

Using Digital Tabletops to Support Distributed Agile Planning Meetings

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Abstract. Digital tabletop is an emerging technology that is being increasingly used to support group activities. Agile Planner for Digital Tabletops (APDT) is a tool that was built to support agile planning meetings. It provides interactions similar to those used in traditional pen-and-paper meetings. Previous versions of APDT were only capable of handling collocated planning meetings. In this paper, we succinctly describe the new extension of APDT that provides support for distributed planning meetings. A series of evaluations for the new version of APDT has been conducted, and the feedback tends to be positive.

Keywords: Agile Project Planning, Digital Tabletop, Group Collaboration

1 Introduction

Planning meetings are an essential group activity in software teams, especially agile teams. They involve software developers, customers and other stakeholders. They are often held before the beginning of a new iteration. Agile planning meetings can be either collocated (stakeholders in the same physical space), or distributed. Previously, we have studied and provided insights on how to use digital tabletops (APDT) for collocated planning meetings [1]. When talking about distributed settings, however, the matter seems to be much more challenging. Distributed planning meetings might deteriorate the cohesiveness of the meeting flow, as well as the comprehension of what needs to be done.

Understanding the intricacies of distributed settings, here we discuss the new capability of APDT that enables distributed agile planning meetings. Usually, remote stakeholders find it hard to communication in a spatially separated environment. Therefore, some tools like DAP [2] were employed to help distributed communication. There are some obvious shortcomings. First, it is hard to keep all ends of communication synchronized. Second, there is no mechanism to encourage remote communication – in some cases remote communication might even be discouraged because of how unnatural meeting interactions become. APDT attempts to overcome these shortcomings and provide mitigation for the challenges surrounding distributed planning meetings.

2 Agile Planner for Digital Tabletop (APDT)

The new capabilities of APDT were designed to support activities of distributed project planning, and migrate natural behaviours from traditional settings to computer-based environments. APDT utilizes interaction features of digital tabletop to enhance group collaborations and bridge communication gaps among distributed teams. Figure 1 shows a live meeting between two groups located in two different physical spaces.



Fig. 1 Tabletop based distributed agile planning

APDT allows for multimodal interaction with the digital tabletops. It implements: 1) finger touch or mouse events 2) gesture recognition, 3) handwriting recognition, and 4) voice command recognition. To support distributed collaborations, telepointers (remote mouse pointers) are used so that the finger movement of the participant at one location could be broadcasted to every other location in the meeting scenario. Story card operations, such as creating/deleting cards are also supported. APDT can be connected with other agile planning platforms. A gateway to other team applications is developed so that the XML formatted data of project meeting from APDT is easily shared by other applications. At present, APDT can communicate with IBM Jazz [3] and Rally [4]. We have deployed APDT on SMART Board and SMART Table. SMART Board has a 183cm x 122cm screen, employing DViT technology to support at most 2 concurrent touches. SMART Table has 55.9cm x 41.9 cm active screen area, utilizing TFIR technology to support about 40 simultaneous touches. Although we still have some issues to tackle in our solution, our initial evaluation of the distributed aspect of APDT, in controlled settings, yielded positive results. We intend to extend the study to observe real settings, and report the outcomes in the near future.

References

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