Playing in Taskville: Designing a Social Game for the Workplace

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Abstract

Raising awareness and motivating workers in a large collaborative enterprise is a challenging endeavor. In this paper, we briefly describe *Taskville*, a distributed social media workplace game played by teams on large, public displays. Taskville gamifies the process of routine task management, introducing light competitive play within and between teams. We present the design and implementation of the Taskville game and offer insights and recommendations gained from two pilot studies.

Keywords

Workplace games, collaboration, design, reflection

ACM Classification Keywords

H.5.2 User Interfaces – Evaluation/Methodology, Interaction Styles; H.5.3 – Group and Organization Interfaces – Computer Supported Cooperative Work

Introduction

In today's workplace, we are increasingly likely to encounter diverse, distributed teams working together on complex problems. Advances in communication technology, the adoption of flexible working schedules, and a growing emphasis on multidisciplinary teamwork have combined to produce radical structural and procedural changes in contemporary enterprises [7]. While these changes may benefit a company's bottom line, the individual worker may experience measurable,

Anatomy of a City in Taskville

Each city in Taskville has a mayor, deputy mayor, and two city council members who are represented by the players of that city with the most points.

Once a task is submitted, a building parachutes down into the game world. The type of building is determined by the number of hours spent on the task and whether or not it was a collaborative task.

Collaborative "buildings" such as the above park are larger in area with the size determined by the number of collaborators.

Tag clouds with keywords from submitted tasks float around giving viewers an idea of what individuals have been working on.

Figure 1: A city in Taskville. Colored flags indicate the owner of the building while the minimap in the lower right corner shows the relative locations and sizes of the different cities.

negative consequences including feelings of disconnection, increased conflict and decreased co-operation [6].

Larger and more widely distributed company initiatives can reduce individuals' awareness of their co-workers' activities and routines, significantly complicating group work [2]. Furthermore, feedback — in the form of either acknowledgment of work completed or constructive criticism of work attempted — is valuable in any environment, as it increases individual motivation to continue working [5]. However, smaller, routine tasks performed by an individual may not receive such feedback in larger scale projects, curtailing enthusiasm and dampening the motivation to complete these tasks.

Appropriately gamifying strategic aspects of everyday workplace processes could potentially address some of these concerns. In this paper, we describe the

development of a social workplace game aimed at enhancing reflection, understanding and collaboration between colleagues. Key game components include the use of a popular social media platform (Twitter) as a game input device, a playful rewards system (city council) and underlying mechanisms for detecting collaboration.

Related Work

Introducing games into the workplace has a considerable history. Two notable areas of research include using games as human resources tools [4] or as entertainment interfaces for repetitive tasks like computer process management [3]. Videogames have also been used to help workers maintain appropriate levels of alertness [8], while recent research on mobile platforms has analyzed how games can be interwoven with daily activities [1].

Introducing Taskville

We have designed and implemented a prototype social game (Fig. 1) to address key challenges in contemporary distributed and diverse workplaces. The Taskville game incorporates a city-building metaphor where the completion of tasks leads to the growth of cities in the game world; each city represents a group of individuals within a broader organization. It is straightforward for individuals to use this metaphor to see the progress of an enterprise over time, including contributions from themselves and their coworkers.

The gameplay in Taskville is rendered on large semi-public displays, and players participate in the game by completing real world tasks and reporting their completion via Twitter. When an individual submits a task, a building parachutes into their group's city. The

flag color on the building indicates the owner, and the type of building is determined by two factors – number of collaborators and task completion time (see *Anatomy of a City in Taskville* in the side bar). Taskville's retro visual style, which frequently elicits praise from viewers, was inspired in part by SimCity 2000

To motivate continued play, Taskville incorporates competitive play elements, manifested in three ways in the game design. First, players compete with themselves to improve their own neighborhood from day to day. The second form of competition is intra-group competition, where players within a group compete to become the mayor of their city. Finally, there is inter-group competition, where groups compete to have the largest city in the game world.

User Feedback and Lessons Learned
We conducted two, one-week long pilot studies with participants from two physically separated research groups at a large university. There were 16 active participants in the first study and 12 active participants in the second study, with some participant overlap between studies. We installed the Taskville client on a semi-public display in the lobby space of both research groups. Overall, we were encouraged by the amount of participation, with 306 tasks submitted between the two studies.

We conducted an unstructured group interview session with participants after completion of each pilot study, allowing participants to discuss their experiences with Taskville. Overall, players enjoyed Taskville and felt that it made them more aware of the work that occurs in the workplace. The interviews highlighted several key insights for future workplace game designs:

Intra-Group vs. Inter-Group Competition
One surprising finding was that players were more invested in *intra*-group competition than in *inter*-group competition. Players stated that they were more interested in being mayor of their city than "beating" the other city. One player stated that "[nothing] posted at [the opposing group] ever sparked, like, a 'oh, I've gotta retaliate' thing'", with another commenting that "I only cared what people in [my group] were doing -- because I could affect this environment."

This suggests that individuals are often more concerned about activity within a self-contained group than occurrences at a broader organizational level. As a result, focusing on design components that reflect in-group dynamics may have a greater impact than emphasizing game attributes revealing inter-group activities. This could potentially be accomplished by providing each user group with a full region to themselves and displaying other groups indirectly as "highway connections" leading off the edges of the map, as the SimCity series has done for some time.

Privacy Considerations
The version of Taskville used in the first pilot study allowed participants to individually select buildings with an input device and reveal the generating task. This raised concerns among players that Taskville would be used as an evaluation tool, with one player commenting that Taskville can be useful "as long as we're not doing Survivor-style — 'you did not build enough buildings, [so] go find yourself a new job.'"

Managing privacy expectations in the workplace requires careful consideration of multiple factors. While privacy can be important in games to a certain extent,

it becomes vastly more so when placed in the context of the workplace, where supervisors and other co-workers can easily monitor events occurring in the game. This presents issues when designing the game as working towards the goal of raising awareness requires some amount of transparency from the tasks submitted. To address the specific concern from earlier, we replaced the controversial query function with literal tag clouds of the tasks that were submitted over a period of days. These aggregated tag clouds float across the game world allowing individuals to see group accomplishments without sacrificing individual privacy.

Task Definition
Employees are often assigned complex tasks which may be recursively broken down into smaller sub-tasks. It can therefore be hard to define what exactly constitutes a single task. For example, is a short, informal fifteen minute meeting with a few colleagues a task in and of itself, or a component in a larger, more significant task? We left it to the players to determine what they deemed was an appropriate task to submit. This led to some spirited debates about the definition of a task. One player considered a task to be complete when switching to a different activity: "Whenever I did a change, that's when I was like 'I'll log in this task that I did.'" Another player defined tasks as an activity that resulted in a finished deliverable of some sort. This became an interesting problem for Taskville, as two players spending the same number of hours working could have different numbers of buildings depending on their personal definition of "task". Care must be taken to ensure that the system is flexible enough to maintain a balanced competition, regardless of a user's approach to playing the game.

Future Work
Taskville demonstrates the gamification potential of low-key social media workplace interventions. Moving forward, we are interested in examining how the system scales to different levels of an organization, and examining the competitive aspects in greater detail. While we have identified a number of graphical and gameplay issues to address in future revisions, our current results point to promising insights about the nature of game-playing in diverse, collaborative organizations.

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