

# Discusys: Multiple user Realtime Digital Sticky-Note Affinity-Diagram Brainstorming System

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## ABSTRACT

Paper brainstorming using sticky notes and Whiteboard has been an integral part of the discussion session in many collaborative environment. Yet Despite the introductions of new techniques in many research institution and advances in technology, Many users still continues to use conventional paper brainstorming methods to generate, structure and communicate their ideas. Discusys is a Brainstorm Support system that aims to improves the effectiveness of brainstorming by implementing 1) Separation of Private and public dashboard during idea generation to allow users to mature their ideas without judgment of others, 2) Quick and easy attachment of sources and media to ideas to increase the validity of ideas 3) Easy navigation of multi-user's ideas and feedback system to increase recorded collaborative communication between user .4) Multi-platform sync technology that enable users to create one collaborative affinity diagram from different terminal Discusys leverages dual monitor PC client that separate private and public dashboard, Real-time network engine technology that allow different users from different terminal to interact in one discussion sandbox and Multi-touch technology to create a natural, deep and structured collaborative discussion for multiple-users..

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Guides; instructions; author's kit; conference publications; keywords should be separated by a semi-colon.

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## INTRODUCTION

Brainstorming is one of the most effective technique for a group to enhance creativity and generate ideas (Osborn, 1953). Brainstorming also helps teams to group and link their collective thoughts into a clear and understandable structure. Most brainstorming session are conducted in a single location group situation (Sutton et al. 1996) and Diehl et al said that the numbers of ideas generated is significantly higher and wider when working in group rather than individuals (Diehl et al. 1991). In addition, Mullen, Johnson and Salas reported that the key contributing factors in reducing the effectiveness of brainstorming is 1) Fear of negative evaluation which results the participants to withhold their ideas to themselves (Mullen et al. 1991). 2) Production blocking where users do not write down their ideas fast enough during discussion as a result ideas are not longer relevant and original (Herrmann et al. 2010). 3) Weak idea output where most ideas generated are shallow and unsupported by other sources as a result it is extremely hard for others to understand and accept other person ideas (Nishimoto et. al 1999). Brainstorming activities are usually conducted using pens, sticky notes and whiteboard. However, in recent years, many institution have conducted research to find a more effective brainstorming methods using electronic system. Computer assisted brainstorm offer many advantages. Yet despite these benefits, computer-assisted brainstorming system also face many challenges yet to be solved.

## RESEARCH MOTIVATION AND DIRECTION

Brainstorming activities typically include the following iterative work flow 1) Searching and Gathering of information 2) Idea generation and 3) Refining of ideas (Perteneder et al. 2012). In this paper, we aim to introduce a system to effectively support this brainstorming work flow. Discusys is a mobile handheld-supported multi-platform brainstorming system. It aims to leverage the technologies of current generation of consumer handheld devices. Multi-touch display technology and custom network engine socket server

technology to create a multi-platform real time synchronous brainstorming system. Discusys system aims to solve some of the problem faced by traditional analog brainstorming flow by employing these design goals 1) Reducing Negative idea evaluation anxiety by separating private and common information dashboard, giving users privacy to explore their ideas first before sharing with others 2) Reducing production blocking by designing a quick input user interface system to empower users to quickly enter and edit their ideas to the system database. 3) A common interactive space that allow users to naturally manipulate group link and draw each other ideas to provide a structured conclusion of the collective ideas. In addition, Dr Hans Christian-Jetter Blended interaction framework (Jetter, Geyer, Schwarz, Reiterer, 2012) also inspire the design of private information spaces for individual interaction and public information spaces for social interaction and communication.

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### CONCLUSION

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### CONCLUSION

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### ACKNOWLEDGMENTS

We thank CHI, PDC and CSCW volunteers, and all publications support and staff, who wrote and provided helpful comments on previous versions of this document. Some of the references cited in this paper are included for illustrative purposes [5]only. **Don’t forget to acknowledge funding sources as well**, so you don’t wind up having to correct it later.

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