGY

Using the actual software, the researcher will moderate remote or in-person sessions in which the user encounters the interface for the first time. Determining expectations from before entering the software, the researcher will compare those expectations with the actual experience. General questions about the interface will determine if business objectives have been met. The researcher will then ask the user to complete specific tasks and record whether she was able to easily accomplish each task. Open-ended verbatims will also be recorded. Finally the researcher will obtain from the user general comments about the overall experience and any suggestions the user may offer.

SCREENING CRITERIA FOR PARTICIPANTS

- Involved in lab management
- Familiar with ordering process for controls
- Responsible for scheduling crossover studies

REPORTING

- Video
- Executive summary
- Task completion results
- Verbatims

Help Center information architecture

Target study date:	April
Requirements:	Card-sorting software
Recruiting goal:	5-12 user surrogates
Location:	Local in-person
Complexity:	Low

GOALS

- Identify navigation categories that resonate with users.

PROJECT BACKGROUND

The Help Center solution from Freshdesk has a built-in hierarchy of Categories, Folders and Articles. The envisioned content from Customer Support needs to be organized according to a scheme that will resonate with users.

RESEARCH QUESTIONS

- Where would the user expect to find the proposed content from the Help Center?

METHODOLOGY

Based on the deep familiarity with customer support requests, user surrogates from the support department can provide insights through an in-person physical card-sorting exercise that will help to develop consensus around a system to organize and access content in the Help Center.

SCREENING CRITERIA FOR PARTICIPANTS

- User surrogates from Customer Support

REPORTING

- Executive summary
- Card sorting results

Restart float

Target study date:	June
Requirements:	Interactive prototype, video recording
Recruiting goal:	5-12 participants
Location:	Mix of remote and local in-person
Complexity:	Moderate

GOALS

- Test product concept with the target audience.
- Reveal friction points and confusing experiences.
- Gain insights for product iteration priorities.

PROJECT BACKGROUND

Unity Real Time offers the option to restart the float, and this is a vital feature that needs to be in Unity Next. In URT, the user goes to a separate screen off settings and selects a date and time to restart the float. The date and time represent a point at which the test results are more suitable to calculate a float from. It has been recommended that the user be able to do this for the data screen.

RESEARCH QUESTIONS

- Where would the user expect to find this capability?
- Is the proposed UI clear?
- What does the user expect would happen in choosing to restart the float?

METHODOLOGY

Using an interactive prototype, the researcher will moderate remote or in-person sessions in which the user encounters the interface for the first time. Presented with the hypothetical situation that a restart is necessary and the user knows which test run should form the base of the float going forward, she should be asked where such a task might be found, and once there describe what would happen if the option were selected.

SCREENING CRITERIA FOR PARTICIPANTS

- Supervisor level
- Not Unity Real Time users (if URT users some script changes will be needed)
- Already familiar with situation where a restart would be needed for floating statistics

REPORTING

- Video

- Executive summary
- Task completion results
- Verbatims

Data import

Target study date:	May
Requirements:	Interactive prototype, video recording
Recruiting goal:	5-12 participants
Location:	In-person
Complexity:	High

GOALS

- Test product concept with the target audience.
- Reveal friction points and confusing experiences.
- Gain insights for product iteration priorities.

PROJECT BACKGROUND

The existing production version of Unity Next has an upload interface. In the early Beta testing days it was clear that a fair number of pain points existed in the first version. Since then proposed solutions to those problems and additional enhancements and additional functionality have made the design of the data import workflows significantly different from the existing production version. We need to test the fixes and additional functionality.

RESEARCH QUESTIONS

- Does the user understand the simplest flow?
- Does the user understand the initial mapping flow?
- Are the meanings of terms and labels clear to the user?
- What does the user expect on selecting each affordance?
- Is the information provided in the import history understandable and is it clear to the user as to how to fix issues?

METHODOLOGY

Using an interactive prototype, the researcher will moderate in-person sessions in which the user encounters the interface for the first time. The user will be asked to attempt upload, mapping and troubleshooting workflows.

SCREENING CRITERIA FOR PARTICIPANTS

- Familiar with export file formats and content from instruments/LIS

REPORTING

- Executive summary

- Video
- Task completion results
- Verbatims

Rules

Target study date:	April
Requirements:	Interactive prototype, video recording
Recruiting goal:	5-12 participants
Location:	In-person
Complexity:	Moderate

GOALS

- Test product concept with the target audience.
- Reveal friction points and confusing experiences.
- Gain insights for product iteration priorities.

PROJECT BACKGROUND

The original requirements for the SPC rules offered a relatively simple interface where the user would select which rules would initiate warnings or rejections based on a set of radio buttons. Based on a new UI based on input from John Yundt Pacheco on new best practices, each rule is not created in the same way. Some are typed in manually, some selected from a dropdown, others are a plain-text option. Some rules need to have options restrained, some are dependent on levels. While the basic format of radio buttons remains, a fair amount of complexity has been introduced that requires further testing.

RESEARCH QUESTIONS

- Does the user understand why some options are not available?
- How does the user feel about being able to manually enter any value?
- Is it necessary to turn the rules on/off?
- Does the user understand how to see additional guidance on setting rules?
- Can the user successfully set and save rules?
- What happens when you set a rule?

METHODOLOGY

Using an interactive prototype, the researcher will moderate in-person sessions in which the user encounters the interface for the first time. The user will be asked to explain the various rule options, why she might choose one or another, what would be the effect of the rules and where those effects would be visible, and how to set a rule.

SCREENING CRITERIA FOR PARTICIPANTS

- Familiar with the use of rules.

REPORTING

- Executive summary
- Task completion results
- Verbatims
- Video

Reports

Target study date:	May
Requirements:	Interactive prototype, video recording
Recruiting goal:	5-12 participants
Location:	Mix of remote and local in-person
Complexity:	Moderate

GOALS

- Test product concept with the target audience.
- Reveal friction points and confusing experiences.
- Gain insights for product iteration priorities.

PROJECT BACKGROUND

The reports UI existing in production is fairly simple. However, performance issues inherent in the system architecture have required two separate workflows for reports: one for reports containing up to 99 analytes (immediate delivery) and one for reports containing 100 or more analytes (delayed delivery). These two different flows require the introduction of report statuses, which was not previously required. As a result, the two workflows must be tested as well as the concept of status in reports and what the user might expect from each status.

RESEARCH QUESTIONS

- Can the user find the reports section?
- Can the user determine how to generate a report?
- Can the user discern that different reports may have different statuses?
- Does the user understand what the different statuses entail, e.g. approved/not approved?
- Can the user find previous reports?

METHODOLOGY

The user will be asked a set of questions as to what specific interface affordances mean to them and what they would expect from interacting with them.

SCREENING CRITERIA FOR PARTICIPANTS

- Bench tech and up
- Familiar with reports in the clinical setting and the processes around them

REPORTING

- Executive summary

- Task completion results
- Verbatims

Q3 study plan

Research to support the following Unity Next roadmap features:

- Bench review
- Settings changes (valid configurations)
- Audit trail
- Copy/move configurations
- Lot archiving

Ongoing overall research:

- Session replay

Bench review

Target study date:	July
Requirements:	Interactive prototype, video recording
Recruiting goal:	5-12 participants
Location:	Mix of remote and local in-person
Complexity:	Low

GOALS

- Test product concept with the target audience.
- Reveal friction points and confusing experiences.
- Gain insights for product iteration priorities.

PROJECT BACKGROUND

Bench review was already tested in Australia, however there was a pain point in users understanding how to open the test run detail panel. There is a need to test an alternative.

RESEARCH QUESTIONS

- Can the user find the test run data detail?

METHODOLOGY

The user will be asked a set of questions as to what specific interface affordances mean to them and what they would expect from interacting with them.

SCREENING CRITERIA FOR PARTICIPANTS

- Bench tech and up

REPORTING

- Executive summary
- Task completion results
- Verbatims

Setting changes (valid configurations)

Target study date:	July
Requirements:	Interactive prototype, video recording
Recruiting goal:	5-12 participants
Location:	Mix of remote and local in-person
Complexity:	Low

GOALS

- Test product concept with the target audience.
- Reveal friction points and confusing experiences.
- Gain insights for product iteration priorities.

PROJECT BACKGROUND

Changes in valid configurations will require the users to change some settings in Unity Next. These changes may be 1-to-one, one-to-many, or many-to-one. Changes will be made from the dashboard and may require differing levels of approval, e.g., apply one-to-one change to one or multiple instruments, apply changes only to some instruments, select an option to apply to one or more instruments.

RESEARCH QUESTIONS

- How does the user understand the proposed changes?
- What do they expect would happen on approving a change?
- Do they understand that the changes are not reflected on their physical instruments?
- What are some of the considerations that would cause a user not to accept a change?
- Is the result of the user action what the user expects?

METHODOLOGY

The user will be asked a set of questions as to what specific interface affordances mean to them and what they would expect from interacting with them.

SCREENING CRITERIA FOR PARTICIPANTS

- Bench tech and up

REPORTING

- Executive summary
- Task completion results
- Verbatims

Copy/move configurations

Target study date:	July
Requirements:	Interactive prototype, video recording
Recruiting goal:	5-12 participants
Location:	Mix of remote and local in-person
Complexity:	Moderate

GOALS

- Test product concept with the target audience.
- Reveal friction points and confusing experiences.
- Gain insights for product iteration priorities.

PROJECT BACKGROUND

Users in large labs should be able to copy or move a configured instrument/control to another department/instrument without having to set it up manually. Therefore, on the level of an instrument or product, the user should be able to move that instrument/product and everything underneath it in the cascade. This functionality has not yet been tested.

RESEARCH QUESTIONS

- Can the user find where to go to complete the task?
- What does the user expect would happen?
- Does the user understand she is moving/copying everything underneath the instrument/product?
- Does the user understand the undo process?

METHODOLOGY

The user will be asked a set of questions as to what specific interface affordances mean to them and what they would expect from interacting with them.

SCREENING CRITERIA FOR PARTICIPANTS

- Bench tech and up
- Familiar with reports in the clinical setting and the processes around them

REPORTING

- Executive summary
- Task completion results
- Verbatims

Q4 study plan

Research to support the following Unity Next roadmap features:

- Supervisor review
- Interlab comparison view
- Actionable LJ
- QC Lot Viewer v. 2

Ongoing overall research:

- Session replay