

DIGITAL
INNOVATION
LAB
STRATEGY



Unique in Canada, the Digital Innovation Lab connects national and international collaborators with Ingenium's user experience (UX), interpretive, and digital experts to develop digital accessibility solutions, methods and products to help improve access to museums spaces, collections, and experiences for all Canadians.

The lab will take on some of the innovation risk from other organizations and partners by creating value through the development of best practices, the development of skills, the building of digital literacy, the offering of specialized workshops and consultation services, the renting of equipment and spaces, and the testing of digital products.

VISION

To be Canada's go-to creative hub for improving access to digital experiences within the cultural sector

MISSION

Provide tools and expertise to help create accessible digital visitor experiences

VALUE PROPOSITION



There are over six million people with disabilities in Canada. Organizations must start finding, removing, and preventing barriers now.

Providing access for all is not just one of Ingenium's core objectives – it's a basic human right.

People expect accessible, seamless, hybrid experiences from meetings and conferences to shopping and socializing.

Many organizations across private and public sectors research and develop digital technologies to improve digital accessibility, but don't have the tools, expertise, equipment, know-how, or specialized skills required to put them into action.

Some may have the external capacity but no access to the audiences nor networks to specific communities who can test and validate their digital prototypes.

This is where Ingenium's Digital Innovation Lab comes in.

We have the skills, experience, space, equipment, networks and audiences to collaborate or provide customary services to help design, enhance, test and deploy your digital product against the highest standards in digital accessibility.

We also look to partner with organizations that seek to develop products that are community-based and inclusive, and to help advance the development of digital accessibility standards and practices for everyone's benefit.



BENEFITS OF INVESTING IN DIGITAL ACCESSIBILITY



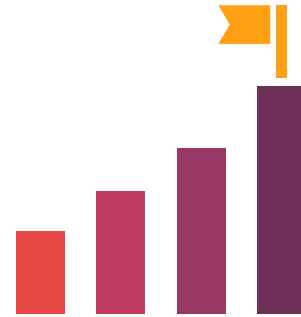
Drive Innovation

Accessibility features in products and services often solve unanticipated problems



Enhance Your Brand

Diversity and inclusion efforts are so important to business success and are accelerated with a clear, well-integrated accessibility commitment



Extend Market Reach

The global market of people with disabilities is over 1 billion people. Accessibility improves the online experience for all users



Minimize Legal Risk

Canada is a world leader in ensuring that private and public organizations comply with strict accessibility standards and legislation, as per the *Accessible Canada Act*

BUSINESS OFFERINGS AND GUIDING PRINCIPLES

The Ingenium Digital Innovation Lab has three main offerings:

Access to space and technology

The Lab features innovative spaces, AV suites and access to Canada's one-of-a-kind collection of 3D artifacts, along with highly specialized and advanced scanners that can quickly digitize large objects and spaces at a high level of fidelity and low cost

Access to digital expertise

The Lab offers various collaborative opportunities and specialized workshops in digital accessibility, 3D scanning and rendering, UX, and digital museum practices

Access to audiences

The Lab can connect you with a wide variety of audiences for user testing your digital products



ACCESSIBILITY FEATURES IN THE LAB

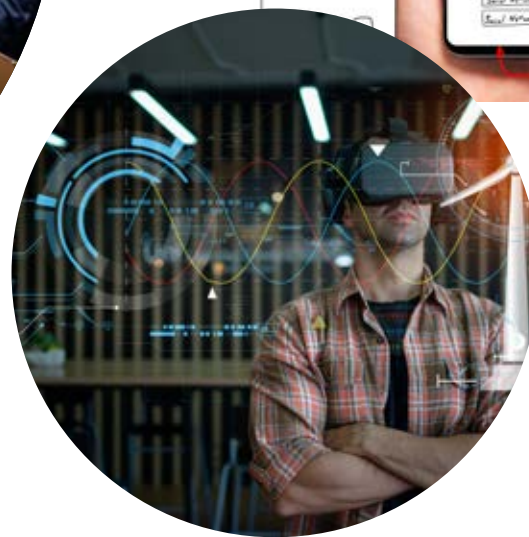


- Sennheiser MobileConnect allows audio to be accessed via a smartphone app in which headphones and hearing aids can be synced via Bluetooth, allowing users access to live presentation audio which they can adjust to their needs
- Whiteboard tables that flip up to allow for someone in a wheelchair to use it, comfortably
- A touchscreen that can be adjusted up or down to the height of the user, including someone in a wheelchair
- Moveable furniture to accommodate different projects/set ups



BUSINESS MODEL

The business model has three components that support each other and are essential to the long-term sustainability of the Lab



1 Developing expertise and credibility

- Internal digital literacy
- 3D digitization
- Rapid prototyping
- Skills development
- Developing toolkits and resources
- Forging networks
- Supporting internal projects
- UX + Accessibility testing
- Hosting info sessions and events

2 Fees for service and consulting

- Workshops and Webinars
- 3D scanning and rendering
- Space and equipment rentals (AV, coworking, etc.)
- Digital accessibility audits & user testing
- Event rentals
- Consultation services
- Presenting at conferences

3 Partner and project development

- Hackathons
- Game jams
- Pilot projects
- Exploratory technology
- Accessibility pilots



Clients and stakeholders

Who	Value Proposition
Internal Staff	Help developing their projects, learn best practices, access tools and knowledge from the Lab. The expertise and guidance in digital accessibility requirements will help support contractors hired to build exhibitions and digital products.
Visitor-serving industries ex. museums, science centres, art galleries, zoos, aquariums, and other cultural institutions, GOC and crown corporations, theatres and performing arts centres Software and gaming companies Technology start-ups Hospitals and other science research centres	Industries looking to learn best practices in accessibility, UX, and digital development. Access to expertise in these topics. Specialized equipment and AV suite rentals, as well as access to 3D digitization services. Access to the network of partners established through the Lab.
Post-secondary institutions	Access to museum expertise, the collection, audiences for user testing, and real-world applications for their research and courses.
Accessibility-focused businesses	Access to museum expertise, audiences for user testing, and real-world applications for their research.



WEBINARS AND WORKSHOPS OFFERING

The Digital Innovation Lab offers paid webinars and hands-on workshops for teams interested in developing their skillsets in user experience (UX), digital, 3D, and accessibility

Topics

- UX Design
- An empathy-based approach to accessible web design
- User testing and agile project development
- Accessible and inclusive digital projects
- 3D digitization

Who

Any team in a visitor-serving industry (including museums, science centres, art galleries, other cultural heritage institutions, government of Canada and crown corporations, start-ups, academic institutions, and more)

Webinars

Webinars are virtual, one-hour sessions for a large number of people that give an overview of the topic followed by a question period

Workshops

- Hands-on workshops are offered both in-person and online and give in-depth training on the topic
- Offered as a half-day or full-day session
- For teams of 10-30 people
- Please note that all workshops can be custom-designed for your team at an additional fee



FOUR WORKSHOP EXAMPLES



Workshop 1

Reframing Challenges Using Design-Thinking

Half-day workshop
In-person or virtual

Participants in this session will engage in various UX activities that are used in the design industry to get into the mindset of the user and build a stronger product for them. The tips and tools learned in this workshop can be easily applied to your own company projects with your own unique visitors/users.

Participants will leave the hands-on workshop feeling confident that they can use these tools independently.

The workshop will cover:

- Introduction to Design-Thinking
- The 5 Whys
- Personas
- Jobs to be Done
- How Might We

Participants will:

- Learn from and engage with experts in the field
- Be given tools and tips
- Participate in interactive break-out sessions
- Receive a summary handout for take-home

Workshop 2

UX data collection and user testing of digital products

Full-day workshop
In-person or virtual

This workshop introduces participants to the fundamentals of user experience (UX) as it relates to data collection and user testing. Participants will learn about the different methods for data collection from surveys and software, to prototyping and testing. Participants will learn about different modes of testing including card sorting, AB testing, formal in-person testing with a prototype, and remote testing sessions including tips and tricks so that you can run them successfully on your own.

Participants will leave the hands-on workshop feeling confident that they can use these tools independently.

The workshop will cover:

- Data Collection including:
 - Surveys
 - Software
 - Prototyping and testing
- Different modes of user testing including:
 - Card-sorting
 - AB testing
 - Formal testing sessions
 - Remote testing
- Agile, iterative approach to developing your prototype.

Participants will:

- Learn from and engage with experts in the field
- Be given tools and tips
- Participate in interactive break-out sessions
- Receive a summary handout for take-home

Workshop 3

Accessibility Workshop for Digital Products

Full-day workshop
In-person or virtual

This workshop will give participants an overview of digital accessibility for web and other digital products including WCAG standards for web accessibility, a discussion on screen-readers, and how to make your websites more accessible for all.

This workshop will also review Ingenium's accessibility standards for digital products, including how to design more accessibly and inclusively for your visitors. Participants will learn about the different ways to design for your visitor, and how to run accessibility testing sessions with their digital products with real-world examples from Ingenium's own accessibility projects.

Please note that this workshop will only cover digital accessibility.

The workshop will cover:

- Web Accessibility
 - WCAG Standards including:
 - Images and ALT Text
 - Making Videos more accessible
 - Rich descriptions for visuals
 - Colour Contrast
 - Do's and Don'ts
- An overview of Digital Accessibility for:
 - Floor Kiosks
 - Other multi-media products
- The Ingenium Digital Accessibility Standards
- Running your own accessibility testing

Participants will:

- Learn from and engage with experts in the field
- Be given tools and tips
- Participate in interactive break-out sessions
- Receive a summary handout for take-home

Workshop 4

3D Digitization

Full-day workshop
In-person

This workshop will give participants an overview of the basics of 3D digitization including photogrammetry, 3D scanning, 360 photos, and how they can be used to engage your audience.

This workshop will talk about the benefits of 3D digitization, the different file types and outputs (including 3D printing, gaming, online collections, etc.), how it can help in the conservation effort, and special considerations like copyright infringement.

Participants will learn how to 3D scan an object using one of the Digital Innovation Lab's state-of-the-art 3D scanners, and discover the work involved in post-production.

The workshop will cover:

- The different types of 3D digitization
- The benefits of digitization
- File types and outputs
- Hands-on experience with a 3D scanner
- An overview of post-production and the work involved
- Copyright considerations

Participants will:

- Learn from and engage with experts in the field
- Be given tools and tips
- Participate in interactive break-out sessions
- Receive a summary handout for take-home



5 YEAR IMPLEMENTATION HIGHLIGHTS

2022-23

- Fit-up the Lab with new AV equipment, build internal capacity and conceive a sustainability model
- Purchase accessibility equipment
- Pilot WCAG 2.1 wayfinding aid at one of our museum
- Acquire advanced scanning equipment and software
- Continue to test and update *Digital and Accesibility Standards*
- Begin some 3D scanning of collection artefacts



2023-24

- Continue to build capacity
- Create and implement digital skills building curriculum
- Enable staff to use the DI Lab space to prototype and test their projects through Design-Thinking, UX, and accessibility testing
- Work with the disability community to test and update new *Digital and Accesibility Standards*
- Build a network of accessibility and diverse digital artists, creators, and developers to partner with on digital projects
- Continue to digitize the Ingenium collection
- Host Hackathon
- Host workshops, enter fee for service agreements for AV Suite rentals, event rentals, and 3D scanning
- Pilot- projects with accessible VR technology, and complete accessible videos about sci comm
- Explore a new experimental technology

2024-27

- Continue to build capacity
- Develop digital products to enhance the onsite experience for communities with access needs
- Host industry events and international game jam/hackathon with the public
- Release a digital product produced in collaboration with diverse digital product creators
- Continue to digitize Ingenium collection
- Continue to bring in revenue through workshops, suite rentals, event rentals, and 3D
- Present new *Digital and Accesibility Standards*

CASE STUDY: FARMING ADVENTURE

Accessible Tractor Interactive

History

The Canada Agriculture and Food Museum closed its tractor exhibit on Sept 2, 2019, but kept the John Deere tractor simulator. Open to the public for 17 years, the tractor previously allowed visitors to climb inside and experience the movements and sounds of driving a tractor in a field. In 2019, the Museum closed the interactive simulation to the public due to decreased functionality over time.

With the digital innovation lab, there was an opportunity to revisit the tractor exhibit and develop a new immersive and accessible user experience.



Accessibility features and considerations

Accessibility Testing/Consultation

Since this tractor experience would have digital screens in place of the windshields, and play like a video game, we wanted to ensure as inclusive an experience as possible for everyone.

A cardboard prototype was designed and brought to the Canadian Council of the Blind (CCB) to get early feedback on making a video game more accessible to people who are blind and have low vision.

Alpha Testing

An alpha prototype went through formal usability testing.

The feedback helped move to a beta prototype that was then set up at the Canada Agriculture and Food Museum and for testing with the public in early February 2023.

This iterative, agile approach will ensure a great user experience for visitors playing with the final product.



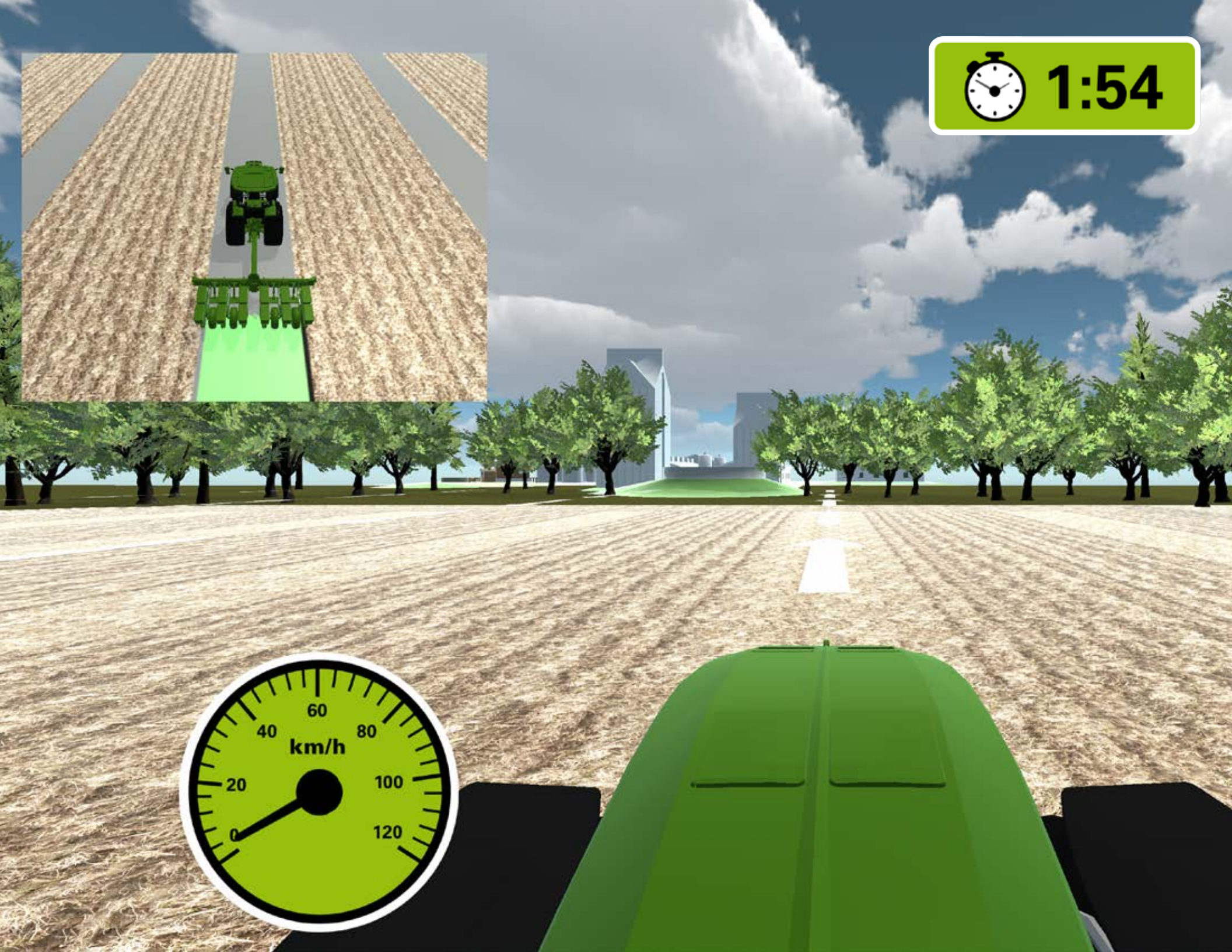
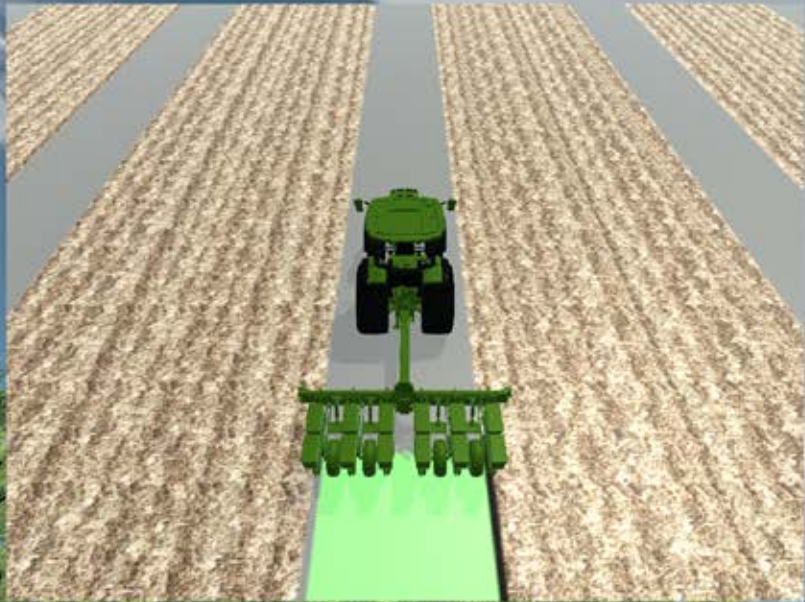


Final Accessibility Features

The following accessibility features have been included based on user testing from our partners and members of the public:

- Fully bilingual game play
- A tutorial with audio descriptions and captions that teaches people how to play the game
- Haptic feedback through the steering wheel that let's you know if you're off track
- Voice commands, directional aids, and sound effects that guide the player to effectively finish the game
- Clear physical descriptions of the buttons that people can use to play the game
- A version of the game where people can opt in to play "with assistance"
- Full captions of all audio in the game
- High contrast visuals and onscreen text that enables effective game play without audio
- At ground level, a fully accessible experience with the same game play for people with mobility access needs, or individuals with strollers

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DIGITAL INNOVATION LAB

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