2015 International Workshop on Network and Systems Support for Games (NetGames 2015)

Zagreb, Croatia
3-4 December 2015



IEEE Catalog Number:

ISBN:

CFP1576I-POD 978-1-5090-0069-2

Copyright © 2015 by the Institute of Electrical and Electronic Engineers, Inc All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

***This publication is a representation of what appears in the IEEE Digital Libraries. Some format issues inherent in the e-media version may also appear in this print version.

 IEEE Catalog Number:
 CFP1576I-POD

 ISBN (Print-On-Demand):
 978-1-5090-0069-2

 ISBN (Online):
 978-1-5090-0068-5

ISSN: 2156-8138

Additional Copies of This Publication Are Available From:

Curran Associates, Inc 57 Morehouse Lane Red Hook, NY 12571 USA Phone: (845) 758-0400 Fax: (845) 758-2633

E-mail: curran@proceedings.com

Web: www.proceedings.com



NETGAMES 2015 TABLE OF CONTENT

Long Papers

Virtual Machines vs. Containers in Cloud Gaming Systems 1

Teemu Kamarainen (Aalto University, Finland); Yuanqi Shan (Aalto University, Finland); Matti Siekkinen (Aalto University, Finland); Antti Yla-Jaaski (Aalto University, Finland)

DynFilter: Limiting Bandwidth of Online Games using Adaptive Pub/Sub Message Filtering 7

Julien Gascon-Samson (McGill University, Canada); Jorg Kienzle (McGill University, Canada); Bettina Kemme (McGill University, Canada)

SDN-based Game-Aware Network Management for Cloud Gaming 13

Maryam Amiri (University of Ottawa, Canada); Hussein Al Osman (University of Ottawa, Canada); Shervin Shirmohammadi (University of Ottawa, Canada); Maha Abdallah (Pierre and Marie Curie University, France)

Dissecting Games Engines: the Case of Unity3D 19

Farouk Messaoud (Institute of Research and Technology & University Rennes 1, France); Gwendal Simon (Institut Mines Telecom - Telecom Bretagne, France); Adlen Ksentini (University of Rennes 1 / IRISA Lab, France)

Toxicity Detection in Multiplayer Online Games 25

Marcus Maertens (Delft University of Technology, The Netherlands); Siqi Shen (National University of Defense Technology, P.R. China); Alexandru Iosup (Delft University of Technology, The Netherlands); Fernando A. Kuipers (Delft University of Technology, The Netherlands)

Rise of the Bots: Bot Prevalence and Its Impact on Match Outcomes in League of Legends 31

Choong-Soo Lee (St. Lawrence University, USA); Ivan Ramler (St. Lawrence University, USA)

Application Context Based Algorithm For Player Skill Evaluation 37

Mirko Suznjevic (University of Zagreb, Croatia); Maja Matijasevic (University of Zagreb, Croatia); Jelena Konfic (Ericsson Nikola Tesla, Croatia)

Behind the Game: Exploring the Twitch Streaming Platform 43

Jie Deng (Queen Mary University of London, United Kingdom); Gareth Tyson (Queen Mary, University of London, United Kingdom); Felix Cuadrado (Queen Mary, University of London, United Kingdom); Steve Uhlig (Queen Mary, University of London, United Kingdom)

Segment-of-Interest Driven Live Game Streaming: Saving Bandwidth Without Degrading Experience 49

Tao-Ya Fan-Chiang (National Tsing Hua University, Taiwan); Hua-Jun Hong (National Tsing Hua University, Taiwan); Cheng-Hsin Hsu (National Tsing Hua University, Taiwan)

Short Papers

RTF+Shark: Using Software-Defined Networks for Multiplayer Online Games 55

Tim Humernbrum (University of Munster, Germany);

Stefan Delker (Spinor, Germany);

Frank Glinka (University of Munster, Germany);

Folker M Schamel (Spinor, Germany);

Sergey Gorlatch (University of Munster, Germany)

Evaluation of Lag-Related Configurations in First-Person Shooter Games 58

Wai Kiu Lee (The Hong Kong Polytechnic University, Hong Kong);

Rocky Chang (The Hong Kong Polytechnic University, Hong Kong);

Games based on active NFC Objects: Model and Security Requirements 61

Florent Fortat (Institut Mines-Telecom, Telecom SudParis & Hanakai Studio, France);

Maryline Laurent (Institut Mines-Telecom, Telecom SudParis, France);

Michel Simatic (Telecom SudParis, France)

Geolocative Raycasting for Real-Time Buildings Detection in Pervasive Games 64

Vlasios Kasapakis (University of the Aegean, Greece);

Damianos Gavalas (University of the Aegean, Greece)

Hard-core User and Bot User Classification using Game Character's Growth Types 67

Jin Lee (Korea University, Korea);

Sung Wook Kang (Korea University, Korea);

Huy Kang Kim (Korea University, Korea)

Demo Papers

Can a Wi-Fi WLAN Support a First Person Shooter? 70

Jose Saldana (University of Zaragoza, Spain);

Juan Luis de la Cruz (University of Zaragoza, Spain);

Luis Sequeira (University of Zaragoza, Spain);

Julian Fernandez-Navajas (University of Zaragoza, Spain);

Jose Ruiz-Mas (University of Zaragoza, Spain)

Stream-A-Game: An Open-Source Mobile Cloud Gaming Platform 73

Justus Beyer (Quality and Usability Lab, Telekom Innovation Laboratories, Technische Universitat Berlin, Germany);

Richard Varbelow (Quality and Usability Lab, Technische Universitat Berlin, Germany)

User Customization of the GamingAnywhere Android Mobile Client Interface 76

Ivan Slivar (University of Zagreb, Croatia);

Zvonimir Dragozet (University of Zagreb, Croatia);

Lea Skorin-Kapov (University of Zagreb, Croatia);