Web3DUX working group

*The Web3D User Experience (Web3DUX) Working Group's mission is to collaboratively establish best practices and standardized capabilities that support rich user experience (UX), intuitive navigation, and effective interaction techniques for a variety of 3D Web technologies.*

**Status**

* This working group is under development
* We proposed to meet Bi-weekly Working Group teleconferences or Zoom on Wednesday 1:15 - 2:00 pm (Eastern time)
* Results are reported on the x3d-public mailing list for now to motivate discussions

**Overview**

Web3DUX Working Group includes diverse activity and collaboration by stakeholder professionals in Web3D, User Experience (UX), Virtual Reality (VR), Augmented Reality (AR), mixed/extended reality (XR), User Accessibility, and Data Science. Our goals include establishing standard measurements for user experience on 3D interactive applications, maximizing play-anywhere Web compatibility across platforms and devices, demonstrating best practices for conducting usability studies in 3D applications, and exploring the opportunity to generate personalized UX. End users perform work across a broad range of domains and have diverse skills, experience, goals and needs. User accessibility issues often include deeper variations across these same themes. Producing exemplars that provide value across this rich variety of objectives can help establish best practices and repeatable patterns of success.

**Motivations, Goals and Objectives**

See the Web3DUX Working Group Charter for our motivations, goals and objectives.

**Outcomes**

Many inter-related tasks are intended to achieve the following overall outcomes.

* *Establish standardized measurement for user experience on 3D interactive* *applications*
* *Defining the minimum set of interactive capability within 3D interactive* *applications*
* *Identify and share best user experience practices in Web3D or mobile 3D applications*
* *Provide procedures and tools for the conduct the usability studies on 3D scenes on multi-platforms, including, 3D Web applications, 3D AR/VR applications*
* *Promote a responsive 3D scene over different platforms*
* *Evaluate the accessibility of Web3D and mobile 3D applications*
* *Promote personalized 3D interactive User Experience empowered by user behavior and interaction data*
* *Identify safety and security issues related with VR/AR/XR, wearable devices and Web3D applications*
* *Identify and ensure best practices for protecting rights and welfare of human research subjects, especially in regard to review process with* [*Institutional Review Board (IRB)*](https://en.wikipedia.org/wiki/Institutional_review_board)*.*

**Related Working Groups**

Web3D working groups, portals and practices that are expected to inform, adopt and demonstrate this work include

**Activities**

* Call members to join
* Collect and assemble the current work on UX for 2D/3D interactive applications. The working group focus includes four interaction areas:
	+ Navigation
	+ Manipulation
	+ Selection
	+ System Control
* Use consistent data logging for usability studies
* Assess accessibility for 3D applications across multiple platforms
* Explore the current HCI research with user behavior data

**Communication**

**Chairs:**

Dr. Feng Liu, Mercer University

Dr. Amela Sadagic, Naval Postgraduate School

Dr. Nicholas Polys, Virginia Tech

**Mailing lists:** Results are reported on the x3d-public mailing list with members-only list Web3DUX@web3D.org (The email and public website will be active upon the approval of Web3DUX working group)

**Public Working Page (Wiki):**

Web3DUX Working Group Public Assets: https://www.web3d.org/Web3DUX-Public

Web3DUX Working Group Member Assets: https://www.web3d.org/Web3DUX-Member

**References:**

Charter

Web3DUX Working Group Charter

**Overview**

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Motivations

* Collaborate with professionals in Web3D, VR/AR/XR, HCI and UX to generate interest on User Experience studies in 3D interactive technology
* Establish standard procedure or measurement for usability study on interactive 3D applications on the Web or handheld device;
* Promote rich and task-oriented user experiences in 3D application
* Investigate potential safety and security issues on wearable or/and VR/AR/XR and other 3D interactive applications
* Promote the potential on Web3D with customized User experience and Human-Computer Interaction based on user behavior data

Goals

* Study the current usability studies on the following four interaction areas and standardized them:
	+ Navigation
	+ Manipulation
	+ Selection
	+ System Control
* Identify the role of data logging for the usability study
* Review requirements for proposed X3D Annotation Component relating to information sets, 2D/3D user experience, and authoring practices.
* Promote best practices for supporting X3D accessibility that is compatible with Web accessibility.
* Provide exemplary examples on conducting the usability studies on 3D interactive application on multi-platforms, including, Web, VR/AR/XR and handheld devices
* Identify good examples for responsive interactive 3D applications over different platforms, such as Web and mobile phone
* Establish standard measurement for user experience on Web3D applications;
* Identify the best practices on AI-supported HCI 3D applications on the Web or other platforms

Objectives

The working group is collaboratively designing a general framework that supports:

* collaboration among professionals in Web3D, User Experience (UX), Virtual Reality (VR), Augmented Reality (AR), mixed/extended reality (XR), User Accessibility, and Data Science to promote rich user experiences in 3D interactive technology
* user research and usability study with procedures and tools and standardized measurement on 3D applications on the Web, mobile and others multiplatform;
* Task-oriented Web3D application applies in practices and serves to the community needs.
* Web3D and mobile 3D applications with feasible and affordable accessibility and personalized interaction.

If successfully designed, such a general framework might be gradually extended with new concepts related to a variety of different semantic areas using the X3D presentation.

Practices

The Web3DUX Working Group follows [Web3D Working Group Practices](https://www.web3d.org/working-group/practices).

The role of the X3D community has been crucial throughout every stage of development for the VRML and X3D International Standards. The public community of interested web authors has always been a principal stakeholder for success and indeed is often a primary driver of long-term progress. Open public discussion and periodic community review of key issues remain an essential activity for the Web3DUX Working Group.

Meetings

The Working Group holds twice-monthly teleconferences and face-to-face meetings annually at the Siggraph and Web3D conferences.

Participants

The Web3DUX Working Group is a Web3D Consortium members-only activity. Non-member experts may be invited to participate in topics of special interest. The leadership of the Working Group consists of 2-4 co-chairs.

Dependencies and Liaisons

The Web3DUX Working Group supports other Web3D Working Groups and [Web3D Consortium Liaisons and Partnerships](https://www.web3d.org/about/liaisons). Efforts and products are coordinated via the X3D working group to achieve planned specification milestone activities and effective external liaisons.

Confidentiality

Working group communications are published in the X3D members-only mailing list. At the discretion of the Working Group, as appropriate, information may also be released to the public.

Communication

* Mailng lists: Results are reported on the x3d-public mailing list with members-only list Web3DUX@web3D.org (subscribe)
* Web3DUX Working Group Charter (this page)

Creation and Approval Dates

This charter is pending on approval by the Web3D Consortium Board of Directors