

Playful Experiences at Work

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ABSTRACT

The hedonic aspects of user experience such as stimulation, identification and social connectedness – have been studied especially in relation to consumer products. The design of work-related products has been focused mostly on the pragmatic qualities of UX, i.e. how can specific work goals – especially with regards to efficiency and safety – be supported by the products. A categorization of playful experiences has been defined in previous research but the validity of playful experiences has been established primarily for games and personal products. This paper will discuss the applicability of hedonic user experiences to the work domain. We explore how a subset of playful experiences could emerge in certain work domains, such as mobile office work, forest harvesting and stone crushing. The aim is to broaden the perspective of playful design into “serious” domains, in order to make work more pleasurable.

Categories and Subject Descriptors

H.5.2 User Interfaces: User-centered design

General Terms

Design, Human Factors.

Keywords

User experience, playfulness, work context, work products.

1. INTRODUCTION

Positive user experience (UX) has been established as a central design goal for appealing products, services and systems [1]. Furthermore, designing for fun and pleasurable products has been emphasised both in industry and academia [4]. (In this paper, we use the term “product” to cover all types of products/services/ systems.)

UX has been addressed especially in the consumer products domains, such as personal mobile products, home entertainment systems, and in-vehicle interactive systems. Work domains have still been focused more on making products efficient and safe, with some focus on usability. The reason for this “gap” between the emphasis of UX design of consumer and work products lies in the different characteristics of these domains, as is presented in Table 1.

Table 1: Different UX-related characteristics of consumer products and work-related products

	Consumer products	Work-related products
Primary usage motivation	Voluntary usage	Obligatory usage
General targets of use	Spending time, completing an everyday task	Getting work done, efficiency, fluency of processes
Payer/chooser of the product	Users themselves (or a relative etc.)	Employee
Examples of usage contexts	Home, vehicle, restaurant	Office, factory, forest (typically the user can't choose the context)
User types	A broad range of consumers	Working persons (domain-specific)

In specific, UX in consumer product becomes a crucial competitive factor, as the markets are getting more saturated, and users can freely choose the products. However, even though the focus of UX design and research has been in consumer products, there are opportunities in work-related products to make them more emotionally appealing. The aim of this paper is to raise awareness and discuss the experiential aspects of work-related products. We will also present ideas on how to support playful experiences in work-related products, in order to make work more fun.

2. USER EXPERIENCE, HEDONISM, AND PLAYFULNESS

UX is affected by the user's internal state, the product characteristics, and the usage context [2]. UX is affected by both pragmatic (goal-oriented) and hedonic (non-instrumental) qualities of the product. Compared to the concept of usability, UX emphasises the user's subjective perception, feelings and enjoyment about using the technology product [7]. Good hedonic UX can be supported by product qualities that stimulate, enable identity expression and social relatedness of the user [2]. UX has also been described as a highly dynamic phenomenon which evolves temporally and needs to be nurtured over a long-term product relationship [5].

In our earlier work UX in machinery automation [8] we have discussed the applicability of various aspects of UX in machinery automation, in specific forest harvesting and rock crushing. We came to the conclusion that certain principles of hedonic UX could be applied to these “serious” working domains. For example, individual’s personal development – especially in productivity – could be supported by explicit analysis of achievements. Users could also be stimulated by the products for example by presenting them new challenges when completing their working tasks. With regards to social connectedness, users could be sharing professional “tricks” and share information, for example, with maintenance or even customers. Based on our case studies in the abovementioned domains, we also noted opportunities of supporting operators’ identity with the work products, for example by expressing themselves with the usage of the latest technologies. Personalisation and tailorability of technological products are also central means for work-related self-expression.

Having established that hedonic UX could be supported in work domains, it is an interesting stretch to consider, how could work be more playful. In related work we have identified one model, the PLEX categorisation [6], which explicitly addresses various kinds of playful experiences. (See Table 2.)

Table 2. Playful experience categorization [6]

Experience	Description
Captivation	Forgetting one’s surroundings
Challenge	Testing abilities in a demanding task
Competition	Contest with oneself or an opponent
Completion	Finishing a major task, closure
Control	Dominating, commanding, regulating
Discovery	Finding something new or unknown
Eroticism	A sexually arousing experience
Exploration	Investigating an object or situation
Expression	Manifesting oneself creatively
Fantasy	An imagined experience
Fellowship	Friendship, communality or intimacy
Nurture	Taking care of oneself or others
Relaxation	Relief from bodily or mental work
Sadism	Destruction and exerting power
Sensation	Excitement by stimulating senses
Simulation	An imitation of everyday life
Subversion	Breaking social rules and norms
Suffering	Experience of loss, frustration, anger
Sympathy	Sharing emotional feelings
Thrill	Excitement derived from risk, danger

The PLEX model presents playfulness in a rather broad scope. Playful experiences can be seen as experiences that are mostly non-instrumental and evoked by fun or pleasurable aspects of using a product. This can be seen as a contradiction with general targets of work, which are primarily related to productivity and fluent processes. However, we want to explore how playfulness could emerge in the more “serious” working contexts.

3. WORK CONTEXTS AS STAGES FOR UX

As was described in section 1, work is a different context from consumer context in terms of primary motivation and targets of technology use, chooser of the product and the range of user types. Naturally, the contexts of user vary greatly as well.

There are at least as many work contexts as there are domains. In addition, many work tasks may take place in varying, mobile contexts. Contexts can be described as physical (environmental) context, task context, technical and infrastructural context, social context [3].

In the following, we briefly describe three work domains: The mobile office, forest harvesting and stone crushing.

Mobile office is a very versatile context of use, in which the users’ main tasks vary according to the more specific business domain such as insurance, construction, or IT development business. Figure 1 shows an example of mobile office context, a car, which is a versatile environment in itself. Mobile phones and laptops with network connection are in the center of work.



Figure 1: Mobile office context¹

In forest harvesting, the operator of drives the harvesting machine which contains a high amount of intelligent, automatic functions and a PC UI and over 70 button controls to optimise the tree-cutting process. The user’s task is dynamic and highly cognitively loaded, and the users take pride in an efficient end result. Figures 2 and 3 depict the forest harvesting context.



Figure 2: Harvesting context²

¹<http://www.mobilehornet.com/wp-content/uploads/2007/12/mobileoffice1.jpg>

²http://www.deere.com/fi_FI/



Figure 3: Harvesting context, UI inside the harvester cabin

In rock crushing the main goal of the work process is to produce highest possible amount of certain type and size of rock crush in minimal time. Stone crushing is quite different domain from harvesting in the sense that the operators are often not very educated, and the operation of the stone crushing machinery requires relatively infrequent tasks; the main user tasks being starting the process, solving problems, stopping it at the end of the day, and some varying maintenance work. Figures 4 and 5 show the stone crushing context in a western country (Finland).



Figure 4: Stone crushing context



Figure 5: Stone crushing context, the UI

As we have tried to illustrate by the brief descriptions of the three work domains, the characteristics of the users, the contexts and the used technology products are rather different. Table 3 summarises the context characteristics.

In general, it can be estimated that users in the three domains have quite different psychological mindsets (i.e. internal states) and levels of empowerment. In mobile office work, users are (in general) skilled in using mobile IT, and they can – to some extent – decide their working rhythm themselves. In the forest harvesting domain, users have (at least in western countries) lengthy education in using the machinery in optimal manner, and

Table 3. Context characteristics of three work domains

	Mobile office	Harvesting (forestry)	Rock crushing
Physical environment	Changing (car, street, meetings, etc.)	Forest	Quarry (an open pit area with mineral sources)
Type(s) of SW and HW	Mobile phone, laptop, various SW	Big, moving machine with PC and SW for optimising the task	Big machinery with simple UI
Types of tasks	Multitasking, small units of work	Cognitively loaded, continuous, accurate optimisation	Boring tasks, optimising productivity on a daily basis
Social context	Frequently social	Solitary	Infrequent sociality with other workers, discussions limited due to noise
Distractions in the context	Traffic and ambient city noises, but user can often avoid them	Dirt in hands due to handling hydraulics and mechanics, snow	Heavy noise, dust, quarry traffic, dirt in hands

they take high pride in being effective in their work. In the rock crushing industry, users are less educated and the relatively monotonous task of operating the machinery can become boring. There are obviously big differences in users' motivation levels, for example depending on whether the users are the business owners themselves or merely working for someone else for their salary. In any case, productivity is the key target, but the internal motivations of users to fulfill their tasks vary immensely across – as well as within – the domains.

Cultural differences (e.g. between developed and developing countries) may be huge, but for simplicity they are let out of the scope of this paper.

4. PLAYFULNESS AT WORK

In general, work is serious business, and is not supposed to be primarily fun. However, as we are human beings also at work, we would like to explore opportunities to make work more pleasurable. This should be achieved without sacrificing the efficiency or safety, by introducing more or less subtle playful interactions in the usage of work-related products; information systems, machinery and the related services.

In this section we investigate opportunities of providing playful experiences through the three domains discussed above. Table 4 presents ideas across a subset of playful experience (PLEX) categories introduced in section 2.

The ideas presented in Table 4 are still rather abstract and should naturally be developed further and implemented into prototype products so that they could be tested in real life working contexts.

Table 4. Example opportunities of playful experiences at work, based on the playful experience (PLEX) categories

PLEX category	Mobile office	Harvesting	Stone crushing
Challenge	Setting targets for the working day in a positive and encouraging manner, and with references to earlier achievements.	Supporting individual development, offering detailed analysis of carrying out the tasks, showing the daily/hourly results all the time.	Similar, but emphasis on the smoothness of the crushing process (while harvesting is more about motor skills combined with planning the tasks at a strategic level).
Competition	Setting an explicit challenge between co-workers, e.g. in terms of sales targets.	Seeing other operators' productivity results and trying to compete with them, competing with one selves, possibility to challenge a friend and leave a result in a bulleting board.	Similar than in harvesting, with the emphasis on the team achievements.
Completion	At the end of the day, offering the user a fun (playful) task or e.g. video to celebrate the completed working day.	Offering subtle but rewarding feedback when completing a task, adding to the "total pile of daily achievements".	Similar than in harvesting.
Discovery	Offering users new functionality or content in certain contexts of use.	Supporting safe exploration of different functions and set-ups of the system.	Similar, also with help of simulations.
Expression	Allowing workers to create profiles which emphasise certain professional skills.	Offering high-level analysis of the work process (e.g. the selected working spots and the styles used in harvesting), tailorability of the UI, personalised add-ons, and UI design supports "showing off" for the others.	Similar, but with less emphasis on high-level analysis since the work has less possibilities for personal styles of work.
Fellowship, Sympathy	Getting online tips from colleagues on how to achieve certain goals.	Leaving messages to colleagues e.g. who are coming to the next shift, and supporting real time communication.	Similar than in harvesting.
Nurture	Enabling workers to view their family members' status throughout the day.	Supporting the drivers in recognising targets of forest preservation.	Helping co-workers minimise the accidents at work by observing other users safety routines.
Relaxation	Provide entertainment for the mini breaks during the working day.	Only little time for relaxation but this should not be a problem, since the work supports FLOW experience.	Animated and sound cues of the smoothness of the work process.
Thrill	A surprise effect (e.g. a new service offering) when a sub-goal of work is achieved.	When a top result is almost achieved, showing the difference to the leading operator's results.	Monotonous tasks could be counterbalanced with some surprising feedback.

5. SUMMARY AND DISCUSSION

In this paper we have introduced the contexts of three work domains; mobile office, forest harvesting and stone crushing. We have then explored how UX in these domains could be made more positive by applying principles of playful experiences into the design of work-related technology products.

At work, productivity and safety are the key targets of using interactive technology products. So, we need to consider to what extent should "hedonism" even be supported at work? Only to the extent in which it does not interfere with efficiency? And furthermore, what is "playful work"? Is it enjoyable work? Could it be a synonym to "stimulating work"? Can employers – with help of right kind of technology products – enable workers to have a positive mindset by offering continuous opportunities for new experiences? Will this eventually improve long-term efficiency?

We believe there is a lot of potential in this line of design thinking. UX arises from a wide variety of issues, and the task context as well as cultural and organisational issues need naturally be taken into account. Various psychographic profiles of users must also be supported. Playfulness should be applied moderately in the working contexts, in order to maintain users' core tasks in the focus. This approach has the potential of increasing appeal of the interactive tools at work, and thus supporting positive long-term UX. Eventually, making work more pleasurable and even fun can improve the quality of work and thus, contribute to better quality of life.

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