Identification of Groups in Online Environments: The Twist and Turns of Grouping Groups

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Additional Tables

TABLE: STAGES OF IDENTIFICATION

	Stage	Action
1	Data Collection	1.1 Collect log data from DEATH, QUEST, EXPERIENCE, and ACHIEVEMENT tables.
2	Data Preparation	2.1 Suppress data for known "gold farmer" accounts. 2.2 Create a list of quest names from quest log. 2.3 Suppress solo quests.

3	Possible Group Identification	3.1 Two or more characters constitute a "possible group" if:
		   a. they all add the same quest within one hour from the first person adding the quest, and
		   b. all their times on the quest overlap, and
		   c. they complete the exact same set of stages, and
		   d. they all complete the quest.

4	Final Group Identification	4.1 Two or more characters in a "possible group" are considered to be a group if they engage in at least one of the following "simultaneous" actions. "Simultaneous" is defined as occurring within a one-hour time window.
		   a. completing the same stage of the quest, or
		   b. moving to the same location.
		4.2 After a character is added to a group, it is not considered for inclusion in another group playing the same quest as a result of this "possible group."
		4.3 Create a list of groups. Assign Group ID.
		4.4 Create a list of locations based on quests played for each quest.

5	Validating Identified Groups	5.1 Cross-examine group size, location, and time with deaths log. 5.2 Cross-examine quest identification and time with achievement log. 5.3 Cross examine group size, location, trade skill, and time with experience log. 5.4 Create a list of groups that passed initial validation process. 5.5 Examine the list and assign common IDs to groups with exact same composition. 5.6 Exclude groups without any Deaths, points, and trade skill. *(Exception: If a group occurs multiple time and one of those instances is with death, points, and trade skill information, keep all instances)* 5.7 Create a final list of groups that passed validation process.
6	Identifying Higher Level Group Characteristics	6.1 Examine the final list and identify supersets and subsets. Assign subset group's ID as family ID. 6.2 Explore families combine them into clan if they show 30% overlap in membership. Assign clan ID.

TABLE: VALIDATION INFORMATION

Information from Log Tables		Group member ID		
Log table	Information	102117	187777	322608
Quest Information (from Quest log)	Quest added	06:32:08	06:31:46	06:56:34
	Quest completed	07:38:06	07:38:15	07:40:19
	Simultaneous action	First stage completed at 07:06:06	First stage completed at 07:06:14	First stage completed at 07:05:03
	Locations visited (location ID)	6	6	6
Deaths (from Death log)	Number of deaths	1	1	0
	Time	06:54:01	06:54:11	-
	Location ID of death	6	6	-
	Group size	3	3	-
Achievement Points earned (from Achievement log)	Total points	7	7	7
	Time	07:38:06	07:38:15	07:40:19
	Quest ID	440	440	440
Experience Points earned (from Experience log)	Total points	10570	10540	11110
	Time	06:33:40 to 06:54:01 on day 94	06:33:40 to 06:54:11 on day 94	06:32:49 to 07:03:55 on day 94
	Location	6	6	6
	Group size	3	3	3
Tradeskill Information (from Experience log)	Artisan class	Weaponsmith	Outfitter	Artisan
	Time	06:33:40	06:33:40	06:32:49
	Location	6	6	6
	Group size	3	3	3