IdeaPitch – A Tool for Spatial Notes

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ABSTRACT
IdeaPitch is an intuitive tool for passing notes between spatially distributed people to support a new way of communication and interaction. It uses a ball metaphor to enable the passing and encapsulation of notes.

Author Keywords
Collaboration tool, Communication, Brainstorming, Voting

ACM Classification Keywords
H.5.3 [Information Interfaces and Presentation]: Group and Organization Interfaces – Synchronous interaction.

General Terms
Design, Experimentation, Human Factors

INTRODUCTION
Many applications exist that enable users to pass notes to people sitting next to each other or at a different location (e.g. email, IM). However the fun and user experience of these applications is limited as they mainly provide functions for sending (text) messages [1]. Most programs often have a lot of features, but are not as intuitive as the real life equivalent.

Like ConnecTables [2] and Pick and Drop [3], IdeaPitch connects screens virtually for information handover. With IdeaPitch we built a tool which is unobtrusive and fun to use. It is lightweight and intuitive to apply for passing notes and provides a new user experience. It can be used to inform or remind someone, to start a discussion, or to perform more complex collaboration processes like brainstorming sessions, voting or rating procedures.

The name IdeaPitch results from several associations. To pitch means throwing and the pitch is a word used in British and Australian English for the playing field in various sports. The elevator pitch is a short presentation of an idea

DESIGN
The design of IdeaPitch was intended to apply the metaphor of passing information like throwing a ball. We are using balls from different sports (baseball, basketball, golf, soccer, tennis, and volleyball) that are shown on the user’s desktop and can contain text in an attached text field. The balls are thrown by dragging them with the mouse cursor and dropping them while moving. As long as the ball remains on the user’s screen, it is his/her ball. Throwing a ball out of the screen means passing it to one of the user’s neighbors. The user can specify four neighbors, one for every edge of the screen (left, right, top, bottom). These neighbors can be spatially (people sitting next to the user) or logically (people who work with the user) attached. In a spatial neighborhood, the relation of neighbors is commutative, e.g. the user is the left neighbor of his/her right neighbor and the same with the other directions (Figure 1: A = User). However in a logical neighborhood, the relation of neighbors is not commutative, e.g. the user’s right neighbor can have a left neighbor who differs from him/her (Figure 1: A ≠ User).

CLIENTS AND APPLICATIONS
Our first implementation of an IdeaPitch client was the desktop client. The Adobe Air application runs on Windows, Mac OS and Linux. Figure 2 shows a screenshot with six balls (three closed, three opened) and the settings window.

Figure 1. Structure of the IdeaPitch setup.

Figure 2. Screenshot of the desktop client.
Later we extended the system to include mobile clients as well as a multi touch tabletop client. The client of the MS Surface is not a personal client for a single user. With the ability for multi touch interaction the Surface is predestinated for multi user applications. Therefore this client is not a one-to-one copy of the desktop client. The multi touch table focuses on sorting of ideas instead of creating and sending them to other users. The ball metaphor is extended by a post it note metaphor. This makes it possible to present an overview of all ideas at once. Further the table interaction provides sorting and resizing ideas for rating them. At the end of a brainstorming session, the session of the surface can be saved in the BSCW groupware system. Figure 3 shows the MS Surface with six notes and two users.

Further we implemented a client for the iPhone (Figure 4). These small devices fit in a mobile setting as well as in meeting situations where big laptop screens would be annoying. A possible scenario is a brainstorming session around the MS Surface while every participant has an iPhone to send ideas to the table.

The MS Surface as well as the iPhone provides a tangible user interface for IdeaPitch. The notes can be moved by direct interaction on the MS Surface. The sensors of the iPhone make it possible to throw ideas on the table by physically doing the throwing gesture (without releasing the mobile client).

**USAGE SCENARIOS**

By experimenting with IdeaPitch in an office environment with researcher colleagues and students, we identified three use cases.

Messaging – With common chat applications there often is a lot of noise and less structure. With IdeaPitch there exists only one ball per discussion. The one who has the ball can contribute to the conversation and choose the next speaker by passing the ball. This is known as the talking stick methodology [4]. Whoever holds the talking stick has the right to speak. The other participants remain silent.

Voting/Rating – By choosing different types of balls and combining them with a meaning, everybody can express their opinion. These balls can be thrown to a leader who asked for voting. For example the lecturer asks whether the audience liked or disliked the presentation. The audience is able to throw balls (basketball = bad and tennis ball = good). The lecturer and the audience directly see the incoming votes on the beamer. The balls can be sent anonymously or with names on it. Additionally everybody is able to write a comment. This scenario is possible in distributed environments as well as in meeting situations.

Brainstorming – In brainstorming sessions it is also helpful to have unique balls to cut between contribution and comments. Usually everybody is thinking and collecting ideas silently. The ideas that should be contributed will be thrown to a particular client like a beamer, an interactive board or table. Further the users can throw a ball very fast, so that the ball flies beyond the screen of their neighbor and can land at an unexpected screen.

**REFERENCES**


