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TTRPG UX: Requirements & Beyond

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Figure 1: First part of the scenario storyboard generated from the Prologue section. By using TTRPG techniques we can create and craft believable narratives that help us to both explore problems and potential solutions.

ABSTRACT

Tabletop Role Playing Games (TTRPG) allow the player to immerse themselves in a world where anything can happen – within the rules. You can become someone new, fight demons, play out exciting and speculative storylines, all with the help of your party. This ability to place yourself in the life of another person (or ethereal being) resonates with principles of User Experience Design (UX) where usability experts strive to understand the impact their application or interface might have on a hypothetical audience. This paper explores the parallels and potentials of TTRPG within the context of UX and Requirements, its characters, contexts and interactions. We propose creating playable UX worlds with the potential to provide deeper, more insightful output, and make recommendations for the addition of a TTRPG approach to User Experience processes.

CCS CONCEPTS

• **Human-centered computing** → **Human computer interaction (HCI).**

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KEYWORDS

UCD, UX, user experience, TTRPG, roleplaying games, personas, Dungeons and Dragons, Blades in the Dark

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1 PROLOGUE

The snow swirls around the ankles of the last few people out on the street, as they desperately try to complete their shopping before trading ceases. Sounds of sliding, tentative, footsteps mingle with occasional outbursts as people lose their balance. In Chiton, they have never seen snow like it: piling up on doorsteps, covering rooftops, occasionally sliding off with a great 'oomph' and smothering anyone unfortunate enough to be standing underneath at the wrong time. It is an adventure, and a curse. You are wearing a faux fur hat and standing outside the grocers, gazing at the blue light of your mobile device and ignoring your surroundings. Across the street, laughter and warmth spill out from a rough looking tavern with the name 'The Gathering' poorly painted above the door.

"Excuse me... Miss?" a teenager in a thin shirt says as she approaches you. "You got the time?". Your perception skill is high - your attention is drawn to the fact she's wearing a cheap watch on her wrist. "The time..? But you're wearing a watch?" The teenager

narrows their eyes and makes a grab for your mobile device. Roll for Initiative

2 THE ANATOMY OF TABLETOP ROLEPLAYING GAMES

Within this paper we are discussing Tabletop Roleplaying Games (TTRPGs) as a potentially rich and unexplored metaphor for requirements gathering within the User Experience Design process. There are few features that are common to all TTRPG systems – they are defined more by familial attributes than they are strict definitions. The system with which most general cultural familiarity can be assumed is Dungeons and Dragons (D&D) [41, 42], which is the juggernaut of the hobby, and it distorts much discussion of the topic amongst those only familiar on an incidental basis. None of the core conventions of D&D are fundamental to TTRPG systems. Some games don't use any dice at all (Dread [43]), or use six-sided dice rather than the complex array of polyhedral shapes that some may associate with the genre (such as Blades in the Dark). Some games don't use a referee at all (such as Fiasco [22]), or share the referee responsibility through a troupe based system (Ars Magica [44]). RPGs need not be fantasy based. Night Witches is a game system set in World War II and follows the trials and tribulations of the all-female military aviators of Russia's 588th Night Bomber regiment [27]. Kids on Bikes [45] is a game series in which players take on the role of children in the 80s. Dialect [21] is an RPG that explores how languages evolve. World Wide Wrestling embeds itself into the fantastical kayfabe of professional wrestling [23]. Some games have virtually no rules (Ten Candles [7]). Some don't have any character progression (Dread and Ten Candles). Some are played and dispensed with in a single evening, others run as extended campaigns for years. However, there are some generally accepted conventions that are important to articulating our conception of TTRPGs as a requirements-gathering tool.

2.1 Characterization

The first convention is that there is, generally, a one-to-one mapping of a player (a real person in the real world) to a **character** (a fictionalised person that exists in the game). Within TTRPGs people do not play themselves – few of us are interesting enough on a narrative basis to justify our inclusion. Instead, players create a character that represents who they want to be. Almost universally, those characters are to some extent an idealized version of ourselves. We play ourselves, but stronger and more agile. The wizard is us, but smarter and able to fling fire from her fingers. Our personalities leak into our characters, often subconsciously. They mimic our way of thinking about the world and our knee-jerk response to things that happen to us [19]. However, they are also psychologically distanced from us so that we can usually cleanly separate what happens to the character from what happens to the player [15]. This is a concept related to the idea of the magic circle [17, 38] – that what happens within a game represents a 'morally discontinuous space' where the normal rules of society do not pertain. There are limitations to how far that circle extends. No social activity can ever truly exist fully within the magic circle [6]. That is relevant, because TTRPGs are inherently social activities. The characters in a game usually form a multi-player **party** of allies, or tolerated enemies, bound

together by some common goal. Characters may be fully aligned, or at cross-purposes. Navigating this fictionalised network of social complications is part of the challenge characters may face.

2.2 Session & Adventure

Those challenges will be encountered as part of a **session**, which is the period of time in the real world in which all players can gather to undertake the **adventure**. Within TTRPG discourse, an adventure may also be refereed to as a scenario, or a module. The word scenario will not be used in the context of TTRPGs so as to avoid confusion with 'scenario' as a requirements gathering tool. The adventure is the set of external challenges and difficulties that the party will face in order to achieve the adventure goal. An adventure may take several sessions to fully explore. Usually within an adventure, characters make use of skills, abilities, and spells to overcome the challenges, and are rewarded with treasures and **progression**, the latter often expressed as 'experience points'. When enough units of progression are attained, a character will be able to improve some facet of their capabilities so as to enable them to take on greater challenges, or more easily surmount the obstacles they regularly face. This is often expressed as a **level**, which is an abstract quantification of how powerful a character is. This may be in terms of their professional (a level 10 wizard is more capable than a level 5 wizard) or in terms of skills or some other gamified aspect of their character (a character with two levels in sneaking is better than a character with one level in sneaking).

In some TTRPGs, multiple adventures are linked together into a persistent **campaign**, in which the same party (with evolutions defined by real-life circumstances) progressing in stages towards some overall grand aim. Players may begin as first level warriors, wizards and bards and progress through multiple adventures to become level 20 versions of themselves. Their first level characters may find themselves fighting bandits and exploring dark caves, attaining renown at the level of a local village or tavern. Their level 20 versions will face dragons and demi-gods and shape the course of the world in which they inhabit.

2.3 World Building

The specific world itself may be custom made, but is often derived from a **campaign setting** which is explicitly designed for the game system employed [1]. This defines the socioeconomic and ecological context within which the campaign will function. Campaign settings define rulers and political systems, economical expectations, and the kind of creatures one might encounter in different places. It outlines great heroes and historical events. It creates the context in which a campaign will evolve. For custom campaigns (ones explicitly constructed on an individual basis as a form of self-actualization) they may evolve on an adventure by adventure basis. External Campaign settings are usually more rigorously engineered. Common settings with D&D, for example, are Krynn (The Dragonlance setting); Faerun (The Forgotten Realms); or the Demiplane of Dread (Ravenloft). More exotic settings have focused on post-apocalyptic desert wastelands (Dark Sun), extraplanar city states (Planescape) and magic-infused spaceships (Spelljammer). These settings are usually tightly bound to a rule system. Duskvol of Blades in the Dark [14] is not a setting that can be easily ported



Figure 2: Second part of the scenario storyboard generated from the Prologue section.

to D&D because of the specifics of its model of representing the world.

2.4 Gamesmaster

Most game systems will make use of a referee, alternatively known as a Gamesmaster (GM), a Dungeon Master (DM), a Storyteller (S), a Facilitator (F) or many other designations. Their role is to direct the experience of the players. They rarely take active control of a player's character (PC). They instead inhabit the world as a kind of enabling animus, giving life to all of the non-player characters (NPCs). The players are the heroes. The referee is everyone else, as well as a living embodiment of the social, economic, and physical forces of the world.

3 ELICITING REQUIREMENTS

The difficulty in eliciting requirements from users, especially users with complex interaction needs, is well-established in the literature (c.f. [10, 18, 30]). The process is one that is primarily an ongoing act of interpretation in which user 'wants' are translated from interviews, observation, focus groups and such into actionable 'needs' that can then be addressed in further design and development. The literature thus makes a distinction between 'gathering' requirements - as in collecting together feedback - versus 'eliciting' requirements, which is a more participatory form of ongoing interpretation. As noted by Pacheco et al. [30], the process is highly contextual and its complexities are influenced by everything from the project, the organisation, the environment, and the prior-experiences and skill-sets of all involved parties. It is also dependent on the requirements elicitation techniques employed.

Given the core importance of the techniques chosen and the impact this choice has on the quality of the final product, it is unsurprising that a rich ecosystem of competing and complementing techniques are regularly employed. These include interviews, workshops, observation, protocols and dialogue, scenarios, and prototyping amongst others. Each has a particular kind of requirement it is best at eliciting and each has its corresponding weaknesses

[40]. However, supplementing standard techniques are a range of specialist requirements gathering techniques that can be used in specific circumstances to offer insight beyond that demonstrated by traditional techniques. These may involve the creative application of experimental techniques or the revision of traditional techniques to make them more appropriate for stakeholders with whom traditional techniques are less effective. Older adults, by virtue of living a life with a reduced emphasis on ubiquitous technology - tend to engage less intuitively with technology [25]. Stake holders with cognitive disabilities do not represent an ideal use-case for cognitively demanding techniques [18]. In such complex cases, it is common that products are designed according to what designers believe requirements to be rather than what deeper interrogation would reveal [11]. This discrepancy between 'authentic needs' and 'assumed needs' has led to the investigation of numerous creative techniques where authenticity can be derived through more freeform investigation of the needs of users for whom standard techniques are inappropriate.

3.1 Persona/Character

Even in cases where standard requirements elicitation techniques can excel, there are numerous other inauthenticities that get encoded into developer assumptions. Laurel [24] argues that this inauthenticity is essentially a fundamental outcome of a number of 'user focused' shibboleths, noting that "Personas are less effective if an audience is diverse". Strom [39] notes "users in scenarios have a patience that is exceptional amongst real people". Personas and scenarios are highly focused on the practical relationships between users and artefacts. The emotional or sociological factors, if they are represented, are only ever captured in relation to pragmatic goal-seeking. As far back as 1991, Greenbaum and Kyng [13] noted the need to deal with 'Human actors, rather than cut-and-dried human factors - systems need to deal with users concerns, treating them as people rather than performers of function in a defined work role'. In circumstances where we capture the needs, it's also important to situate those needs into the often messy context of a user's real

life. Djajadiningrat et al. [8] propose a method as a challenge to the central-tendency and questioned approach to personas as a dangerous simplification of user data. They propose “Extreme Characters” as a method to surface fringe requirements from extreme imaginary users who would deeply question and problematise the issue at hand. In their application of the method they use as an example the Pope – capitalising on the perceptions and specific complications that come along with his person. This technique requires a certain level of role-playing and also the ability to incorporate intricate and extreme emotions. Numerous techniques have been employed to explore the interface between the human actors and the human factors. Particularly germane to this paper are those previous techniques that have explored the use of storytelling as an intuitive mechanism for gathering non-intuitive user needs within ‘messy’ scenarios.

3.2 Theatre-Based Approaches

The use of theatre in requirements elicitation is one particularly notable example [28], with its own set of complexities. Working with a script-writer and professional actors, researchers primarily located at the University of Dundee explored this as a technique for identifying the accessibility needs of older adults engaging with technology in common, everyday settings. This in itself was an evolution of the concept of the Forum Theatre [9, 32], as outlined by Boal in the nineties. Boal’s ‘Theatre of the Oppressed’ [3] was designed with the intention of embedding a layer of deep interaction between the audience and the actor, with the actors then representing the views of the audience within the presentation. However, the work of Newell and others runs up against numerous pragmatic concerns – such as the cost of putting on fully interactive theatre performances. Instead, live video was often used [29] – the user stories of older adults were encoded into scenarios which were then written into short, narrative style, video segments. The particular care taken to capture real-world context helped address the obvious criticism, which is that such approaches risk simply translating the deficiencies of scenario-based thinking into a different format. Each video made use of set ‘stopping points’ at which the performance was paused to allow for audience discussion, which was the level of interactivity that cost and pragmatics could support. Even with these limitations, these videos serve as important generators of empathy and insight for developers and designers, as they allow for a window onto emotions rarely captured through formal techniques. The best way to do this is, of course, direct engagement with stakeholders as they use an artefact. The focus within the Interactive Theatre [32] approach however offers one irreplaceable benefit – the ability to fictionalise these artefacts before they are developed. The drawbacks however are considerable. Most involved in requirements gathering can not afford the expense of a script-writer or ‘artist in residence’, or the cost of hiring professional actors (or even amateur actors) for a video shoot. The skill-set required for script-writing within a team is otherwise one that would likely not be present in a team. Those organisations that can afford the cost may demonstrate understandable skepticism regarding the cost-effectiveness of the approach. Software developers in particular are already predisposed to discount the importance of requirements generated through ‘softer’ approaches. The quality of insight that

can be gathered is tightly bound to the skill of the actors and the writers. And importantly, these performances suffer from a lack of agility in response to iterating upon the very insights they are designed to elicit. Unless one has a staff of actors, all of whom are happy improvising around a script that may change on a daily basis, theatre is an interesting but impractical tool.

4 THE POTENTIAL OF ROLEPLAYING GAMES IN REQUIREMENTS ELICITATION

The metaphor of theatre as a place in which alternate realities can be played out is intuitively powerful. Within TTRPGs, there are multiple ways in which the action is ‘staged’ for players. The first is through the use of a physical map or board representing the current environmental context [2]. Players control miniatures which show their presence within this map. The games master controls the enemies, each with their own miniature or counter. This is a form of spatial explicitness that allows for a clear, shared understand of the core question at the heart of collaborative storytelling – ‘what is happening?’ However, this approach is disregarded by many roleplayers, who prefer a system known as the ‘Theatre of the Mind’ [2]. In this there is no shared map, no miniatures, and a looser spatial relationship between actors. Instead each player holds a shared conception of the world, populating it with their own assumptions and expectations. In other words, each participant is collaboratively working towards a shared mental model of the world [5, 20, 33], but each is also acting within what Goffman might think of as frames of make-believe [12], which are each keyed and de-keyed as consensus is obtained and lost. The Theatre of the Mind suffers from its lack of explicit agreement on basic physiological factors of the imaginary world – even those as fundamental as ‘where am I’ and ‘where is everyone else’. What it gains though is a free mental canvas within which each player can add whatever supporting detail that is appropriate. Working with a supportive games master, this turns roleplaying into a form of recognising and then capitalizing on implicit assumptions. ‘Is there a rope on the dock?’, a player might ask. ‘Yes’, answers the gamesmaster, who may not have previously considered the presence of a rope but infers it from the shared mental context. In this way, the Theatre of the Mind is one where contextually appropriate props, supporting characters, background activities and more can be simply willed into existence. The Theatre of the Mind represents an almost quantum form of ludic reality [16], in which its exact manifestation is only decided upon when it is collapsed through observation.

In other words, the Theatre of the Mind offers an opportunity to succeed where real-world theatre does not. Roleplaying offers a tool that can capture the benefits of theatre in requirements gathering while dispensing with its limitations. The cost of running a roleplaying game scenario is largely just in terms of time – to design it and to carry it out. It can be as contextually rich as the participants desire. It can be as narratively complex, or as simple, as is needed to engage players. It can be as mechanically complex, or as mechanically simple, as the players prefer. Roleplaying games are infinitely configurable, adaptable on the fly, and informal enough to permit for requirements gathering in circumstances where it may not otherwise be possible.

4.1 *Blades in the Dark* as a Model for TTRPG UX

Blades in the Dark [14] is a 'fiction-first' roleplaying system in which everyone – including the referee – are encouraged to 'play to find out what happens'. The game expands upon the Theatre of the Mind by decoupling it not just spatially, but also temporally. The past is not set in *Blades in the Dark* – it too is subject to negotiation through a gameplay system known as the 'flashback'. The game design intention is to obviate the need for long sessions of planning and resource gathering before getting to 'the good part' of an adventure. *Blades in the Dark* stresses light planning followed by a kind of 'in media res' smash cut to the action. Instead of spending hours executing upon a pre-defined strategy, *Blades in the Dark* players simply set a few light supporting details. 'We're going to sneak into the kitchen dressed as servants. I have a friend who works at the palace who will let me in. Our enemies are powerful here, but they are also not expecting us'. Mechanically, this is represented by the rolling of a handful of dice that represent the uncertainty of fate and the inevitability of failure that is the core of the game's philosophy.

Dice rolls rarely result in something as bland as 'you succeed'. Instead, they are 'failures with an upside', or 'success with a complication'. Characters in the *Blades in the Dark* are never incompetent – they are simply unfortunate, or doing grand things where true success may be unattainable. As a storytelling device, the 'success with a complication' ensures everyone is part of the construction of the narrative. Players describe how they want to accomplish particular goals and which of their skills they will apply and how. That embellishment creates natural progression of the story when complications are introduced, such as 'You opened the window, but it gave off a long squeal as the rusty hinges moved into unwilling action. You have no idea if anyone heard it.'. To resolve the difficulties this introduces, players can freely spend their limited number of 'stress' points to trigger a flashback in which they describe what they did in the past to overcome the peril they face in the present. *Blades in the Dark* thus plays like a classic heist movie in where impossible obstacles are revealed to be trivial through careful, clever planning to which we were not previously privy.

- *"The guard stands before you, his calloused hand resting on the hilt of an impressively large sword."*
- *"Flashback - before we started the heist, I spent a bit of time getting to know the guard shifts. I knew this guy would be on duty, so I have been befriending him in the tavern. I told him that I'd need him to look the other way on the night of the robbery, and slipped him a chunk of money."*
- *"Okay, that sounds like a sensible thing you might have done so it'll only cost you two stress. The guard sees that it's you, winks, and taps a finger to his nose before yelling back to his friends 'It's okay, just one of the dogs, let's get back to the poker game'."*

Blades in the Dark represents an interesting system to use in requirements elicitation because of how these systems come together in ways that offer value in the process. The Theatre of the Mind ensures that the complexity of assumptions is taken into account, offering an opportunity for correcting deficiencies in the prospective design of speculative products before they become stumbling

blocks. The flashback system allows for the exploration of knowledge and action pre-requisites. The 'success with a complication' mechanism allows for exploring 'fuzzy' interactions, which are particularly important for some user groups.

- *"Okay, I want to use your product to see the pictures of my niece that I took with my phone."*
- *"Okay, which of your real world skills do you think is most appropriate, and how do you use them?"*
- *"Hrm, I have two points in computer software, so I guess I will use that to press the right buttons on the interface."*
- *"What buttons would you expect those to be?"*
- *"Is there a button that says 'Photos' anywhere?"*
- *"Sure. Okay, let's roll the dice. That's a success with a complication – you pressed the button but it showed zero photos, and then your virus checker popped up asking for you to update it"*
- *"Blast. Wait, no photos? But we just did the scene in the park and I said that I took ten photos of her eating ice-cream? What's happened? Did I take them properly? I want to flashback to the park, and check my phone to make sure that they were saved"*
- *"That's perfectly reasonable, I won't even charge you any stress for it. Yes, the photos were there – a bit blurry because you didn't get a great result on your photography roll, but they're on the phone. There is one you'll definitely want to email to her mother, it's hilarious - it's when the seagull came and tried to steal her cone."*
- *"Oh! So, I need to get them from the phone to the computer somehow? But the virus checker is in the way..."*

The application of this technique offers ways to explore much of the disconnect between user expectation and designer assumptions, as well as reduce the sense of frustration that is felt by a user as they encounter unexpected scenarios by exploring them in a fictional, entertaining context. Moreover, it offers an opportunity to quantify things that we want to explore but cannot ethically make part of a user study – specifically, the degree of stress that a design may create. This even allows for user studies to set success criteria – 'Our design is suitable for implementing into prototype form when the average stress of players at the end of a session is five or less'. The rich form of collaborative dialog that is core to an RPG session also comes into play here, allowing for the seamless capturing of a kind of 'think aloud' protocol. 'Is there a button that says photos?' can be instantly accommodated by the referee but is also an expression of the player's first assumption of what a button should be called.

4.2 The Gamesmaster

There are some complicating factors that go along with following this approach for requirements gathering. The first is that most game systems that would be appropriate for this kind of process are dependant on the availability of someone to act as the gamesmaster/referee. The traditional view of this role is that this is the person responsible for teaching the game, enacting its mechanisms, and delivering rulings on the interpretation of rules with regards to player actions. Within *Dungeons and Dragons* (D&D), the exact role of the Dungeon Master (DM) has varied from edition to edition. The concept of 'rule zero' is embedded in the way in which role-playing game systems present themselves to those that run them, and it is essentially the enabling rule – the rule that determines how

all other rules should work [26]. These have varied from a strict legalistic interpretation (the rules are the rules, and you as a DM don't change them, you interpret them) to a more collaborative and free-form approach (use which rules you like, change them in whatever was you want, it's your game, you're responsible for your fun). Other game systems strengthen or reject these conventions in varying ways. In all systems with a referee though, it is certainly true that they bear a disproportionate responsibility for the success of a session. A good GM/DM will be an enabler of the fun of others. A bad GM/DM will be an enabler of their own fun only. The specifics of why this is the case are outside the scope of this paper, but the issue of the referee is one that is relevant to the discussion of the potential of RPGs as a requirements gathering technique - specifically, the degree to which a 'good' referee is a pre-requisite for effective requirement elicitation. In this frame of discussion though, the answer is nuanced. A good referee in this context is one that can generate usable insight for later analysis, rather than one that can sustain long-term engagement in a campaign. Consider the Theatre of the Mind as our playground for requirements gathering. When players share a common mental model of spatial and temporal implications, there is a general agreement and consistency with statements.

"I swing my sword at the goblin that is closest to me", 'Okay, the goblin is within range - roll to attack'. Versus: "I swing my sword at the goblin". "What goblin?". "The one I charged at in my last turn". "Oh, that one was knocked out of the room by Amy". "Wait, I didn't knock that one out of the room, I knocked the other one". "It doesn't matter, because Jennifer killed them all with the fireball she cast". "So what goblins are here?". "I don't know what any of you are talking about, there were never any goblins to begin with! Who mentioned goblins?"

One reflects a clear understanding of position and presence, the other represents incompatible mental models coming into conflict. However, in the frame of requirements elicitation what this clash demonstrates are areas where disagreement can emerge and where clarity is most effectively implemented. In circumstances where resources to deal with these misunderstandings are likely to be limited, the Theatre of the Mind is a safe space in which a meaningful triage can be performed. In any case, skill as a referee in a game of this nature is like any skill - it is one that improves over time, and the skill floor required increases proportionally with the fundamental complexity of the system, e.g. D&D consists of two core rulebooks - the *Player's Handbook* [42] and the *Dungeon Master's Guide* [41]. Together they form around 600 pages of rules; tables; interpretations; optional systems; lookup charts; and compendiums of monsters, spells, magical items and more. On a mechanical basis, every single spell within the game represents its own rule, which is made complex by the universal rule - 'the specific case overrides the general case'. When the game says that characters take damage and that damage does not heal (the general rule), the existence of a healing spell that undoes 1-8 points of damage overrides the general case. The combined solution space of spells, magic items and character abilities is immense, thus the importance of a referee who can make rulings on how they should interact. The wrong ruling can have huge gameplay impact, to the point it can actually completely break the system. Game-breaking 'builds' are common in every version of D&D, and it is only experience that can recognise and

UCD Tool	TTRPG Equivalent
Personas	Character Sheets
Scenarios	Adventure
User-Testing	Session
Focus Group	Party
Usability Test	Combat
Journey Mapping	Campaign
User Researcher	Dungeon Master / Games Master
User Stories	Character Goals

prohibit them before they become a problem. It is this, along with the specificity of the ruleset, that makes being a first-time dungeon master daunting.

However, for requirements gathering this is likely a chimera of assumptions and unnecessary worries. The rules required to play a 'light' version of D&D are very simple and straightforward. Within the Introduction to Game Research course at the University of Gothenburg / Chalmers University of Technology first-time players are taken through a D&D scenario that requires no extended rule explanation or familiarity with the wider toolkit available to ambitious DMs. Rules are introduced on a 'Just-In-Time' basis. Few students read the recommended material before arriving at the session, and with few exceptions they find themselves engaging fully in the collaboratively constructed scenario within ten minutes. In other words, for the purposes of requirements elicitation there is a huge range of platforms, each with their own benefits and drawbacks, upon which a regime of effective user-engagement can be built.

5 PROPOSED METHOD

This paper represents the exploration of a possibility space as opposed to a report on activities undertaken. However, the conventions of TTRPG systems permit a direct mapping of certain core user-facing tools to RPG conventions. There is a strong argument to be made that a bespoke, specialist rule-set should be constructed to effectively explore TTRPGs as a platform from which requirements gathering can be done, but it is perhaps more appropriate given the frame of this paper to consider the opportunities available by using existing systems, and instead developing specific materials for these to explore the mechanical efficiencies presented in each. This is work that is compatible with the usual expectations on a game referee to personalize their campaign; its themes; and its mechanics. For example, several of the authors of this paper have been in a persistent *Blades in the Dark* campaign that abandons the (admittedly compelling) campaign setting of the book. Instead, they play in kind of gritty noir interpretation of *Ankh-Morpork*, the city at the core of Terry Pratchett's *Discworld* books [31]. This we termed '*Discworld in the Dark*'. We propose in this paper requirements gathering as a form of building a 'custom campaign', which involves the development of several categories of supporting resource. We will term this the 'RECS', as in the 'Requirements Elicitation Campaign Setting'.

- (1) Character sheets, eschewing traditional skills and spells in favour of those thematically appropriate to the artefact to be assessed. Skills represent a kind of 'competence range'. In D&D these may represent skills such as Persuasion (your

ability to sweet-talk non-player characters) or Arcana (ability to infer details about magic). Blades in the Dark makes use of skills such as Wreck (physical mayhem) and Tinker (ability to manipulate technological items). The general semantic meaning of several of these skills would apply to a requirements-gathering paradigm, but should be specifically tailored and expressed through character sheets (Fig. 3).

- (2) Adventure Module, in which characters collaboratively work towards a goal. In traditional RPG sessions this might be to slay a dragon; steal a treasure; save a village. In the RECS condition these modules should address more prosaic aims, but with equivalent detail and consideration. Instead of taking on a bandits camp, players could instead have to navigate the payment of an electronic bill, or have a nice day with their relatives.
- (3) Spells and Abilities. In traditional campaigns these represent the skillsets that make characters extraordinary. In RECS, these should instead represent classes of competence that cannot be expected of an average user but still are constrained within the context of real-life ability range.

It is the construction of RECS that we propose as the followup work to be done as part of this paper. Once the materials have been developed, users will be recruited to undergo a requirements-gathering adventure in the context of a real-world project. Other users will be recruited for the same project and exposed to traditional requirements gathering tools. The different sets of gathered requirements will be compared and contrasted to assess the strengths of RECS and to identify its weaknesses. In addition, we see great potential in this approach as a teaching tool, allowing students to explore important issues of software and application design as well as the ethical implications of the work they undertake [35]. Understanding the long-term impact of software design is difficult to articulate in a teaching setting, but the synthesis of speculative fiction and TTRPG conventions offers a compelling opportunity to gather rich, actionable insights in a convincing, intuitive way.

6 UNCONVENTIONAL INTERFACE METAPHORS

There are a range of titles in the spectrum of TTRPGs that make use of innovative gameplay systems to explore particular player reactions and responses. These too represent opportunities within RECS to address design implications in a playful way that could not be ethically countenanced in other circumstances. These can be employed within other TTRPG rule-sets to create richer sets of mechanics attached to specific requirements-gathering goals.

Dread. [43] is a horror-themed roleplaying game system, traditionally played as a 'one shot' – a game played in a single session with no persistence of consequence. Instead of using dice or other randomisers, Dread employs a Jenga tower. When players wish to do something within the game, they are instructed to draw a number of blocks from the tower. Fear is a difficult emotion to explore in tabletop settings – the necessary transparency of rulesets and probabilities undercut the unknowability that drives effective horror [4]. Dread however gamifies fear into a tension-based system where the explicit frame of its context (Jenga) retains the emotion while

decoupling it from its consequence. It makes fear **fun**, and allows for this to be explored safely in a gaming consequence. Perhaps each time a skill check is failed, players must draw from the tower. Its collapse represents a failure of the activity, and exploring the relationship between player actions, expected skills, and catastrophic consequence offers a fascinatingly deep debrief context.

Ten Candles. [7] is another one-shot game in which players explore time-based tension through the unpredictable behaviour of a candle. They play through individual vignettes, the length of which are regulated through the natural or unnatural extinguishing of literal candles. At the start of each vignette, players agree upon 'that which is true', which represents their shared canonical understanding of what is happening. Players also define themselves in terms of loose groupings of attributes, such as their virtues, vices, secrets and eventual breaking points. Within a system such as our proposed RECS setting, these can be constrained to real-world expectation such as 'I am patient' with a breaking point of 'I lose my personal data'. At the start of the story, everyone records a voice message indicating who they are and what they want to accomplish. At the end, everyone records who they were, and the last things they want people to hear as a result of their progress through the story. At the game end, these recordings are played back by each of the player. The time element of Ten Candles creates an immediacy that would be unreasonable to incorporate into almost any other setting – it is the explicit fictionalisation that turns it into entertainment while retaining the emotional payload. However, the regular recitation of 'that which is true' allows for the exploration of concretization of understanding [20] and the recordings create tangible records of 'what we wanted' versus 'what we achieved'.

Alice is Missing. [37] is a silent referee-free roleplaying game in which nobody speaks. Instead, they communicate as their characters through the medium of technology-mediated conversation platforms. These might be text messages, Facebook instant messages, or Discord chats. In its original form, the game is a mystery in which players are trying to find a missing person making use of the contextual character information only they possess. They record mysterious voicemails that had been sent to the missing character, and then take turns describing emergent suspicions to each other via the text messaging tool used. Again, within RECS this can be re-contextualised to a more mundane (and less potentially triggering) scenario but the convention can offer deep insight into how context is retained or lost through technologically mediated communication.

Additional Gaming Systems. exist that offer tools for requirements gathering within a fictionalised setting. Dialect [21] explores language and how it changes. Icarus [36] explores sociological context and its implication. Monsterhearts [34] introduces romance and eroticism to TTRPG scenarios. Not all tools will be appropriate for all circumstances, and some may need to be heavily modified to fit into the frame of requirements engineering. However, the breadth of innovation in TTRPG represents what is, currently, a massive untapped resource for building more effective dialog between users, designers and developers that can – by virtue of the psychological distance of inhabiting a fictional character – explore concepts and complexities for which traditional techniques are ill-suited.

TTRPG-UX

Sandra Smith
Persona Name

Marketing Manager
ROLE & LEVEL

Undergraduate in Psychology
BACKGROUND

3125
USER EXPERIENCE POINTS

Max UX: 16, Current UX: 12, Temp UX: 0
UX POINTS

Strength: -1, Dexterity: +5, Constitution: +0, Intelligence: +0, Wisdom: +2, Charisma: +5

Gender: FEMALE, Age: 39, Family: PARTNER, Location: WEST MIDLANDS

Initiative: +2, Base UX: 14, Inspiration: +2, Proficiency Bonus: +2, Typing Speed: 85 WPM

Skills: Perception (+1), Performance (+2), Patience (+2), Multi-Tasking (+5)

Features & Traits: Loves Apple products but partly because it is a closed system and can't stand change. Is very kind, will always put others first, even if she is exhausted. Creative and friendly, generally the life of the party (but equally likely to cancel). Hates the applications her work make her use, and wishes there were other options. Loves cats.

Back Story: Sandra grew up in a small town in the West Midlands with a brother and divorced parents, but always dreamed of moving away. Her family live all over the world. As a kid she loved computers, starting with an Amiga and playing Bubble Bobble, then was hooked. She always general interest in computing followed but not enough to go past GCSE ICT. She studied Psychology at University of Exeter, and had a part time job as a brand ambassador for Red Bull. This got her hooked on the fun side of marketing, so she looked for internships and entry level roles after she graduated. She has been at MarketMagic for 4 years now, and during that time has risen from marketing assistant to marketing manager. She loves her job, but generally prefers to explore side hobbies such as art and cooking. Life is too short to spend 20 hours a day at work. Her partner is a workaholic who has a home office and has trouble switching off. They cycle together to let off steam. She has no interest in having children but enjoys spending time with friends and family, and is trying to figure out a way to retire at 55.

Annotations:

- This sheet is inspired by D&D Beyond, and adapted for coherence. Some features may not be relevant, but each UX team will identify relevant components.
- This persona's job means they use non-standard programs (e.g. Adobe Creative Cloud) hence they are more likely to successfully complete a task in this area.
- Basic Skills and General Skills are open to interpretation. However, to make the situations more realistic the story will involve more than just a task: how might an app affect everyday life?
- Some features of the Persona Character Sheet remain similar to those used in existing persona templates, however, the playable aspect means that the researcher goes deeper into the character. Their world does not revolve around using technology, but it helps.
- Persona Character Sheets (PCS) can be re-used and the character can grow with each product and assignment. Re-use gives further insight as the User Researcher gets to know them.
- User Experience Points: A buffer against mistakes and issues when undertaking tasks such as Cognitive Walk-Throughs or Think Aloud Protocols.
- If your persona has proficiency with Android and are given an Apple application to use, chances are they will struggle to adapt.
- Can be linked to Keystroke Learning Model, or others.
- Basic competencies can be mapped to suggest how a different user approaches a task – this goes beyond the basic persona who may have brand preferences but we learn little about their skill-sets.

Figure 3: A concept Persona Character Sheet (PCS) taking existing paradigms from TTRPG (in this case it is based upon D&D Beyond) such as 'Skills' and 'Languages & Proficiencies'. The process of creating this PCS enabled us to evaluate features and develop the idea.

7 CONCLUSION

This work discusses the parallels and opportunities between Tabletop Roleplaying Games and User Experience design processes, and how TTRPG might be leveraged for requirements gathering, as well as to test products and services further along in the development process. By exploring different gameplay systems and characterizations, we can envision developing a playable system for use within the research context. Further, this approach does not require additional resources, with scenarios, personas and world building pre-existing within the skillset of a UX researcher. Further work will design and produce a playable prototype in order to test our theories, with the view to produce a set of TTRPG-UX resources for designers and practitioners to download and use.

8 EPILOGUE

The teenager rolls a six on their sleight-of-hand check. It's not enough for the clean grab that had been intended. The teenager brushes the mobile device with their fingertips, but you snatch your hand back and they cannot maintain a hold. The teenager sags noticeably, then tenses to run - she'll undoubtedly make a break for it when her turn comes around again. You're next in the initiative order. What would you like to do?

Can I try to calm the situation? Get her to talk to me? Can I try a persuasion check?

Okay – the teenager is pretty tense and you've been shook up a bit. You need to roll fifteen or higher on this 20-sided dice.

I got fourteen, which is eighteen when you add in my persuasion skill bonus. That's a success, right?

Yes! "Hey!" you say – "Stop! I mean... don't run, it's okay." The teenager, wide-eyed, pauses and looks at you quizzically. You notice how alarmingly thin she is, and how poorly her shirt must protect her from the snow.

I talk to her. "You must be cold, and hungry, what can I do to help?"

She blinks and then looks down at her feet. "I... I can't go home... I just wanted enough money for somewhere to stay"

The poor thing. I say "Let me check the map application and see if there are any youth hostels nearby? I'll pay with this new Fintech app my friend installed, if I can work out how. We'll get you out of this cold."

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