Developing a hybrid of MMORPG and LARP using usability methods: the case of Takkar

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ABSTRACT
This paper examines the idea of combining Live Action Role-Playing (LARP) and MMORPG into a hybrid game named Takkar. We developed three versions of Takkar in an iterative fashion. In each iteration we constructed and tested game play and features using principles and ideas drawn from game development theory and usability/Participatory Design such as user interviews and expert reviews. Between iterations we made use of LARP-theory and theories of virtual environments to further develop the concept. Considerations of embodiment, concurrency in actions and rich communication emerge as central factors for the successful transfer between the two parts of the hybrid. Usability methods proved effective during game development giving a better and faster understanding of the needs of the players.

Keywords
LARP (Live Action Role-Playing), MMORPG (Massively Multiplayer Online Role-Playing Game), Usability, User testing, Player types, Body language, Embodiment, In-game communication, Neverwinter Nights, Hybrid Game.

INTRODUCTION
The motivation for the work behind this paper is an interest in combining computer games and LARP. LARP is a "dress-up" version of the classic pen and paper role-playing games; in LARP the players dress up as their characters and act out their actions instead of telling them to the other players. LARPs often take place in an outdoor setting, see Figure 1Figure 1. A classical LARP consists of a description of the game universe and rules covering areas such as combat, magic and situations which could be difficult or dangerous to enact properly (e.g. pick pocketing or sex). A major problem for LARP events is the amount of time spent on preparations both for organisers and for players who need to develop characters and create costumes. Most ongoing LARPs have events no more than two or three times a year due to the amount of time involved. The idea of the present work is to enable play to continue between events by expanding it with an online version of the game.
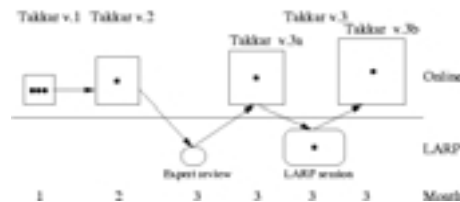
Figure 1: A LARP in progress – violence has ensued

This poses the questions: How do we ensure that players have a sufficient experience of "sameness" of their character in LARP and online? How should one go about developing it?

In order to answer these questions we settled on a two-pronged course of action. The first prong was to develop working prototypes of the computer part of Takkar to enable us to gather experience through the application of usability methods and principles. We used contemporary game development theory mixed with usability and Participatory Design (PD) principles. The other prong was to enrich features present in the game prototype by using contemporary theories of LARP, computer games and virtual environments.

APPROACH AND METHOD IN THE PROCESS
We developed three versions of Takkar over three main iterations each lasting about a month as illustrated in Figure 3Figure 2.

Figure 32: Project timeline

The half above the line represents work and user sessions done on the online part of Takkar while the lower half represents work and user sessions done on the LARP part. The size of a box illustrates the amount of features in that version of Takkar. The size of an ellipsoid illustrates the amount of work spent on the LARP related activity. The dots in the boxes show the number of user sessions conducted with each version.

For the usability part we leaned upon usability theories and principles developed by the Microsoft Game Studios User-testing Group [10] and the Scandinavian Participatory Design tradition as presented in [6].

The first two iterations consisted solely of concept testing and development of the online part. The last iteration consisted of a full-blown user test where the same group of LARP players played through first an online session, then a LARP session, and finally another online session using the same characters all the way. Between the second and the last iteration we had a review of our concept with Claus Raasted who is a LARP organiser, much respected in LARP circles for organising events and networks. For example, he co-organised Knudepunkt 2003: A yearly meeting of Nordic LARP theorists and enthusiasts for which English proceedings are available, e.g. [3].

THEORETICAL BACKGROUND
Online Role-playing and LARP
Some of the key issues when combining LARP and online role-playing games are embodiment and diegesis.

In "Living Digitally" [9] T.L. Taylor discusses embodiment thoroughly. One of her main points is that users act as though their digital alter egos were physical bodies. Taylor argues that embodiment and therefore immersion is grounded in the social context available to the user by the possibilities for expressing him- or herself through his or her avatar. Taylor mentions several ways in which such expression is possible: avatar gestures (emotes), avatar positioning in the virtual environment, and group activities with avatars (protest rallies, etc.) During our project we discovered that not only are such modes of self-

expression important to ensure a feeling of embodiment but for a combination of an online game and a LARP it is even more vital due to the ever present comparison between the two parts.

For LARP theory we turned mainly to "As LARP grows up" [3] which consists of papers presented at the LARP conference Knudepunkt 2003. The concept of diegesis in LARP as seen in [3, pp. 74-79] concerns different levels of game reality in LARP that can be used to spot ways in which player immersion may be broken or sustained and to spot the conventions of play present in LARP that may or may not exist in online computer games. Diegesis can also be used to throw light on an important aspect of combining an online game with LARP: when determining the hybrid game experience should one of the parts be allowed to dominate the other or should they be treated equally? Our decision was mostly a pragmatic one but can be shown to be theoretically sound. The diegetic rooms in LARP consists of the playground which is the physical universe and of the game universe. The nature of the playground limits and enables what is possible to do in the game universe without straining the players' suspension of disbelief. Online games however exist wholly in the game universe – thus any rule or effect is theoretically possible in an online game though of course the user interface points back out into the real world. If one aims for a consistent hybrid game then the most limiting part must be dominant insofar as the two parts should give players a coherent experience. Put in more pragmatic terms the online part should be fashioned after the LARP part since the latter in many regards is the least modifiable. To some extent this rests squarely on the potiental users. Among Danish LARPists there is a tradition for realism: "We can't do dragons satisfactorily, so there won't be dragons." Some elements such as dragons could be accessible only in the online part of the hybrid game world, others like game mechanics should be universal.

In addition, we made use of computer game theory: Bartle's typology of MUD players [7, pp. 397-435] combined with Bøckman's LARP player typology [3, pp. 12-17]. These typologies of MUD and LARP player types were useful tools as they helped us determine different types of players and what to expect of them and to anticipate their wants in relation to game play. After analysing the needs of a hybrid game we integrated the two typologies into a combined model used to evaluate the importance of and need for features and game play. Our model contained the following types: Socialiser, Dramatist, Immersionist, and Gamist.

Usability and Games

Game development has according to Dyck et al. [1] been outside the sphere of influence of most commonly accepted usability traditions and paradigms. While this, as Dyck shows, has allowed entertainment software to develop and implement new usability concepts it also means that game development has been largely untouched by concepts which allow the designer to better involve the user into the development cycle.

The traditional approach to game development in the game industry is described in Rouse [11, pp. 423] and Mulligan [7, pp. 87-91 & 176-182]. The designer is separated from the users until late in the process. Rouse actively discourages consulting with users as their knowledge of game mechanics is too limited to enable them to participate during the concept phase. Mulligan is not

as explicit, but has the same general model as Rouse: Usability and HCI here equals user testing when a working model of the game exists.

Two game development approaches which differ from this can be seen in Pagulayan et al. [10] and Federoff [2]. Pagulayan et al. describe how Microsoft Game Studios works with HCI/Usability by for instance collecting information via surveys and comparative tests with other competing products.

Federoff sees HCI's main contribution as user testing but argues that users can be drawn into the development process as early as the concept phase. Federoff also mentions some of the techniques from Pagulayan et al. [10].

In our opinion the game industry's traditional view of HCI/usability has a major weakness in its conception of the user as a tester. It is our conviction that much can be gained by adopting the PD tradition's concept of user participation. The main principle of PD is seeing the user as a co-designer on equal terms with the employed designers. The user should be involved right from the beginning in the design as the user has privileged access to his or her knowledge domain. For a brief introduction to PD principles and techniques see [6].

THE DEVELOPMENT PROCESS

This section presents the development process of Takkar, while the next section analyses and discusses the process.

During the development process we used the following PD techniques: Expert review, user interviews and observations and ensuring that domain knowledge was present in the development team.

Kensing et al. [6] recommend obtaining concrete experience and abstract knowledge of the users' work in order to be able to correctly understand and communicate users' tasks. As one of us is an experienced LARP player we had the required LARP domain knowledge.

Expert Review

During the development we held a review of the Takkar concept with LARP expert Claus Raasted as can be seen in Figure 3Figure 2. The review consisted of a presentation of the concept followed by Raasted's critique. Afterwards we had a workshop-like discussion in which we discussed his critique and ways to modify our concept accordingly. The review allowed us to obtain abstract knowledge of LARPing and to receive a relevant critique from Raasted who happened to be very sceptical of our concept. We used Raasted's critique to further refine the role-playing elements in the game play and to focus on the need for detailed player interaction in the online part of the hybrid game.

Iterative Development

The basis for the development of Takkar was a somewhat developed Java-based game system based on the VisiChat game engine created by Jesper Juul. This basic version of Takkar was created during the course *Computer Games: Developing an Online Game* at ITU by a group of students, among these Thomas Tae-Yang Jørgensen.

In each iteration a number of user sessions were held each lasting about an hour, except for the LARP session which lasted about five hours. All users were

LARP players of mixed levels of experience. Almost all users had some experience of computer games though few had played MMORPGs. The users' age ranged from twelve to twenty-five.

Feature	V. 1	V. 2	V. 3a	V. 3b
Character skill system	√	√√	√√√	√√√
LARP rule set porting	√		√√	√√√
Richness of communication	√	√√	√√√	√√√
Player customised avatars			√	√
Player Portraits				√
Quests	√	√	√√	√√√
Character background, relations and game world			√	√

Table 1: Selected feature list for the online part of Takkar

The ticks in the table represent the level of implementation in Takkar v.1, v2. etc. For the first iteration there were two groups of users, one group played the game twice, the other group only once. The focus of this iteration was twofold: Firstly to test our concept and secondly to test whether the current version supported the players' needs sufficiently. We did this by interviewing the users after each play session. The interviews revealed that our users found that the physical feeling of *being* one's character was the basis for feeling connected with one's LARP character. A user mentioned the need to be able to customise her avatar to fit her mental image of the character, a point also seen in [8] and [9]. The results also showed that VisiChat was lacking in features and we decided to abandon it rather than expand it.

In the second iteration we ported Takkar to the game engine Neverwinter Nights (NWN), as this allowed us to focus on generating game content and provided most of the features we believed to be important: avatar customisation and virtual body language (emotes). The test in this iteration was only a test of the online part and of the concept. The interviews confirmed our choice of NWN and revealed that besides the physical experience sheer time spent developing a character also generated a feeling of connection for a LARP player. A player is more protective of a character which has been developed over the course of several events. For LARP players this means years due to the limited number of events each year.

The third iteration consisted of three play sessions, an online, a LARP, and an online session. The same group of LARP players was used for all three sessions and as far as possible they played the same characters (some character deaths occurred).

The users' perception of how well Takkar v. 3 supported LARP-style role-playing changed during the three sessions, going from positive to negative after the LARP session that emphasised the differences. Our interviews showed several missing or poorly implemented features and underscored the importance of certain considerations such as consequences carrying over from online to LARP and back as well as character deaths being costly in player time. However, the users felt that the concept was generally sound and would work if the required features were incorporated.

During the last online session of this iteration we tested player avatar customisation and received positive feedback from the players who found it a great help in mapping the LARP representation of the other characters to their online counterparts. The customisation consisted of creating a virtual costume that matched the LARP costume and having pictures of the players associated with their avatars, see Figure 5Figure 3.

Figure 53: Takkar v.3 - Player portraits and costumes

ANALYSIS OF THE PROCESS AND RESULTS
Method
After each play session we held a semi-structured group interview which was audio taped. We listened to the tapes from the interviews from the first two iterations and interpreted the results; at the third iteration we were so familiar with our users' concepts that we could immediately interpret the results.

Embodiment
As discussed in the earlier section Online Role-playing and LARP, the LARP was chosen as the dominating environment when considering features. This shows itself in another vital way if we go a bit further when considering the diegetic rooms of LARP. The playground is a limiting factor but also allows player interaction using physical bodies, thus allowing for a very rich communication using tone of voice, body language and the use of player chosen/created clothing. Taylor [8,9] argues that all of these communication channels help embodiment. So aside from LARP dictating the limits placed on the online part of the hybrid, LARP also sets high minimum player expectations to the quality of the communication channels or - to put it another way – the richness of the communication. Hence our user sessions back up our theory.

During all three iterations our users felt that features which allowed what T.L. Taylor would call embodiment were "good" and "LARP-like". In the first iteration one of the users brought Neverwinter Nights up and mentioned that "it was important for her to be able to create the character exactly as she pictured her". In the first two iterations the users mentioned physical presence i.e. "being there and seeing the others" as one of the most important aspects of LARP. This physical proximity was mentioned as something which the users

did not believe could be captured in a computer game with the current technology.

In the third iteration the users were at first very positive of the possibilities for expression through body language and gestures in NWN and in some cases managed to work these successfully into their roles, such as a priest who succeeded in holding a mass by having all users present use the "prayer"-emote.

The users had some difficulty using the controls which resulted in conversations where one or both avatars were facing away from the other because the users were not experienced enough with the controls to have their avatars facing the right way.

After the LARP session and especially after the last online game session the users' attitude to the possibilities for expressing their characters' mood, feelings and relations changed negatively. According to Taylor [9], the possibilities for expression is vital for achieving embodiment. Among the complaints were: The users found it difficult to express themselves without use of voice. This was a big problem for some of the more accomplished role-players who were used to communicate the mood of their character by the tone of voice. Another complaint was the difficulty inherent in the interface when it came to express one's character through physical positioning such as a bodyguard remaining near the person he or she is protecting and moving between that person and any obvious source of danger. This was caused by the interface being geared towards players moving everywhere by running, thus our users were almost all the time running around, continually losing one another in the process and always trying to find the rest of the group. We therefore posit that this lack of supporting player movement and behaviour as a group has undermined a fundamental aspect of the game – namely the multi-player role-playing part.

The last major complaint was the lack of support for concurrent actions. While this may not seem that important it means that players cannot walk and talk at the same time. Our users were unable to move as a group while having a conversation. Even worse they were unable to have any improvised coordination of battle-related activities aside from when they broke the fourth wall and talked face to face. The last part of the problem would probably have been somewhat diminished when the players had gained some proficiency with NWN's quickchat system, but a major part of the interaction and game play in LARPs is moving about while talking with other players.

The perfect hybrid would support the best of both parts, but this would require an online part capable of handling not only the aforementioned communication but also especially the senses of touch and smell and a LARP part with a special effects budget of a medium Hollywood production.

A Minimal Level of Role-playing
In the last iteration we noted that our users - if given poorly-defined characters - would sometimes quickly resort to violence unlike those with more developed characters. The users with developed characters that died during a session complained on receiving poorly developed replacement characters. Given that your character is what you mainly transfer between the two parts of the game and it represents an investment of your time unnecessary killing of player characters would represent a demotivating factor to role-play. Given that role-playing is the "goal", players should be given or be encouraged to create

fairly developed characters to ensure that any violence committed is motivated by the player's character rather than a player's wish for mayhem. Hopefully this would ensure that fewer player characters die, thereby preserving a certain level of role-playing. It is important to note that in a LARP character death is usually permanent.

User Participation

Common game design wisdom, cf. Mulligan [7] and Rouse [11], holds that users should only be involved fairly late in the development process. Inspired by PD principles and techniques we went counter to this and involved the users right from the start of our project. Federoff [2] mentions that influential game producers such as Microsoft and LucasArts have started involving the users much earlier in the process with positive results.

One of the main research goals of our work was to explore and clarify the concepts present in the hybrid and from this to uncover the feature set needed for the game. Most of our work with the users was therefore aimed at concept testing and development. Having live user testing of our concepts right from the start allowed us to ensure that we were on the right track and to determine whether our current engine supported the needed features and whether we had uncovered all user needs.

The software available to us (NWN) helped us in our user sessions since doing play tests of features suddenly became very cheap – the importance of choosing the right software cannot be overestimated.

In retrospect we believe that we could have gone further and held regular user workshops in which important game concepts could be formed and/or tested while still on the drawing board. This would perhaps have saved us an iteration.

CONCLUSION

Combination of LARP and MMORPG

The combined experience is based on the feeling of being present in both parts of the hybrid game. According to LARP theory (diegetic rooms) only mental immersion is possible in both parts; Taylor however argues that users can experience their virtual bodies as physical bodies.

Embodiment, seen as a player experiencing his or her avatar as a natural or at least acceptable extension of the player, poses a special problem when combining the two parts. We found the following key factors to be important to our players: concurrency of actions and rich communication. In the real world we are able to do several things concurrently e.g. to walk and talk at the same time, not so in Takkar/NWN. This lack, combined with the missing ability to communicate using tone of voice and the difficulty in using body placement, all deny players of some of the normal tools of expression used in everyday life and LARPs.

We believe that a minimal level of role-playing is necessary to combine the two parts of the game. Role-playing is an important glue because it is easier to role-play the same way in the two parts than for instance fighting which is an alternative but is different in the two parts. Furthermore, role-playing gives

relations between the characters which can be fully transferred and even be strengthened between the two parts.

The player typologies we developed by combining Bartle's typology for MUDs and Bøckman's LARP typology can be useful tools in predicting player desires and interaction and thus to balance and point the game in the planned direction. The typology emphasises the role-playing player types due to the importance of role-playing when combining the two parts. Further work needs to be done to test whether the player typology derived from Bartle and Bøckman is optimal.

PD and Usability
During our project we had positive experiences with using early user participation and testing during game development which goes counter to common wisdom in this field. User participation at concept forming stages helped us to change or abandon flawed concepts. User interviews helped us gain a better understanding of the needs and ideas of our users and helped us evaluate the tools we used. We believe that it would have been beneficial to involve the users even more in the concept and rule design stages by having workshops with the players where they would function as co-designers.

Challenges in developing a Hybrid of LARP and MMORPG
The following are suggestions for future work on combining the two parts of the hybrid. It is vital to ensure coherence between the two parts to give the users similar experiences in both parts. Character deaths should be governed by strict rules and should not happen arbitrarily in the online part because dying is a very serious matter in LARP. It should be clear which of the two parts should be dominant in the combination and the conventions from that game should be followed in the other part. We found it adequate to let LARP be the dominant part and adjust the online part accordingly in regard to rules and possible actions.

The criterion for choosing the game engine is the chosen balance between the two parts. In general the game engine should offer the developer freedom in making rules and actions and support a high degree of player avatar customisation. The engine should be open for leading edge communication programming.
The player types should be given much thought and a decision made on which player types the hybrid game should support through content and features.

It is our hope that this and future research in combining LARP and MMORPG into a hybrid game might show that the whole is more and different than its two parts alone.

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