# The Design Guide

Or how we design **digital games** thinking about uniqueness

because players' social and cultural identities, and their shifting contexts, needs, and abilities, affect how they experience your designs.

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Unique
Centered
Design

# Why we use U*CD

**Unique Centered Design** (U*CD) creates solutions that consider players' identities, contexts, needs, and abilities.

By considering multiple dimensions and engaging different perspectives, we help avoid **'groupthink'** and broaden the range of possible solutions — inspiring more creative, robust, and universal designs.

## Players' insights dimensions

### Identity & Contexts

Social identity, socioeconomic status, education, language, religion, technology, surroundings, and constraints like physical environment...
To help generate more inclusive and relevant gameplay contexts.

### Situational Aspects

Immediate circumstances such as multitasking, time pressure, limited resources, and health or economic changes...
To enable the design of adaptive and dynamic game modes for each player's needs.

### Functional Capabilities

Permanent and temporary variations: physical, sensory, cognitive, emotional, communicative, variations from injuries and fatigue...
To foster inclusive, adaptable and user- friendly game designs.

**Diversity fuels creativity:**
Collaborate for greater success

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# Players' needs shift, **constantly**

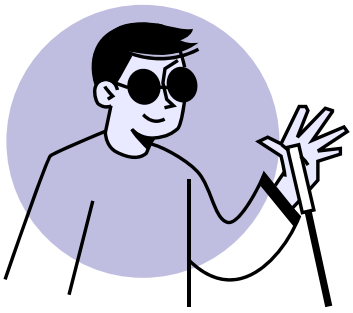
By designing with **different dimensions** in mind, we can **anticipate challenges** and open the door to transformative solutions.

### Situation-based needs

Playing outdoors with glare, gaming in noisy or shared environments, multitasking or streaming while playing, feeling stressed, tired, or distracted...

### Temporary needs

Playing with one hand after an injury, eye strain, temporary hearing loss, using a small screen, poor internet connection, learning new controls in a game...



### Permanent needs

Blindness or low vision, color blindness, deafness or partial hearing loss, limited mobility or motor control, cognitive or learning difficulties, chronic pain or fatigue...

## Did you know...

Accessibility regulation is not a constraint; it's an opportunity to reach a wider audience eager to engage.

It is estimated that between **70 % and 90 % of people** will, at some point in their lives, experience a temporary impairment (motor, visual, hearing, emotional, or cognitive) that significantly limits their ability to access or engage with digital content for a short period, ranging from days to months.

**1 in 6 people**

worldwide live with a disability, representing over 1 billion potential users

**70 to 90%**

of people experience some form of disability during their digital lives

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# Diversity & Inclusion

Designing for the full diversity of the world's population.

Beyond their preferences, needs, and abilities, players come from diverse backgrounds and are shaped by their age, race, gender identity, sexual orientation, culture, education, socioeconomic status, language, and many other social identities.

These identities influence how they interpret interfaces, relate to content, feel represented, and navigate digital or social environments.

### Our designs...

Interfaces, content, and interactions should reflect and respect diverse ages and social identities, avoid assumptions about users' backgrounds or experiences, and support safety and comfort across varied cultural and identity contexts.

## Design strategies that support diversity & inclusion

**Inclusive representation**

Use imagery, examples, and narratives that reflect a wide range of ages, races, cultures, genders, family structures, and identities.

**Bias-aware content**

Avoid stereotypes, gendered language, cultural assumptions, or exclusionary phrasing. Review content with diverse perspectives.

**Respect for social identities**

Use names, pronouns, and language that affirm users' identities. Provide opportunities for users to self-describe when relevant.

**Inclusive language**

Use neutral, readable language. Avoid idioms, jargon, or culturally specific references unless they are essential and contextualized.

**Culturally aware design**

Consider norms around color meanings, gestures, symbolism, feedback patterns, and interaction expectations across cultures.

**Privacy & safety options**

Offer ways for users to control visibility, anonymity, or participation, especially in social features where identity-based harm may occur.

**Flexible personalization**

Allow users to customize elements (avatars, names, communication modes, themes) in ways that align with their identity and comfort.

**Accessible communication**

Support multiple forms of expression (text, audio, emojis, images) so users from different linguistic and cultural backgrounds can engage comfortably.

**Diverse user input**

Engage people from a broad range of identities, preferences and abilities when testing or reviewing designs to uncover assumptions or blind spots.

By acknowledging and designing for the rich diversity of users' social identities, cultural backgrounds, lived experiences, and personal needs, abilities and expressions, digital experiences become more inclusive, respectful, meaningful, and welcoming for everyone.

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# Rise of senior gamers

## The Rapid Growth of the **50+ gaming community**

Designing for the realities of aging, like changes in vision, dexterity, and perception, is not a constraint but a creative opportunity.

It opens new possibilities for the game industry to engage an important and growing group of players, fostering connection, learning, and joy through design that keeps everyone playing, sharing, and thriving together.

**Good design** supports lifelong engagement, not just a polished first impression

## Age-aware design strategies

Games should support different cognitive and motor needs, offer adjustable pacing, clear guidance, and error tolerance.

**Here are some tips to keep in mind:**

- **Include clear instructions & guidance**
  Guide players step by step through text, voice, visuals, audio cues, and haptics to make instructions easy to understand.
- **Provide support & error forgiveness**
  Include reminders, checkpoints, undo/redo options, hints, and auto-complete features to minimize errors and frustration.
- **Allow for different cognitive loads**
  Simplify mechanics, offer control of the pace of gameplay, provide the option to limit simultaneous tasks, and include short sessions with save points.
- **Offer personalized settings**
  Give players access to large text, high-contrast UI, remappable controls, adjustable subtitles, and simplified interfaces that suit their preferences.

**Animal Crossing**
Relaxed pacing, low stress, player-driven goals

**Civilization**
Time to think, no reflex-heavy demands

**Puzzle games**
Adjustable difficulty, mental stimulation

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Good design is not defined by its appearance,
but by how naturally it's embraced by the people it's intended to serve.

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# Guidelines for Designers

Set of guidelines that will help you design experiences that are clear, intuitive, and respectful of diverse user realities.

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# Visual preferences

Players may experience a wide range of visual conditions and contexts, including temporary vision changes, low vision, and blindness.

## Design implication:

**All essential visual information should have audio, text, or tactile alternatives, nothing critical should rely on sight alone.**

### Key challenges:

- Ability to perceive visual in-game content, structure and relationships
- Difficulty using a mouse
- Difficulty perceiving colors or low-contrast objects and text

## Design strategies for diverse visual preferences

**Alternative feedback**
Provide audio alerts or controller rumble for in-game events like achievements, warnings, or timers.

**Haptic feedback**
Vibrations for important events such as explosions, attacks, or alerts, so players can perceive critical gameplay information.

**Audio alternatives**
Include descriptive text or audio transcription for all visual information, so nothing essential is missed.

**Customizable UI**
Allow remapping keys, using voice commands, and choosing simplified interface layouts to suit each player's abilities.

**Assistive technology**
Ensure the game works with screen readers, Braille displays, and other assistive devices to make content accessible.

**Accessibility options**
Enable toggles for text-to-speech, high contrast modes, or other features, letting players choose what works best.

By providing alternative feedback, compatible controls, and customizable settings, games become fully playable for people with diverse visual needs.

## Good inspiration

**The Vale: Shadow of the Crown**
Fully audio-based RPG

**A Blind Legend**
Binaural audio for gameplay

**Multi-User Dungeons**
Compatible with screen readers

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# Hearing preferences

Players may experience a wide spectrum of hearing conditions, from mild loss to total deafness. These conditions may be temporary, permanent, or fluctuate depending on the context of play.

## Design implication:

**All critical audio cues must have visual or haptic alternatives, nothing essential should depend on hearing alone.**

### Key challenges:

- Unable to hear in-game audio content
- Can't use voice chat in multiplayer contexts
- Hard to filter noises, background sounds...

## Design strategies for flexible audio experiences

### Feedback and notifications

Include vibrations, visual cues, icons, lighting effects, and flashing alerts to convey important in-game events.

### Subtitles and captions

Allow players to adjust text size, background, color, placement, and include speaker names, emotional tone, and ambient sounds.

### Text communication

Provide in-game real-time chat, text-to-speech alternatives, and voice chat alternatives in multiplayer modes.

### Haptic feedback

Add vibrations for key gameplay moments such as explosions, hits, or alerts.

### Visual alternatives

Ensure that all critical auditory information has a visual or tactile counterpart.

### Menu narration toggle

Give players control to enable or disable audio narration as preferred.

By following **WCAG principles**, we create designs that make game information **perceivable** in multiple formats, **operable** without sound, **understandable** through clear cues and readable text, and **robust** across different assistive methods for adaptable gameplay.

Learn more at **www.w3.org**

## Good inspiration

### The Last of Us Part II

Advanced subtitles and visual cue system

### Fortnite

Visual sound effects to replace positional audio

### Celeste

Vibrations and visual effects for key game events

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# Cognitive diversity

Players may be affected by stress, medical treatments, sleep deprivation, brain injury, or other conditions impacting memory, attention, and comprehension.

## Design implication:

**Game mechanics, narratives, and UI should minimize cognitive load, provide step-by-step guidance, and allow error recovery.**

### Key challenges:

- Difficulty understanding instructions, complex text, or multiple stimuli
- Difficulty reacting quickly, recalling objectives, or navigating menus

## Design strategies that support understanding for everyone

**Clear instructions**
Give step-by-step guidance combining text, voice, and visuals, so players can follow gameplay without confusion.

**Manage cognitive load**
Simplify mechanics, offer control of the pace of gameplay, provide the option to limit simultaneous tasks, and include short sessions with save points.

**Support and error management**
Provide reminders, objectives lists, visual cues, and easy undo/redo to help players track progress and recover from mistakes.

**Predictable structure**
Keep menus, icons, and interface layouts consistent, and provide hints or skip options to reduce surprise or confusion.

**Multimodal communication**
Combine text, visuals, audio cues, and haptics to ensure information is accessible through multiple channels.

**Customization**
Let players toggle interface elements, simplify mechanics, or adjust reading level to match individual needs.

By simplifying instructions, offering memory supports, and providing multimodal feedback, players with cognitive challenges can enjoy games without confusion.

## Good inspiration

**Minecraft Education Edition**
Sandbox play, adjustable difficulty, collaborative modes

**Monument Valley**
Visually intuitive puzzles, minimal text

**Lumosity**
Attention, memory, problem-solving games

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# Motor abilities

Players may be facing conditions affecting mobility, dexterity, coordination, or reaction time (e.g., arthritis, cerebral palsy, stroke recovery, repetitive strain injury, a broken arm or wrist).

## Design implication:

**Input methods must be fully customizable, allowing alternative controls and reducing physical strain.**

### Key challenges:

- Difficulty using mouse, keyboard, touchscreen or precise controls
- Difficulty reacting in time or performing fast combos
- Difficulty navigating menus or interfaces requiring precision

## Design strategies for adaptable and accessible interactions

**Alternative input support**
Enable adaptive controllers, switches, or eye-tracking, so players with limited mobility can perform all actions.

**Input assistance**
Include auto-aim, auto-complete, slow-motion modes, and skip options for quick-time events to support varied motor skills.

**User interface flexibility**
Use large buttons, minimal clutter, and keyboard navigation to make menus and gameplay easier to operate.

**Customizable controls**
Allow remapping keys, toggle vs hold options, or one-button mode to suit each player's abilities.

**Simplified navigation**
Streamline menus, add auto-targeting or auto-movement to reduce complex physical demands.

**Reduced motion**
Provide adjustable game speed and reaction windows to give players enough time for input.

Providing adaptive input, adjustable timing, and simplified navigation ensures players experiencing motor challenges or limitations can fully enjoy gameplay.

## Good inspiration

**Celeste**
Assist mode for input customization and pacing

**Diablo IV**
Input customization, remapping and sensitivity adjustments

**Spray Paint Simulator**
Assist mode for input and camera customization

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# Enabling technology

Players may face slow or unstable internet connections, use low-spec devices, or outdated hardware, which can affect game performance, responsiveness, and access to online or multiplayer content.

## Design implication:

**Games should remain functional, understandable, and enjoyable even under technical limitations.**

### Key challenges:

- Slow loading, laggy or unresponsive controls
- Interrupted online play or graphical/ audio issues

## Design strategies to empower participation

**Low-bandwidth support**
Reduce animations and optimize textures so the game runs smoothly even on slow or unstable internet connections.

**Simplified UI**
Use a minimal and clear interface that loads quickly and performs well on slower devices, ensuring players can navigate easily.

**Error forgiveness**
Let players retry actions or delay inputs without penalty when the system experiences lag or slow response.

**Offline / cached content**
Allow players to access core gameplay offline, so progress isn't interrupted by connectivity issues.

**Modular features**
Allow players to toggle graphics quality, audio, or visual effects to match their device's performance and maintain smooth gameplay.

**Progress saving**
Auto-save frequently to prevent loss of progress due to crashes, connectivity issues, or device limitations.

By providing low-bandwidth options, offline play, and adaptable UI, designers ensure that players can access and enjoy the game regardless of their connection, context, or device.

## Good inspiration

**Terraria**
Runs well on low-spec devices, simple graphics

**Minecraft**
Offline play, adjustable graphics, works across devices

**Browser-based puzzle games**
Lightweight, low-load options for accessible play

This guide has been created by
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