UX Yoda Roadmap DRAFT

Based on the SW Yoda Roadmap: <https://miro.com/app/board/uXjVP_y3v4I=/>

Legend:

green text = Progress indication

red text equals = Engineering dependency

blue text = BioSignals dependency

purple text = Context / NLP dependency

orange text = Hardware dependency

2022  
  
**November**:  
- ASHA Demo to incorporate Context v1 (language system) DONE

- ASHA Survey authoring DONE  
- ASHA Survey collection DONE  
- ASHA Survey analysis DONE  
- MRTK initial investigation / audit DONE  
- MRTK keyboard prototype generation in Unity STARTED  
- Babylon.js to MRTK tech research / approach determination (BioSignals dependency – agreement) STARTED  
- Stimuli UX Metrics finalization w/ BioSignals (BioSignals dependency – agreement) DONE  
- Stimuli Test Survey authorship w/ BioSignals (BioSignals dependency – collaboration) DONE

- Hardware / Industrial Design participation STARTED  
  
**December:**

- Babylon.js -> GLB to MRTK tech research / approach determination cont’d (BioSignals dependency – validation) IN PROGRESS

- Design a couple first SSVEPs (BioSignals dependency – feedback) STARTED

- Design a first SSMVEP (assumed rotations / movement / scaling of object only for now) (BioSignals dependency – feedback) STARTED   
- Post-MF1/ASHA design directives DONE

- Stimuli Keyboard Design Exploratory Concept (BioSignals dependency – feedback) STARTED  
- Phrase Management UI redesign rough wired based on ASHA feedback STARTED

- Complete MRTK QWERTY keyboard (ENG DEPENDENCY – handoff to engineering in MRTK for evaluation starting Dec 14th – integrate later / September) IN PROGRESS

- Implement and Evaluate (w/ tool) a couple first SSVEPS (BioSignals dependency – support)

- On-board Sandra to BioSignals / etc (should happen while Emily is still here) (BioSignals dependency – support)

- Improved design/prototyping of head-pose dwell animations

- Design of MRTK Settings Panel (ENG DEPENDENCY – handoff to engineering in MRTK for evaluation starting Dec 28th – integrate later / December) IN PROGRESS

- Update of SPAR Notifications, Dialogs, Nav & Status Bar in MRTK and Unity prototype implementations of each (minimal spec update – prototype implementation is what engineers will benefit from) (ENG – handoff to engineering in MRTK for evaluation starting Dec 28th – integrate Dialogs / Notifications September, Nav & Status Bar integrate July)

- MRTK Phrase Management update based on ASHA feedback / recommendations

- MRTK UI Framework for Internal UX Prototyping (Keyboard, Settings, Phrase Management, Notications, etc)

- Finalize UI Framework Decision (ENG DEPENDENCY – decide whether it’s MRTK or other for UI implementation and move forward, evaluation starting Dec 28th) IN PROGRESS

- Hardware / Industrial Design participation ongoing IN PROGRESS

- Planning First Language System UI Design/ Prototype with Context team   
  
2023  
  
**January:**

- Note: Prototyping with Mira Headset outfitted to work with Samsung Galaxy should be possible now for Headpose. Grael headset, PC and external monitor (taped etc) for BCI for now. (HARDWARE DEPENDENCY)

- Implement and Evaluate (w/ tool) the first SSMVEP (assumed rotations / movement / scaling of object only for now) (BioSignals dependency – provide source code for tool, feedback)

- Phrase Management Re-Design Prototype / User Test

- Further Head-pose UI innovations Prototyping / User Test (e.g. swipe, lasso)

- SPAR UI sound design – first pass (note: there is current sound design in the default prototype)

- MRTK design system authorship / Figma / prefabs and distribution (note: eventually useful for Jupiter). (ENG DEPENDENCY – may start to use in build if ready)

- Hardware / Industrial Design participation ongoing

- Design/ Prototype T4 (Linotype) keyboard or TBD concept to demonstate language system enhancements as desktop/python app   
  
**February:**

- Note: Prototyping with Mira Headset outfitted to work with Samsung Galaxy should be possible now with Grael headset for BCI for now. (HARDWARE DEPENDENCY)

- Prototype experience will two SSVEPs / SSMVEPs at a time (Yes/No only) for desktop or potentially Mira solution mentioned above (BioSignals dependency – source code for tool, feedback)

- Plan MF2 user test (working title) for SPAR re-design & targetability with target users. UX needs to prototype this for use testing. Will need to build our own UX prototypes.

- Run MF2 user test (working title) for SPAR MRTK re-design & targetability  
- MF2 user test analysis  
- MF2 design directives for UX enhancements / changes

- Eye-tracking as targeting mechanism/cursor prototype and testing on some kind of TBD hardware (note: BioSignals is going to be testing eye tracking for the purpose of BCI content tagalong using candidate Yes/No UI to try to prove feasibility for v1)

- Eye-tracking Input and Interaction Design as cursory mechanism

- Hardware / Industrial Design participation ongoing

- Note: Unity support with BCI (BioSignals)

- Test T4 Prototype keyboard (multiple versions) with Language System / Interactivity or TBD concept, but as a desktop/python app  
  
**March:**

- Note: Representative Android AR / BCI hardware ready to prototype with (HARDWARE DEPENDENCY)

- Design/Prototype BCI dwell behavior / animation (BioSignals dependency – source code for tool, collaboration)

- Range of Motion / UI Follow / etc. Design Spec Delivery based on MF2 (ENG DEPENDENCY – implementation March)

- Eye-tracking input spec delivery (ENG DEPENDENCY – implementation March)

- Hardware / Industrial Design participation ongoing

- Design/Prototype/Test QWERTY keyboard with auto-expansion / auto-replacement with space bar to select / bucket of words in Language System / Interactivity (might include new layout?) or TBD concept, but as a desktop/python app

**April:**

- Prototype experience will two SSVEPs / SSMVEPs at a time (Yes/No) plus disengagement indicator (BioSignals dependency – source code for tool, collaboration)

- Hardware / Industrial Design participation ongoing

- Switch Input design / prototype / user test

- Start working on Requirements UX

- Design/Prototype T4 Prototype keyboard with Context v2 / Interactivity, with our AR device/ BCI / stimuli or TBD concept (ENG DEPENDENCY – potentially)

**May:**

- Yes/No/ Basic Needs keyboard (5-7 stimuli territory) w/ disengagement indicator and manual rest control design / prototyping / test (BioSignals dependency – source code for tool, collaboration)

- Switch Input spec delivery experience (ENG DEPENDENCY – implementation June, requires Settings to be in place to support)

- Design and rough wires of MRTK Virtual Assistant experience / screens (possibly Alexa). (ENG DEPENDENCY – implementation May/June)

- Delivery Requirements UX (ENG DEPENDENCY – acceptance)

- Hardware / Industrial Design participation ongoing

- Start working Main Scene Redesign – 3D assets spec

- Test T4 Prototype keyboard with Language System / Interactivity or TBD concept, with our AR device/ BCI / stimuli (ENG DEPENDENCY – potentially)

**June:**  
- Design updates to all aspects based on test from previous month  
- Full onboarding experience design

- Companion App design kick-off

- Design of additional MRTK keyboards (Yes/No/Maybe, Linotype, Other, etc). (ENG DEPENDENCY –implementation post-August)

- Design of BCI calibration (ENG DEPENDENCY – implementation July)

- Formative testing on Jupiter / Axon-R with assets package

- Continue working Main Scene Redesign – 3D assets spec

- Start Prototype / User Testing Yes/No, Linotype and Other headpose keyboard

- Design, creation and testing of Code Modulated (M-Sequences) or new type of Stimuli — multiple at a time (20+) (BioSignals dependency – source code for tool, collaboration. Date for this is not critical, since it’s not within MVP release / not needed for funding.)

**July:**

- Delivery of Main Scene Redesign – 3D assets spec (ENG DEPENDENCY – implementation July)

- Companion App design continuation

- Start design of Phrase Management

- Start headpose Keyboards (QWERTY, Linotype, Yes/No, Other TBD) spec

**August:**

- Delivery of Phrase Management spec (ENG DEPENDENCY – implementation August)

- Begin creation of completely new type of stimuli

- Onboarding (headpose + BCI) experience design kick-off

- Companion App design continuation

- Start UI Scaling spec

- Start Notification / Dialogs/ Toast spec

- Complete headpose Keyboards (QWERTY, Linotype, Yes/No, Other TBD) spec

**September:**

- Delivery of UI Scaling spec (ENG DEPENDENCY – implementation September)

- Delivery of Notification / Dialogs/ Toast spec (ENG DEPENDENCY – implementation September)

- Delivery of Headpose Keyboards (QWERTY, Linotype, Yes/No, Other TBD) sepc (ENG DEPENDENCY – implementation September)

- Onboarding (headpose + BCI) experience prototype / testing

- BCI UI yes/no/basic needs final design commited / user test for FDA for approval (BioSignals dependency – collaboration)

- Companion App design continuation

**October:**

- BCI UI yes/no spec (ENG DEPENDENCY – implementation October, requires Settings to be in place beforehand)

- Onboarding (headpose + BCI) experience spec delivery (ENG DEPENDENCY – implementation October, requires Settings to be in place beforehand)

- Companion App design continuation

- SPAR full sound and haptic design (ENG DEPENDENCY – implementation in the January 2024)

- Companion App design continuation

**November:**

- Plan out first full formative test with SPAR headpose + stimuli, switch, representative AR/BCI hardware  
- Execute above formative test  
- Analyze results of formative test  
- Determine Design directives based on formative test

- User settings spec start

- External display + Audio design start

- Start Internal Sound & Haptic design (final pass)

**December:**

- Packaging / paper manual design support

- Web support help

- User Settings design spec delivery (ENG DEPENDENCY – implementation in the December 2024)

- External display + Audio prototyping / user test

- Companion App design continuation

- Continue Internal Sound & Haptic design (final pass)

2024

**January:**

- Design of MRTK tooltips / button copy responsiveness (Settings related to this behavior as well) (ENG DEPENDENCY – implementation February 2024)

- Internal Sound & Haptic spec delivery (ENG DEPENDENCY – implementation January 2024)

- External display + Audio spec delivery (ENG DEPENDENCY – implementation January 2024)

- Full Summative test planning, execution and analysis of all aspects and design changes applied

- Companion App design continuation / user testing (ENG DEPENDENCY isn’t until April 2024 spec deliver – implementation June 2024)

**February:**

- SW Design cutoff

Formative user test: July - September

Summative user test: November - Dec

- Design Unity Asset Package & Interactions. Includes BCI Stimuli. Work with PM to determine what UI element are for Jupiter / Researchers. (ENG DEPENDENCY – implementation April) (BioSignals dependency – collaboration)

**NLP UX roadmap: (Meeting with team to determine this Friday)**

- Start researching new UI designs based on improved Context Engine/ NLP approaches

**~~January - February:~~**

* ~~Testing the interface communication / completion / etc~~
  + ~~Doing discovery spike~~
  + ~~Prototype: UI with keyboard to test interaction (goal: to type as little as possible, more tokens to select). Someone will develop a prototype. We probably need a technical resource to help support beyond that. NLP is planning to rely on Benjamin to hook up prototype.~~
  + ~~Participants: external~~

**~~March - April:~~**

* ~~NLP integrating content for BioSignals~~
  + ~~Doing discovery spike~~
  + ~~Engineering dependency with Mike~~