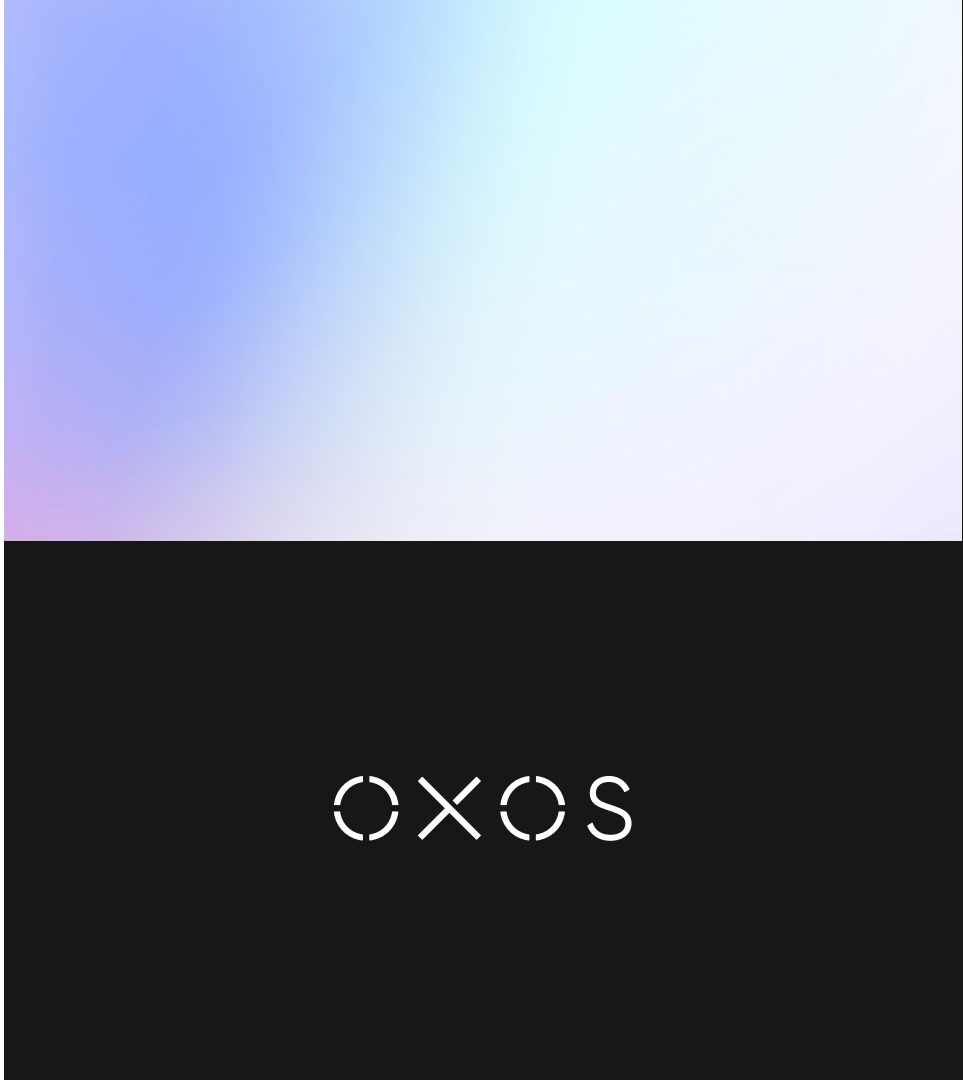
v3.1.1 UI/UX Updates

Feature Set Proposal for Summative Usability Study



Foreword

The purpose of this deck is as follows:

- Propose the set of UI/UX feature updates needed in 3.1.1 for summative usability testing

Be aware, the visual assets and styles presented here are not finalized.

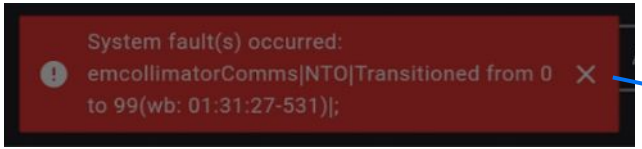
This deck is meant to present functionality only, and final visuals will be provided at a later date (Monday, 8/5).

Absolutely Needed Features

The following section includes feature updates that are absolutely necessary for the upcoming summative usability study

MC2 App - Error Messages

Original



Ideally HF can get together with software to determine the message contents

What:

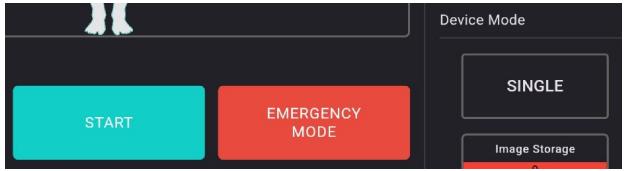
- Implement language in error messages that a lay-user can understand
  - These are specifically the error messages that pop-up at the top-center of the screen and then populate the Notifications tab
  - It may not always be possible to explain to the user what is wrong, but it is more important to convey what the user should do

Why:

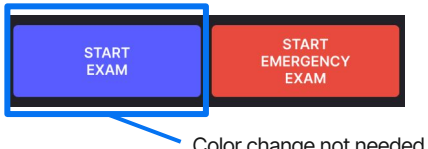
- Relaying device error reasons to summative usability participants will be key for troubleshooting tasks
  - **FDA has shown concern** regarding a user's ability to troubleshoot device issues on their own
  - Summative usability participants will need to be able to complete the protocol without our intervention

Exam Setup Page - Start Exam Buttons

Original



Update



What:

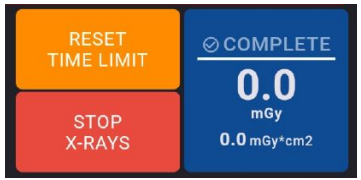
- Update the button text from “START” and “EMERGENCY MODE” to “START EXAM” and “START EMERGENCY EXAM”

Why:

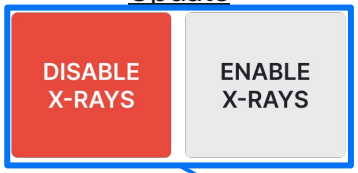
- Addresses usability issues from previous usability studies; needs to be validated
  - Some users were not sure how to begin an emergency exam, confused by the choice of wording
- Should be a low effort change

Acquisition Page - Irradiation Disabling Switch

Original



Update



Size change not necessary for 3.1.1

What:

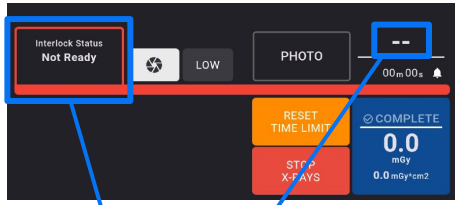
- Update the button text from “STOP X-RAYS” and “ALLOW X-RAYS” to “DISABLE X-RAYS” and “ENABLE X-RAYS”

Why:

- Addresses usability issues from previous usability studies; needs to be validated
  - Some users were not sure how to end an exam, pressing “STOP X-RAYS” instead of “COMPLETE”
- Should be a low effort change

Acquisition Page - Live Status Widget

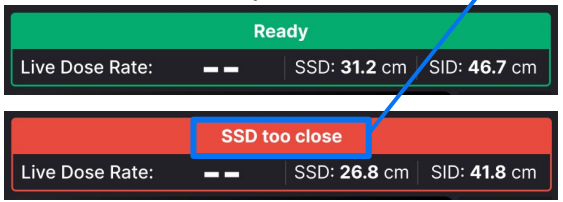
Original



Interlock Status and Live Dose Rate were below the secondary image viewer

Live SID and SSD were kept at the bottom of the primary image viewer

Update



Potential message text includes:

"SID too close"
"SID too far"
"SSD too close"
"Outside of Active Area"
"Emitter battery low"
"Cassette battery low"
"Emitter Charger connected"
"Cassette LEDs not visible"
"System Error, see Error Message"
"Emitter not stable"

What:

- Relocate Interlock Status, SSD, SID, and Live Dose Rate to a single widget above the secondary image viewer
  - This will also require the secondary image viewer to be resized
- When the device is Not Ready, display the interlock reason

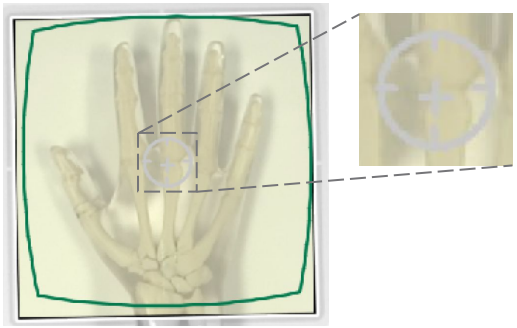
Why:

- Relocating SSD and SID addresses usability issues from the bridge study; needs to be validated
- Relaying the interlock reason to summative usability participants will be key for troubleshooting tasks which is an **FDA concern**
- Relocating Live Dose Rate is less important, but fully represents the feature as it will be in 3.2

HONORABLE MENTION: The more we can "rearrange" to match the 3.2.0 arrangement of elements, the better off we will be!

Viewfinder - Perpendicularity Indicator

Original



Update

Define Concept by EOD 8/5

Finalize Design Mid-day 8/6

What:

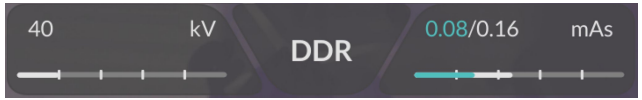
- Functional implementation TBD - user testing on Friday (8/2)

Why:

- Updating the perpendicularity indication addresses usability issues identified in the bridge study; needs to be validated
- **FDA has shown concern** regarding a user's ability to maintain perpendicularity when using our device, especially when handheld

Viewfinder - Remove High-powered Singles (0.16, 0.25, 0.40) in DDR Mode

Original



Update

What:

- Remove the ability to take 0.16, 0.25, and 0.40 mAs Singles in DDR
  - 0.08 would be the max mAs in DDR mode
  - Can still fire 0.04 and 0.08 mAs Singles by quickly pulling the trigger

Why:

- Both HF and Sales have observed that users are confused by the visual indication of this function
- With this, there are two potential hazardous situations that could occur:
  - A user thinks the white value corresponds to DDR and ends up taking a DDR that is lower quality than intended (**non-diagnostic exposure**)
  - A user tries to take a DDR, but releases the trigger too quickly and unintentionally takes a high-powered Single (**non-ALARA exposure**)
- HF has determined that it would be best to remove it
  - Trying to improve the visual indication just results in a more cluttered Viewfinder
  - After interviewing Sales, there doesn't seem to be a very likely use case for it
  - This function is also a hold-over from when MC2 only had one X-ray mode - it is now less applicable

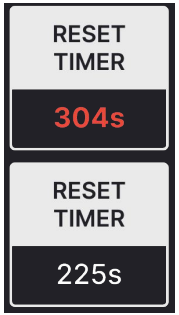
Really Helpful Features

The following section includes feature updates that would really benefit from user validation (via the upcoming summative usability study), but aren't absolutely necessary

Acquisition Page - Load Time Limit Reset Button

Original

Update



What:

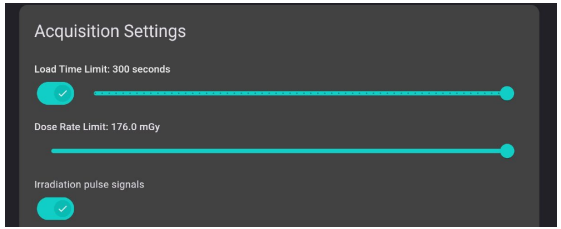
- Add a count-up timer to the button
  - The time will reset to 0s when the button is pressed (this differentiates it from the cumulative time, which will continue to count up)
  - The time will turn red when the loading time surpasess the set limit (which is a necessary visual if they have audible signals disabled)

Why:

- HF believes that adding an indication of the time will be useful for users that want to use this function
  - This will let them know how much time they have left
- Adding this feature has the potential to introduce confusion, so it needs to be validated

Cassette Settings - Acquisition Settings

Original



Update

Color change not needed for 3.1.1

What:

- Add min and max values to limit sliders
- Add free-entry field alongside limit sliders
- Change check icon to bell icon

Why:

- Addresses usability issues identified in previous formative usability studies; needs to be validated
  - It was difficult for users to set a specific value using the slider
  - Some users were not aware that the toggles serve to mute the associated audible signals

Viewfinder - SID Gauge

Original

Update

What:

- Add the live SID value to the SID Gauge
- Add a title to the SID Gauge

Why:

- Addresses usability issues from previous usability studies and the bridge study; needs to be validated
  - Users did not always understand that the SID Gauge is relaying SID (this has also been observed by both HF and Sales outside of official studies)
  - It was difficult for users to have to look between the tablet (to view the SID value) and the Emitter (to position the device) and then back again