

Piecing together performance: collaborative, participatory research-through-design for better diversity in games.

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Piecing Together Performance: Collaborative, Participatory Research-Through-Design for Better Diversity in Games

Daniel L. Gardner, LouAnne Boyd, and Reginald T. Gardner

Abstract— Digital games are a multi-billion-dollar industry whose production and consumption extend globally. Representation in games is an increasingly important topic. As those who create and consume the medium grow ever more diverse, it is essential that player or user-experience research, usability, and any consideration of how people interface with their technology is exercised through inclusive and intersectional lenses. Previous research has identified how character configuration interfaces preface white-male defaults [39, 40, 67]. This study relies on 1-on-1 play-interviews where diverse participants attempt to create “themselves” in a series of games and on group design activities to explore how participants may envision more inclusive character configuration interface design. Our interview findings describe specific points of tension in the process of creating characters in existing interfaces and the sketches participant-collaborators produced challenge the homogeneity of current interface designs. This project amplifies the perspective of diverse participant-collaborators to provide constructive implications and a series of *principles* for designing more inclusive character configuration interfaces, which support more diverse stories and gameworlds by reconfiguring the constraints that shape those stories and gameworlds.

Index Terms—Design research, inclusive design, participatory design, representation in media, research-through-design, video games.

I. INTRODUCTION

ALTHOUGH digital games continue to grow more inclusive, greater diversity is still needed to better reflect the medium’s players [29, 60]. The games industry still seems to struggle with the most common suggestion for improving this situation: greater developer/designer diversity [18, 33, 73]. This has been a persistent suggestion that occurs alongside observations of poor diversity and because the industry, on the whole, seems to fail to be a place that supports people of color, women, and queer folk [18, 25, 33, 55, 58, 73, 87, 91, 93, 123]. In fact, recently, one major publisher even developed a tool which appeared intended to *automate* diverse perspectives, rather than simply

including them [115].

Several scholars have identified the need for responsive, inclusive creative choices that go beyond simple visible representation and characterizations that may only superficially flag diverse identities the way the above tool appears to be designed to do [88, 99, 100, 106, 107, 116]. These scholars and many popular commentators argue for the need to include diverse perspectives in the writing, design, and development of diverse characters [18, 25, 93, 123]. That is, inclusion demands greater consideration of *who* characters are, not simply what they look like.

Character configuration interfaces—where players select or create the characters they take on during gameplay—are a facet of digital games that reside somewhere *between* visual representation, narrative, and character development. On their face, these systems very often focus simply on the visual assembly of characters. Or rather, at times that may be all they allow. However, because these interfaces permit players some level of control over how their character appears or is constructed, they also invite unique *interpretations* of who a character is.

Each individually crafted player character *embodies* Barthe’s rejection of the singular author [6], or Eco’s “open work” [30]. *Through* character configuration, each player says, “no, *this* is the main character,” often with flippant disregard for any *intended* plot or setting (e.g., Fig. 1). However, characters live in gameworlds and a broader medium that can suggest some interpretations over others, and imagining these characters as more diverse identities may take additional effort [39]. Similarly, while players gain *some* control over their characters in robust configuration interfaces, there are always publisher-imposed limitations that dictate concrete limits on what sorts of hair, eyes, facial features, clothing, professions, or bodies they may possess.

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A website containing larger versions of some figures and a more public-oriented presentation of our insights can be found at <https://www.ptp-project.com/>

when you're playing an epic RPG
and your customizable character is
in a cutscene:



Fig. 1. Example of common meme characterizing unique interpretation of main characters [83].

No game can include *all* options for character generation as infinite choice requires infinite development time. However, how studios *prioritize* different features and different ranges of choices related to different characteristics or inclusion matters.

Character configuration interfaces are one place publishers have attempted to improve inclusion in their games. However, many of these attempts have been simple *additions*. That is, the fundamental logics of these systems or *how* they allow players to customize features are still generally built around restrictive assumptions. For example, discrete binary genders, or what skin tones, hair, or bodies developers consider common. More inclusive options, when considered then, are often “bolted on” rather than “built in” [19], or “baked in” [10], allowing players to “bolt on” diverse characters to an unresponsive gameworld intended for a particular default. For example, game scholar Alexandra To describes initial excitement during character configuration when creating an Asian human character in *Dragon Age: Origins*, only to essentially be adopted into a white family once gameplay and narrative began [116].

In this paper, we leverage participatory research-through-design to offer insights into how the underlying logics of character configuration interfaces might be rethought, based on the perspectives and priorities of those statistically least represented by current interfaces *and* the game medium they support. We conducted a series of play-interviews and design workshops with a total of 22 participants, each with unique intersectional demographic backgrounds. Our primary contributions are critical prototypes and a series of thematic principles for designing systems that better allow players to construct *who* they wish to play as in games, or any digital medium that puts bodies into play.

II. RELATED WORK

Character configuration interfaces, menus, or systems that *dictate* character generation inform players what sorts of representational and performative possibilities a game affords, constraining *who* players may *be* in games and through which embodiments they may interact with gameplay. Scholars have explored how people form emotional bonds with the characters or avatars they create, name, and take on in games or virtual worlds, and project and explore important facets of their identity [11, 23, 52, 77, 79, 89, 106]. Gardner and Tanenbaum describe character configuration interfaces as an example of a “periludic” interface, which “surround and enclose gameplay,” while shaping outcomes and experiences of it [40]. They argue character configuration interfaces *communicate* the range of potential performative identities publishers *permit* players to

take on in their games [40]. This project is explicitly about redefining the limits within which players are permitted to create characters and/or *themselves*.

Despite their *influence* on gameplay, designing character configuration interfaces is often the responsibility of UI/UX or usability teams rather than game designers. As such, we position our analysis *between* two primary literature categories: Representation *in* games and media (related to the outcomes of these interfaces), and inclusive interface design practice (related to their creation, and nature).

A. Representation in Games

Games research has an ever-growing wealth of scholarship on representation. Many scholars have used large data sets and content analysis to make claims about the medium at large [8, 14, 21, 28, 39, 63, 86, 108, 122]. Others have expanded analysis out from deeper qualitative analysis of specific games or phenomena [17, 38, 50, 54, 61, 66, 70, 99, 101, 106]. Several have looked more specifically at elements of character configuration as it may relate to identity markers such as race, gender, sexuality, ancestry, ability, and age [7, 54, 61, 68, 76, 77, 88, 117]. A surprisingly small group have examined how players themselves report experiencing representation in games and game paratexts [37, 43, 65, 87, 88, 97, 106]. Collectively, these studies support a common perception of a medium that centers straight white men and excludes many others. These trends reflect similar analysis of other entertainment media [9, 12, 20, 51, 59, 62, 67, 74, 104, 105, 111, 119]. The marginalization of women, queer and disabled folk, and people of color—or their assignment to supporting and/or stereotypical and/or tokenized roles [63, 71, 118]—often mirrors issues within the industry and broader cultural discriminatory assumptions [44, 78].

We are in especially close dialogue with McArthur et al. [68], Passmore and Mandryk [88], and To et al. [117]. These scholars all study related aspects at the intersection of representation and character creation.

McArthur et al.’s “Avatar Affordances Framework” is one model for comparing configuration interfaces. They describe how limits in these interfaces restrict players’ “ability to represent themselves online,” impose “hegemonic” defaults, and exclude many identities [68]. McArthur et al. are keen to note how these constraints represent developer or publisher choices. We facilitate diverse participants as proxy developers to redefine the limits of these interfaces.

Passmore and Mandryk assert that representation and “customization options must be more than skin deep” [88]. They argue for the essential consideration of characteristics that “frame” the “face” players may customize [88]. That is, although facial characteristics weigh heavily in their data as one source of meaning, they describe the importance survey respondents and interviewees placed on clothing, values, or behaviors—for example—as potentially clearer markers of identity. Passmore and Mandryk’s data and analysis suggest that more inclusive character creation requires *both* broader representational possibility and additional vectors for less superficial identification. The sketches we present below, and

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accompanying findings and principles, begin to suggest some means of moving past visually-centered configuration, in line with their findings and informed by diverse perspectives.

Building on the analysis of scholars such as Shaw [106], To et al. question the inherent value of *just* representation by analyzing non-normative character designs and games that provide alternate modes of configuring characters narratively and mechanically [117]. They describe how rules and systems can both “constrain characters’ actions, choices, and interactions,” and be a means for expressing elements of characters beyond commonly emphasized visual characteristics [117]. We elevate diverse perspectives while examining how to build the rules and systems that constrain how players may construct their characters, visually and beyond, supporting To et al.’s argument that “diversity in games [must be] an end-to-end process” [117].

B. Inclusive Design Practice

A human-centered approach suggests designers consider humans *before* a design/interface/technology [22, 42, 83]. However, this perspective does not always extend to *all* humans, or all facets of humans. Recognizing what facets of which humans are considered then, is essential to help prevent “human-centered” from becoming a shallow method, or even becoming “harmful” [84].

There is a growing body of participatory, critical, and collaborative research that pushes *human-centered* toward its fullest potential by considering wider ranges of human identity and experience, beyond *use-in-context*. This scholarship has highlighted *approaches* for HCI and design to better respond to how people’s experiences are influenced by race, gender, ability, or their intersections [1, 15, 27, 34, 35, 44, 49, 85, 92, 96, 112, 113, 114, 120, 122]. Dombrowski et al. describe how high-level strategies such as “transformation, recognition, reciprocity, enablement, distribution, and accountability” and a commitment to “conflict, reflexivity, and personal ethics” are essential for a more responsible, social-justice informed design practice [26].

Universal Design [47, 64], Ability-based design [124], inclusive design [56, 57, 80], and Design for all [32] are frameworks initially designed to support disabled users. Universal design, as a prominent mainstream example, attempts to meet the needs of users beyond the mainstream in regard to “age, ability, and status” [90]. An increasing amount of scholarship in this domain, however, urges *starting* research and design with those who have the least access, are least represented, or who are most harmed by current designs, rather than simply *adding* them to the ranks of current users. For example, Ability-based design flips the focus from attempting to retrofit designs to accommodate disabilities, to reimagining technology based on the diverse abilities and experiences of disabled users [124]. Although the accessibility of the configuration interfaces we observe remains a secondary objective, we are aligned with these *approaches* and perspectives. Accessibility and disability are components of inclusion and appear in our findings—even if primarily in relation to the characters these interfaces produce. Centrally,

however, we *begin* with those most historically excluded by these systems when attempting to reimagine them.

We are in especially close dialogue with scholars such as Bivens and Haimson for their considerations of diverse identity *in* designs [10], and Rankin and Henderson [94], Rankin and Irish [95], and Haimson et al. [46] for their participatory approaches to re-imagining how the design *process* might better include diverse identities.

Bivens and Haimson describe some of the intricacies of how gender gets “baked into” the design of digital interfaces and platforms, shaping new and persistent interactions with and through those systems [10]. They highlight the power of rigid, programmed, identity-based categories at different levels of software and interpersonal interactions mediated by social media platforms. We interrogate the power similar rigid, coded, identity-based categories in character configuration interfaces have over interactions with game software and gameplay.

Rankin and Henderson [94] and Rankin and Irish [95] provide examples of intersectional approaches to conducting collaborative, participatory design research, with an emphasis on race. Rankin and Henderson relied on a series of group brainstorming and design activities with Black students to identify some of the key ways that conversational agents (such as Apple’s Siri) could better recognize tenets of Black culture and support their everyday needs [94]. Rankin and Irish invited women from an all-women historically black college to participate in the game design process from ideation to prototyping and play-testing to develop a second language learning game [95]. The design processes and the outcomes of both projects were developed based on the interests, priorities, perspectives, and everyday experiences of participants. Like Rankin and Irish especially, we invite participants with historically excluded perspectives *into* the design process to explore non-hegemonic design implications that reflect *their* priorities.

Haimson et al. provide an example of collaborative, participatory design research with an emphasis on gender, envisioning community-centered trans technologies, through participatory design sessions [46]. Several of the design outputs they present are not currently feasible, but they still emphasize priorities within the community and the importance of involving community members in the design process. Where Haimson et al. focus primarily on gendered embodiment in the physical world, our study focuses on virtual embodiment and expression across intersecting axes of identity.

III. METHODS

Our fundamental priority was to amplify the voices of those most excluded in contemporary digital games and media in an exploration of more inclusive character configuration systems. Although no method with a finite timeline can support *all* identities, backgrounds, or perspectives, participatory design [110] and research through design [5, 125] are methods that prioritize the meaningful inclusion of participant perspectives in created design artifacts. Our goal was to consider participants as “equal partners” as much as possible [34], to explore potential futures they felt *should* exist [125]. We attempted to

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integrate participant needs and perspectives into our method/process, rather than *only* treating these as data [34, 92]. We tried to curate an “ethical sensibility through analytical, pragmatic, and practical engagement” at every stage [41], to support a project that was equitable in outcome and implementation [3]. We took inspiration from or emulated elements of previous research and analysis on democratically designing—or “making futures” [31]—with marginalized communities. In particular, we draw on Haimson et al.’s approach to “designing trans technology” described just above [46].

We conducted our project in two primary phases:

- **Phase one:** one-on-one semi-formal play interviews.
- **Phase two:** Group design sessions.

In addition, we hosted two informal video calls after the completion of phase two for participants interested in seeing designs from all sessions, answering a few final reflective questions, and inquiring about further collaboration.

Data processing and analysis also occurred in two phases. Initial data processing occurred between phase one and two as we shared aggregated, anonymized, and visualized data with all participants as a resource for phase two group design sessions. Following phase two, the first and second author reviewed data from both phases, individually assigned emergent descriptive and sometimes simultaneous codes to responses and notes [102], then debated and consolidated final codes to identify quantitative trends and qualitative themes. Only the first and second author had access to “raw” data to mitigate any potential violation of the privacy of participants and to conform to our Chapman University IRB approval. Full and partial collaborators had access to sanitized data and provided feedback on analysis.

Beyond more familiar methods, we took an additional participatory step to invite all who took part in any session to become partial or full collaborators in the ongoing project. These roles differed slightly based on their interests or priorities. Participants could contribute to analysis or this paper in a variety of ways in return for authorship credit or explicit acknowledgement. Only one participant chose to be a full collaborator, contributing writing to—and is third author on—this paper. Three partial collaborators contributed feedback and are acknowledged individually below. It was always important that any designs developed in this project be made available online for anyone that might find them valuable. Two other participants for whom web design was personally or professionally interesting, were given ownership of this companion site, which can be found here: <https://www.ptp-project.com/>.

A. Recruitment

Participation by individuals belonging to underrepresented groups was a priority for this project. The lead researcher approached affinity groups at Chapman University and

University of California, Irvine to send out informational emails and attend virtual and physical meetings to discuss the project. Fliers with information about the study were also posted around each of these campuses. To be eligible, participants only needed to be 18 years old and identify as belonging to any group they saw as historically underrepresented in media. We used a screening survey to request details about participants and acquire availability information. Participants were offered a \$10 dollar Amazon gift card per session, up to a possible total of \$30 for attending all sessions—including a final informal zoom session. In total, we had 22 participants who contributed to at least one phase of the study. No two participants across both phases shared specific racial/ethnic-gender identities. Participants identified as a range of Asian, Black, Latine, Middle-Eastern, Mixed, South-Asian, and White groups; a relatively even spread of masculine, feminine, and nonbinary gender identities; and a variety of normative and queer identities. Unfortunately, we had less age diversity; roughly 90% of participants were between 18-22 years old.

B. Phase One

The 20 phase one play interviews began with questions about each participants’ experience with digital games and with creating characters, before having them create characters in five games. The initial questions asked participants to confirm gender and racial/ethnic demographics to which they most closely identified, frequency and recency of gaming activity, and details related to how frequently and successfully they create themselves in games. Participants were then asked to “create themselves as closely as they are able” in the series of games. We emphasized they could interpret “themselves” however they wished, rather than necessarily recreating how they appeared on the day. Participants were asked to follow a “think out loud” protocol [24, 36, 81]. However, unlike in a usability test of a specific design, our goal was to examine the fundamental process the interfaces supported, their underlying logic, *and* any content within them.

The games used were either drawn directly from previously published research on representation in games within a sample of 200 games by the lead author [39], or were made aware to them because of that project. These games were *Forza Horizon 5*, *Eldritch*, *Outer Worlds*, *Max Gentleman Sexy Business*, and *Saints Row II*.

Each game was chosen for their unique or highly irregular character configuration interfaces. *Forza* was included because it permits the application of prosthetic limbs and the choice of “they/them” pronouns¹. *Eldritch* was included because it permits bodies that conform neither to single-gender nor single-racial presentations. *Outer Worlds* allows certain details such as hair and make-up to be applied regardless of the designated gender of the character and it asks players to customize certain narrative traits of the character prior to *seeing* them. *Max Gentleman Sexy Business* allows players to select bodies with visible sex characteristics that do not conform to common

¹ *Forza* now also includes an “amplification” menu where players can select a range of hearing assistance technologies for their characters, but this feature was added in an update shortly after data collection

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binaries and all other visible options are available regardless of selection. *Max Gentleman Sexy Business* also includes choices based on humor and the material performance of different interests or identity such as objects held in the character's hand (Fig. 2). *Saints Row II* was chosen in part for the generally deep character creation system the franchise is known for that includes a variety of unique features around race, non-binary gender presentation, and elements of the personality or expression of created characters (e.g., facial expressions, taunts, and movement styles). Despite being an older game in the series, *Saints Row II* has a unique feature absent from later games in the form of a "body shape" widget that presents gender as a spectrum of 101 positions including a neutral androgynous choice.

The first and second author facilitated phase one sessions while taking extensive notes and screenshots of all created characters. After each game, and after the series of games, participants were asked to highlight anything that particularly helped or hindered their ability to create themselves. Audio for these sessions was recorded and reviewed to augment notes.



Fig. 2. Compilation of participant characters from *Max Gentleman Sexy Business*

D. Initial Data Processing

We applied high-level descriptive codes to phase one participant responses and comments about character configuration participants discussed (e.g., *hair, skin, clothing, or make-up*) to create high-level visualizations. This initial processing was conducted by the first author and reviewed by the second to create an information sheet for use during phase two. More details on how this sheet was used are described in the following section. We also created compilations of participant characters for each game (e.g., Fig. 2).

C. Phase Two

Phase two sessions comprised a series of brainstorming and design activities to generate, refine, and iterate on ideas, eventually culminating in one or two collaboratively developed design sketches per session. At a high-level, these sessions are modeled to combine and refine ideas in a series of "think-pair-share" activities [53]. That is, participants initially considered each prompt themselves before sharing and combining those ideas with other participants.

Participants were initially randomly assigned sessions, then shuffled to accommodate schedules and transportation limitations. Some phase one participants were no longer able to

participate, and two new participants who contacted the authors after phase one were added for a total of 14 individuals across four sessions.

In the first brainstorming activity, we asked participants to individually think of challenges that they, or any community they belonged to, face related to performing or constructing their identities in games or other embodied digital spaces. Participants were given sticky notes and asked to write one challenge per note. After a few minutes, we paused to share compilations of the characters from phase one, pass out sheets with visualized phase one data (some updated examples in findings below), and answer any questions about these data. Participants were then encouraged to take a few more minutes to write any new challenges these data inspired them to consider on additional post-it notes. All post-it notes were stuck to a wall and participants and facilitators worked together to loosely cluster them topically, such as challenges related to age, race, gender, or others (e.g., Fig. 3). We did not create rigid categories as many of the challenges identified resided in gray areas between categories (an example that appeared in all sessions being "gender" + "body"). Participants were asked to discuss, clarify, or iterate on what they felt were the three most pressing or important challenges identified. After a few moments, we created a combined list to highlight overlaps and refine how challenges were defined.

Our second brainstorming activity began by asking individual participants to write down three potential approaches to addressing one or some challenges (e.g., they could try addressing one challenge three ways, or three challenges one way each). Then, inspired by Haimson et al.'s approach [52], we asked them to write *one* of their approaches on one side of a new index card then pass it to their left. Each participant was then asked to propose an improvement on the back side of the passed card before returning it to its original owner.

The final activities were sketching (Fig. 4), again resembling Haimson et al.'s approach [46]. First, participants were asked to individually sketch the idea they had written down, trying to include suggested improvements. Then, they were asked to share, combine, and/or iterate their sketches together in a progression 1/all or 1/2/all, depending on whether there were 4 or fewer participants in a session. By the end of each session, participants created sketches representing the input of all members of the session for how character configuration may be reformatted. Notes and photos were taken for later review and, in some cases, inclusion in this paper and separate website.

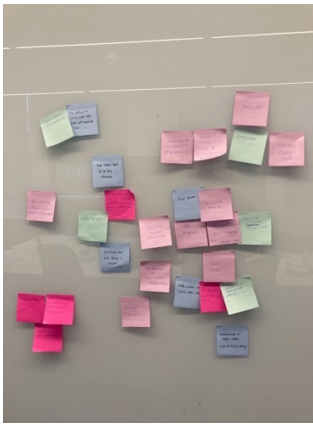


Fig. 2. loosely clustered challenges



Fig. 3. Mid-sketching

E. Informal Zoom Sessions

These sessions provided a second chance for participant-collaborators to offer commentary similar to the end of phase two sessions, only with access to more sketches. The content of these sessions influences our overall qualitative analysis but is insufficient for quantitative findings or more significant claims.

F. Final Data Analysis

After all sessions were complete, the first and second author reviewed notes and images from both phases. Each individually assigned emergent descriptive and simultaneous codes to responses and notes from both phases [102]. They then debated and consolidated codes and re-applied them to the data to identify the quantitative trends and qualitative themes described below. Once initial analysis was complete, with active input from the individual full collaborator, we sent an early draft of this paper to all partial collaborators for review and feedback.

IV FINDINGS

Our findings are organized around trends and themes related to how diverse participants described challenges related to self-representing in games mitigated or exacerbated by elements of character creation interfaces, and how participants envision addressing these challenges. We provide some baseline quantitative data about participants and their experiences and perspectives from both phases, their suggested redesigns through sketches, and a series of summative qualitative themes.

A. Participant Experience

1. Information on Gaming Practices

The majority of phase one participants had experience with digital games, reported playing them somewhat regularly, and often with character customization features. 85% of participants reported playing digital games a few times a week or more, and none reported never playing games. 90% of participants could recall playing a game with character customization within the last year or more recently, while the remaining 10% reported some experience with character customization but were unsure how long it had been. While only 15% of participants reported trying to create themselves in games every chance they have—with the rest reporting they try sometimes, rarely, or never—percentage leaning toward rarely trying may align with later

findings and previous research suggesting the *choice* to try may in part be false [37, 97].

2. Encouragement vs. Discouragement

We asked phase one participants who reported creating themselves “sometimes” or “rarely” whether they could think of anything that encouraged or discouraged them from trying. Of those 16 participants, only 31% could provide any explanation for what *encouraged* them, such as having “an association with the role” of some version of “just having the option” (referring to characteristics merely being present). On the contrary, 64% could provide an explanation for what *discouraged* them from creating themselves with many participants offering multiple reasons. The most common explanation was simply lack of options. Other reasons included descriptions of how setting (e.g., fantasy or sci-fi) encouraged them explore identities other than their own, a *lack* of association with the role, or the general *quality* of options.

B. Identifying Challenges, Hindrances, and Highlights

Several questions and activities throughout both phases were centered on identifying or addressing challenges. We identified and applied 49 codes across all responses and activities. However, these were weighted heavily toward unique experiences, utterances, or activities from participants making characters in phase one. Over half appeared in less than 6 comments. In this section, we discuss only more frequently recurring codes, as defined in each subsection.

1. Prompted Challenges, Hindrances, and Highlights

We had two questions in phase one, and two activities in phase 2 that asked participants to explicitly consider challenges for self-representation. These questions were asked in slightly different ways, triangulating key challenges. In phase one, we asked participants to reflect on their individual experiences with the *process* of creating characters. As described above, in phase two we asked participants to identify, share, and combine challenges with self-representing in media.

Early in phase one sessions, we asked participants to recall any specific facets of character creation interfaces that previously hindered their ability to create themselves. At the end of phase one sessions, we asked participants a summative question about any aspects of the five sampled games they felt especially helped or hindered creating themselves.

Because 90% of participants described multiple hindrances to their ability to create themselves, responses to the early question were simultaneously coded with multiple descriptive codes. The top 10 coded reasons in descending order had to do with lacking—or difficulties with—*body types/sizes*, *skin ton/details*, *hair choices*, *diverse facial features/variety*, *eye details*, *inclusive gender performativity*, *UI complexity*, *clothing*, *diverse presents*, or a *general lack* of quantity or quality choices. Instead of one or two hindrances representing a strong majority of responses and providing straightforward design implications, the key finding is the breadth of hindrances and that nearly all participants identified multiple. One of those who did not identify multiple hindrances instead said they could not think of many because they “don't really think of it as an option that's there,” aligning with previously identified themes

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of “acceptance” [97, 106] or “learned neutrality” [87].

All participants save one provided multiple highlights in response to the summative question as well, so responses were again simultaneously coded with multiple descriptive codes. These codes are categorical so, unlike the previous question, responses here could cover positives *and* negatives, simply highlighting the topical priorities of participants at this stage. The top three codes here were *body type/size*, *hair choice*, and *slider fatigue*—expressions of frustration or impatience with sometimes-opaque interface complexity, often explicitly calling out excessive slider widgets. In descending order, the next five had to do with *ease of self-representation in stylized aesthetic*, *facial features/variety*, and *general performativity*—comments that address intersecting elements related to sometimes racialized or gendered aspects and personality, nature, “demeanor,” “vibe,” or other elements participants used to better understand *who* characters were. We use “performativity” in a genealogical descent from critical, feminist, and/or queer scholars such as Butler [18], Sedgwick [118], Barad [4], or Shaw in games specifically [122]. The only other code we applied to more than 10% of responses was to comments emphasizing a *general lack* of variety or detail of available characters.

The initial post-it note activity in phase two asked participants to respond to a question similar to the first one above to begin conversations and prime the following activities. The two primary differences between this prompt and the phase one version were that it was not specifically or necessarily *only* about interfaces and participants shared, discussed, and sorted their responses *together* afterward.

In coding these post-its, we saw trends that somewhat aligned with responses to the previous question (Fig. 5). Across all sessions, the most common codes we applied were *inclusive gender performativity* and *race*. *Inclusive gender performativity* is a more specific expression of comments coded by *general performativity*, often concerned explicitly with flagging flexible or non-binary gender identities. *Race* overlaps in some ways with *skin tone/details* but applies to explicit references to commonly defined racial groups such as Asian, Black, or Indigenous rather than the appearance of a characteristic often associated—but not synonymous—with those groups. The remaining codes we applied to at least three notes or one note from each session were *body type/shape*, *disability (visible or not)*, *hair*, *skin tone/details*, *facial features/variety*, *pronouns*, *sexuality*, *age* and *general performativity*.

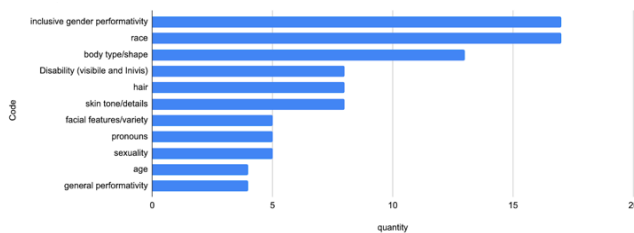


Fig. 5. Frequency of coded notes from initial phase 2 brainstorming activity

We also coded the challenges participants chose to highlight and iterate on cards after clustering notes. These notes focused

on primarily on *general performativity*, *Inclusive gender performativity*, *race*, *body type/shape* and *disability (visible or not)* (Fig. 6).

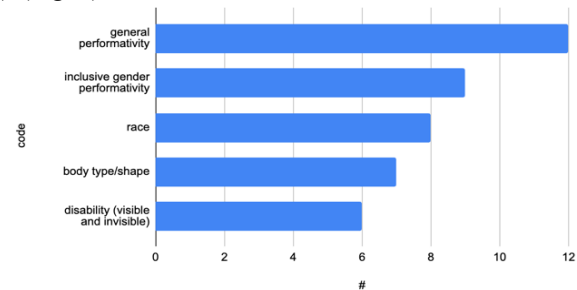


Fig. 6. Challenges that participants chose to highlight and/or iterate upon

General Performativity is partly the largest category because it covers a wide array of challenges that did not quite fit into a simpler category. In this case, participants referred to “personification,” moral alignment, and “demeanor” explicitly while describing a holistic emotional, intellectual, and behavioral view of themselves and their characters.

2. Observed/Expressed Challenges, Hindrances, and Highlights

We also observed and coded participant “speak out loud” commentary while creating “themselves” during phase one to capture in the moment impressions. Fig. 7 shows all codes that appeared in at least 15 comments about unique phenomena, features, or games across the 20 phase one participants. Qualitatively, these comments varied in their nature being either positive or negative based on the individual participant or feature in question. However, these data quantitatively highlight what facets of character creation participants most noticed, or that impacted their attempts to create “themselves.”

Although the application of codes to these commentaries largely aligned with prompted highlights, there were a few surprises. *Body type/shape*, *Facial features/variety*, *general performativity*, *inclusive gender performativity*, and *skin tone/details* all appeared again frequently. However, comments coded with *hair* appeared twice as often as the next most common code. *Diverse Presets* and *clothing*, which did appear somewhat frequently in the final prompt of phase one also appeared commonly. *Pronouns* did not feature prominently in either phase one prompt but did appear in phase two activities, was another top code. *Voice* and *eye features/variety* appeared prominently here and nowhere else in prompted highlights, though *voice* did become a focus of one sketch.

Two related codes that emerged from observations, comments, and discussions during phase one (and during sketching) were *slider fatigue* and *simple UI*. *Slider fatigue*—described above—was the only code we applied only to negative comments. *Simple UI*, like the rest of our codes, was applied to both complimentary and critical comments about simpler interfaces.

We applied four descriptive meta-codes to identify whether coded comments mostly applied to *content* of interfaces/games, the user interface (*UI*), *both*, or *neither*. Only *both* (purple) and *UI* (green) appeared in the top codes shown in Fig. 7. We applied *Both* to the most codes overall. We applied *Content* to

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the second most codes overall, but primarily only to the least common, highly specific codes applied to only one or two comments. We applied *UI* to the third most codes and only applied *neither* to three codes about abstract ideas participants discussed but did not explicitly/specifically connect to either content or UI elements, such as comments about “fun.”

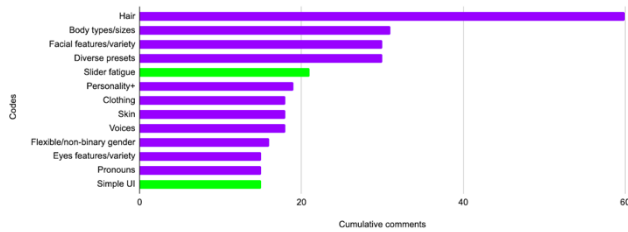


Fig. 7. Frequency of codes applied to comments made in phase one during character configuration in the five games

C. Sketches

Below are the final sketches that participants developed in phase two. These sketches include two broad re-figurings of character creation that prioritize nuanced unfiltered choices for a variety of aesthetic and performative characteristics (Fig. 8 & 9), complex pronoun customization (Fig. 10), and detailed clothing and voice modulation/customization (Fig. 11). Embodied characteristics (such as body type/shape, skin tone, or facial features) were discussed in every phase 2 session and featured centrally in two sketches. Ultimately however, as we discuss in greater detail in the following section, all sessions prioritized means of *performing* or presenting facets of characters, rather than improving or expanding the identification of demographic categories.



Fig. 8. Full spectrum skin color, granular hair, makeup, clothing, and body, as well as pronoun selector in situ; no visible filters.

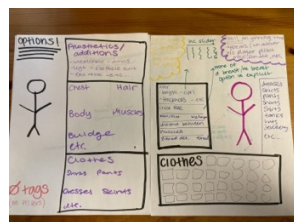


Fig. 9. granular choices across the board, but the main theme is “0 tags (no filters)”—no filtering based on (for example) gender.

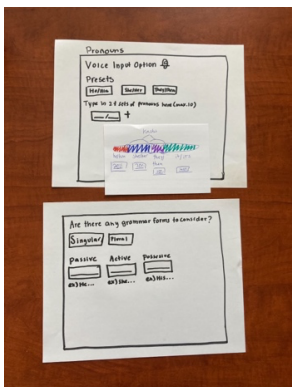


Fig. 10. pronoun customization/Weighting interface.

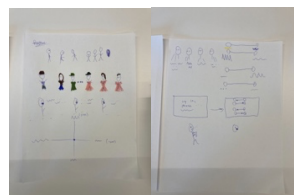


Fig. 11. highlights detailed clothing and hair customization. Standout feature is complex voice mixer to allow for a wide range of voice modulation. No visible filters.

D. Qualitative Themes

We identified four qualitative themes in comments across

codes, phases, and the sketches just above. These themes were identified as threads that drew together multiple phase two sessions, appearing at least minimally during discussions in all of them. These themes are *who not what*, *0 tags (no demographic filters)*, *bodily autonomy*, and *decolonize presets*.

1. Who not what

Who not what is a broad theme describing desires to customize aspects of characters beyond static visible characteristics. This theme encompasses all *general performativity* coded notes, but also covers what participants discussed and *prioritized* in phase two activities and sketches.

Who not what coalesced out of participants in *all* phase two sessions elevating, developing, and acting on *general performativity* coded challenges in some way. All sessions materialized some method for characters to better *present* themselves rather than *identify* themselves. For example, all sessions engaged with the idea of how pronouns could be more flexibly deployed in character creation to include more identities. Pronouns are a grammatical *reference* discursively *linked* to gender identity and refer to *who* someone is in the socio-linguistic sense rather than being *what* they are. Three sessions incorporated pronoun customization in their sketches in lieu of interface-driven gender designations. The last session shifted their attention to voice modulation as a related performative indicator.

Other examples from phase two sessions did not make it into the final sketches. Participants in three sessions considered means of customizing how a gameworld *saw* a character rather than of the character itself. Two of these sessions explicitly discussed how systematic racism and/or gender discrimination might influence a character *and* gameplay. One session discussed how customizing nuanced moral dispositions of characters might influence interactions with a gameworld.

While these phase two examples begin to indicate how future games may express this theme, examples from phase one provide evidence for it from existing games. For example, several participants complimented *Outer Worlds*’ “aptitude” menu that essentially asked them to select their character’s employment prior to the events of the game—one participant explicitly remarking, “it’s cool that there is something other than what you look like.” This selection is requested *before* any visual configuration, has no aesthetic consequence, and has only a minor impact on mechanical or dynamic gameplay outcomes. However, this feature prompted participants to discuss *who* the characters they were creating were and *who they themselves* were when justifying their choices.

Several other features from games in phase one prompted positive *and* negative discussion related to this theme. As an example, participants overall enjoyed that *Max Gentleman Sexy Business* allowed them to choose accessories for their character that flagged interests or elements of their personality. On the other hand, participants were largely disappointed in the available voices in *Forza* and *Saints Row II*, and their stereotypical nature. As a more complex example, the *concept* of the “personality” sub-menu of *Saints Row II* that allowed facial expression, taunt, and movement style customization was appealing to nearly all participants. However, some felt the

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specific choices available were unpleasantly stereotypical.

2. 0 Tags (no demographic filters)

0 Tags (no demographic filters) is a straightforward theme we use to describe a recurring participant desire to not be arbitrarily locked out of certain options, such as hair styles or make-up, because of a demographic selection. This theme could almost be labeled *no gendered filters* as it primarily stemmed from comments about locking certain choices based on designated gender. We used the broader label largely because of discussions in phase two. In particular, the session that created Fig. 11 had a lengthy discussion on this topic and how it could apply beyond gender, eventually explicitly labeling their sketch with “0 tags (no filters).” Even if this theme most commonly pushes back against gendering in these systems, limiting the theme to only gender seemed inappropriate and we instead adapted the title from participants.

This theme expresses a resistance against publishers telling players which parts of their identity *must* correlate with other preconceived notions of who they may be. During phase one, comments related to this theme were primarily expressions of surprise/delight at *not* losing access to features in sampled games did *not* enforce gendered filtering. For example, several participants highlighted the availability of make-up and/or differently gendered hair styles “across gender” in *Outer Worlds*, *Max Gentleman Sexy Business*, and/or *Saints Row II*. However, these games also prompted participants to comment on how infrequently they encounter these sorts of choices.

3. Bodily autonomy

We use *bodily autonomy* to describe participant concerns about customizing the virtual physicality of characters, primarily about body type or shape and size, musculature, sex characteristics, and visible disabilities. All phase two sessions discussed this topic, though only two ended up explicitly addressing it in their final sketches (Fig. 10 and 11). These two sketches highlight the inclusion of “prosthetics/additions,” nuanced bodily customization of height and weight, and the dimensions of specific body parts or “bulges” that may correlate with gender presentation or sex characteristics.

This theme encompasses nearly all comments coded with *body type/shape*. Some examples had to do with complimenting additional bodily choices such as the availability of prosthetics in *Forza* and the height chart, customizable body dimensions, and non-binary visible sex characteristics in *Max Gentleman Sexy Business*. In addition, were comments about the wide range of body-type presets, extensive body customization, and the “body shape” bar specifically in *Saints Row II*.

Negative comments expressing this theme identified both a lack of choices *and* poor expressions of choices. For example, participants expressed frustration with a lack of ability to customize body shape/type at all in *Forza* and *Outer Worlds*, with one participant saying, “I am not as muscular as any of these people,” as they scrolled through characters in *Forza*. Despite generally positive comments about body customization in *Saints Row II*, some participants described the labels designating preset bodies as poor expressions of this theme. These participants felt labels such as “emaciated,” “slender,” “average,” “obese,” and “bodybuilder” unnecessarily

reproduced stereotypes about thinner and thicker bodies.

4. Decolonize presets

Decolonize presets is another theme that applies across many codes and comments in both phases. Many participants liked presets as an interaction design concept or jumping off point for further configuration. However, this theme describes comments and complaints in phase one and *plans* from phase two about re-evaluating how presets should work, especially *default* presets—the preset that is initially selected/presented to players. The core of this theme has to do with comments suggesting that presets should, at a minimum, simply be more diverse. When a preset is used as a default configuration position, thought should be given to *who* that default is.

Although no groups centered presets in their sketches, *all* discussed how presets *cannot* continue to prioritize white men if games have any hope of being more inclusive. Designers cannot follow a “white-male-body-fits-all approach” to designing these systems [38]. For example, some phase two comments considered randomized presets. In phase one, a few participants complimented *Saints Row II* for having a black masculine character for the default selection (despite also noting mixed feelings given the criminal setting). Comments about how presets are explicitly labeled also supported this theme, such as those above suggesting certain assumptions about body types as well as non-visual presets such as limited or stereotypical voice presets.

V. DISCUSSION AND IMPLICATIONS FOR DESIGN

By working *with—starting* with the perspectives of—participants who possess identities and subject positions that are rare or absent from digital games, we centered *their* perspectives and experiences. A consistent corrective offered for an often-exclusionary industry is to hire more diverse designers. Although this project cannot solve this issue, we begin to see what is possible when diverse individuals are prioritized and encouraged to work *together* on designs. Each participant, each sketch, and each theme we describe in this paper highlights different aspects of *limits* currently placed on virtual embodiment. The sketches and themes we present suggest community-driven implications for rethinking these interfaces and how limits on the embodiments players construct *through* them are defined. Our findings and analysis should help those designing these systems move beyond potential caricatures of diversity and inclusion.

The themes of *who not what*, *0 tags (no demographic filters)*, *bodily autonomy*, and *decolonize presets* serve as design principles specific to this sort of interface that any game or interface designer can pin up next to ensuring *discoverability*, *feedback*, or *consistency* [82, 83]. These thematic principles should inform considerations of *what* sorts of options are available and *how* features are presented.

At a surface level, the thematic principles we describe can be helpful for designers who simply wish to add to their designs to make them more inclusive. *Additive* inclusion is still inclusion, and a move toward more socially just games and media. However, recognizing how the *structure* of designs—not only

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the aesthetic or narrative choices within them—may inherently limit inclusion is a fundamental step toward truly inclusive games, media, and design. As such, we hope these principles will also help designers rethink key facets of the *process* of character configuration, and how interfaces shape this activity.

We identified a final meta-principle stemming from the overwhelmingly common meta-code of *both* (content and UI) applied to comments and commentaries, and to observations of discussions in all phases, and sketches. *Content and usability* highlights how both what options are available and *how* they are presented matters in a general, critical, and practical sense.

Examples for this meta-principle could be drawn from any of the basic themes, but the pronoun customization or voice modulation from the sketches are apt. Each creates a usability challenge for how to permit players to customize these characteristics with any sort of depth *and* a content challenge for any/all dialogue exchanges that occur in-game.

We do not believe many would define activities that occur in these interfaces, no matter how playful, as *the* gameplay of whatever game they accompany. However, the choices in these systems dictate gameplay outcomes, and vice versa. *Content and usability* highlights how character configuration interfaces are a sort of *menu* for selecting in-game performative *settings*. Or, even more strongly, because these interfaces are so often positioned at the *start* of gameplay, they often dictate the performative terms and conditions players must negotiate with and *submit* to in return for accessing gameplay.

The ostensibly contradictory sentiments about a *general lack* of choices and comments we coded with *slider fatigue* can help to further illustrate this meta-theme. *General lack* describes comments explicitly about a lack of more options. On the other hand, *slider fatigue* seems to be about too many options, as described by this participant creating their *Saints Row II* character: “That’s way too many sliders for eyes. It’s intimidating to even mess with them sometimes.” Although these priorities may appear in conflict, *general lack* describes a desire for wider categorical outcomes, while *slider fatigue* describes a concern about the labor required to reach desired outcomes, whether limited or extensive. Eyes and noses, for example, were a point of disappointment for several participants. However, in some cases, the issue had to do with limited available options while in other cases, it had to do with needing to manipulate several sliders in concert to arrive at a particular configuration. *General lack* and *slider fatigue* work together to highlight how these interfaces often contain some combination of unavailable, not obviously available, and/or inefficient to access interface *and* content choices.

Content and usability reminds researchers and designers that these aspects work together to manifest digital gameplay. Usability *is* important and interface filtering, for example, can improve it. Despite the *0 tags (no demographic filters)* thematic principle, many participants noted *some* filters can help. For example, using clearly defined sub-menus to hide sliders for all but those willing to confront them may mitigate *slider fatigue*. On the other hand, filtering available characteristics, such as hair and make-up based on a forced designation of “male” or “female” may improve usability by funneling/constraining

users toward defined choices. However, this filtering limits *who* may *enter* gameplay (and arguably counters Nielsen’s heuristic of “user control and freedom” [82]).

As another example, even if a game *does* include a particular choice, there is a marked difference between options that are readily accessible or preset and those that may require considerable time and experience with a system to materialize in-game. This scenario creates inherently inequitable gameplay outcomes even before players reach gameplay.

The ideas, sketches, and thematic principles we describe in this paper arise from those statistically most excluded by current interface designs, and “recognize” and “enable” their presence in the games and media these systems support [30]. However, these principles can also improve the experience of anyone who may not be immediately represented by the defaults games commonly suggest players take on, which is nearly everyone [39, 68]. These principles would even likely improve the experience of those represented by common defaults by encouraging variety, flexibility, and freedom.

A. Tensions

In both phases of this project, participants identified and discussed hindrances to creating themselves based on limited *possible* performative outcomes and with accessing or achieving existing choices. Although our final position is that how players may construct or explore their character’s and their own identities in games should be more inclusive, flexible, and accessible, there are two tensions associated with this outcome.

We acknowledge the first, obvious, tension in the introduction: infinite choice requires infinite development time and resources. There is unlikely to be a perfectly inclusive game as design always demands trade-offs between time and content. However, there is a world of difference between triaging swaths of identities based on incomplete or reductive assumptions, and sensitively considering how best to manage available time and resources to support diverse players. We hope the principles provided here can inform more sensitive trade-offs during design. We hope these principles encourage a greater player/human-centered approach that engages those individuals and communities most currently excluded.

Publishers designing for and *permitting* more diverse identities to be present and performed in gameworlds helps the medium to evolve and include/invite a wider variety of individuals and communities. As Shaw has argued, expanded possibilities in games in turn expand the potential perception for “what ways of *being* are possible” [107], in games *and* the world. Greater opportunities to see diverse identities at play supports *everyone’s* ability to better recognize and empathize with the experiences of others [2, 45, 48, 69, 98, 109]. In discussion with Bo Ruberg, queer game developer Dietrich “Squinky” Squinkifier describes their experience going to the houses of white friends as a child and being struck with it being “just like what I see on TV;” they describe how they “understood whiteness through media” [100]. People should be able to learn about more than whiteness from media.

Expanding possibilities creates opportunities for our second tension between creating greater opportunities for self-

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representation *and* appropriation and “identity tourism” [76, 77]. Reza et al. discuss this tension as well in their analogous analysis of “skins”—alternate, often purchasable, appearances for characters in games [97]. Essentially, where Nakamura observed early text-based performativity co-opted by white players performing stereotypical Asianness through their words, more expansive and flexible character configurations potentially enable privileged players to objectify and co-opt diverse embodiments in more virtually material contexts.

Some participants made remarks that spoke to this tension during phase one. For example, one participant described how they thought it was “interesting” that *Forza* had prosthetics, even asking “is this part of gameplay?” However, they also commented that “as someone who doesn’t have them I feel bad about picking one.” Another participant commented about how it made them “uncomfortable” when “non-black character models have access to black hair styles.” The line between experiencing or playing *as* an alternative identity as part of a sensitively crafted narrative and playing *with* an identity as though it is itself a toy to pick up and put down can be thin.

This second tension is much more complex than the first and more challenging to resolve because the difference between positive and negative outcomes is largely determined by players not systems. In Nakamura’s examples, the issue is not non-Asian people playing as Asian characters, but people insensitively playing with their *perceptions* of “asianness.” To an extent, these situations may increase as systems become more inclusive and present greater freedom of expression. However, if these systems are *attached* to a sensitive game medium, hopefully we will see the longer-term awareness and empathy previous scholars have suggested [2, 45, 48, 69, 98, 109], and less *tourism* in other people’s skin.

B. Limitations and Opportunities

The first limitation for this project was that participants could have been even more diverse, particularly along axes of age, (dis)ability, and neurodivergence. No participants identified as having any notable impairments, physical or otherwise, and only one participant explicitly referenced their neurodivergence. Our findings are in line with a wealth of previous scholarship around race, gender, and queerness in games and media. However, there is a critical need to collaborate with even more intersectional participant communities on this sort of design research.

Our second limitation, and opportunity, has to do with going to where participants are, in their communities. Regardless of how inviting we researchers may be, or how comfortable our labs are, the conditions of this study are removed from how participants ordinarily encounter digital games. Participants had to *come to us* in a meaningful way. A future direction we hope to conduct ourselves is a more ethnographic effort within community centers or even schools, to collaborate on findings based on weeks or even months of interactions.

VI. CONCLUSION

We have identified actionable thematic principles for designing interfaces that *construct* digital embodiment and

performance. Importantly, we reached these principles by facilitating and amplifying the perspectives of diverse community members at every stage of this project. We hope this study illustrates some of what is possible when diverse perspectives inform interface *and* game design when even one component of digital games is made more inclusive.

We encourage others to make use of the principles we have identified, and to emulate the method by which they were identified. Themes of *who not what*, *0 tags (no demographic filters)*, *bodily autonomy*, *decolonize presets*, and *content and usability* should serve more inclusive game and interface design. The sketches we present provide basic examples of how these themes could manifest. These sketches and basic context and commentary from participant-collaborators are available online for free for anyone to reference at: www.ptp-project.com.

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