

A Framework for Supporting
Anonymity
in Text-based Online
Conversations

Andrew LEE Wei Tien

October 2001

A thesis submitted to Bond University in fulfilment of the requirements
for the Degree of Masters of Science in Computer Science

Abstract

This research has investigated how anonymity has been achieved in text-based online conversations. It has found that anonymity could be attained without any special provision from a conversation system. The absence of face-to-face contact and use of typed remarks are sufficient to create anonymity.

Nevertheless, the lack of special provisions can make it difficult for some to use the anonymity they have attained. Preserving such naturally attained anonymity can be equally difficult for users. System administrators will also have trouble controlling anonymity without special provisions. Will deliberate provisions for anonymity remove these problems?

The goal of this research is to determine how anonymity in online conversations could and should be supported. An existing conversation system lacking in special support for anonymity has been selected. Every possible change for the benefit of anonymity has been made to this system. The changes that have been made and why they were made are described in this thesis. The impact of those changes is also discussed.

The final outcome of this research is a set of guidelines and standards for supporting anonymity in text-based online conversations.

Table of Contents

1	Introduction.....	1
2	Preliminary Findings	6
2.1	The existing path to Anonymity	6
2.1.1	Methods of attaining Anonymity	6
2.1.2	Obstacles to Anonymity	8
2.1.3	Problems after attaining Anonymity	9
2.2	Case studies	12
2.2.1	The UNIX Talk program.....	12
2.2.2	Internet Relay Chat	14
2.2.3	Town Meeting.....	16
2.2.4	The Virtual-Eye System	20
2.2.5	The Mudde Pathetique MUD	23
2.2.6	Foothills	27
2.3	Updated literature search	29
2.4	Preliminary conclusions	32
3	In-Depth Research Strategy.....	34
3.1	Introduction.....	34
3.2	Supporting Authorship Anonymity	35
3.3	The theoretically 'ideal' environment for Anonymity	38
3.3.1	Supporting every 'shape and size' of Anonymity.....	39
3.3.2	Strategies for protecting Anonymity.....	51
3.3.3	Operating a service with Anonymous users.....	54
3.3.4	Strategies for controlling Anonymity.....	56

4	Implementation	58
4.1	Introduction.....	58
4.2	Implementing the Tag technique.....	59
4.3	The Oz experience.....	65
4.3.1	The first six months of operation.....	65
4.3.2	The second six months of operation	72
4.4	Full support for Anonymity	74
4.4.1	The new 'Oz'.....	74
4.4.2	The McTwilight Telnet client	82
4.4.3	The T1 experience.....	84
4.4.4	'Improving' upon T1	86
5	Analysis & Discussion.....	89
5.1	Laboratory experiments	89
5.2	Pseudo-scenario analysis.....	95
5.3	AAC1 range analysis	102
5.4	Close of the in-depth research phase.....	108
6	Conclusions	110
	Appendices.....	112
	Appendix 1: The Phantom Framework	112
	Appendix 2: Anonymity as a commercial service.....	122
	Cited Works	124