User-Defined Game Control with Smart Glasses in Public Space

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ABSTRACT

Without specific game controller and direct-touch, game control on Smart Glasses differs with existing console and mobile games. Although current game control set on Smart Glasses is explored by developers based on system limitation, the set is not reflective of user behavior. To create better game control, we presented an user-defined game control study in public space to collect user behavior. In all, 2448 game controls from 24 participants were logged, analyzed, and paired with think-aloud data for 17 commands performed with 3 interaction methods (On-Body, In-Air and Phone) and 2 glasses forms (Google Glass and Epson BT-100). Our findings indicate that users choose area relatively unobtrusive to perform the game control, and glasses form does influence how users creates game control. We also present a complete user-defined game control set with agreement scores and taxonomy. Our results will help designers create better game control sets informed by user behavior.

Author Keywords

Guides; instructions; author's kit; conference publications; keywords should be separated by a semi-colon.
Optional section to be included in your final version, but strongly encouraged.

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Task Name	Caption — pre-2002	Caption — 2003 and afterwards
Tables	Above	Below
Figures	Below	Below

Table 1. Summary of our general casual game task set.

INTRODUCTION

RELATED WORK

Game Control

Glass Input

Gaming in Public Space

User-Defined Gesture

DEVELOPING A USER-DEFINED GAME CONTROL SET

Overview and Rationale

Game Task Set

Casual game is one of the game categories with most players[3], it is shown high potential in public gaming[5, 6, 2]. We choose top 90 casual games[8] from existing platforms, including PC,console and mobile games (30 games for each) by crawling and analyzing the sale data and download count from famous gaming websites[1, 9, 7, 4]. We invited 3 experienced game developer to review these top 90 casual games with us. We find out totally 26 game tasks, and we removed 9 tasks which only be used once in specific games. At last, we get a general casual game task set with 17 tasks, which can completely support 90% of our top casual games. We describe our general casual game task set in table [?].

Participants

Glass Forms

Interaction Methods

Procedure

RESULTS

Our results include game control taxonomies, the user-defined gesture sets, user rating, subjective responses, and qualitative observations for each interaction methods.

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