Abstract
Gamification is an art of developing activities in real life using game mechanics and game dynamics to emphasize meaningful and enjoyable experience. With the above concept as foundation, a team was build to develop a gamification of introduction to Information and Communication Technology (ICT) Development course, an educational content for first year Visual Art and Design students in Institut Teknologi Bandung, Indonesia. The course aims is to create basic knowledge on recent development of ICT towards students of Institut Teknologi Bandung. The aim of gamification of Introduction to ICT towards Visual Art and Design students is more onto engage them and create insights on what is ICT and how ICT affects their future and profession. This paper depicts three gamification activities in 2013 until 2015 which may become future reference for game studies or media studies, especially gamificating an educational course. The results of the mentioned gamification activities are certain game mechanics are good in creating interaction and playful experiences. But there is one important aspects that will engage participants deeper, is giving room for participants to actively innovate the game.

Keywords: gamification, media studies, game studies.

1 Introduction
Gamification is a form of interaction in real world using virtual like game components and elements to create meaningful and playful achievements as well as experiences. According to Deterding et al. [1], gamification is the use of game design elements in non-game contexts. The phenomena of gamification starts in 2008 and getting widespread in mid 2010. The concepts of gamification that developing activities in real life using game mechanics and game dynamics to emphasize meaningful and enjoyable experience becomes a design thinking foundation to develop gamification of Introduction to Information and Communication Technology (ICT) Development course. The Introduction to ICT Development is a general course for first year students in Institut Teknologi Bandung (ITB), one of the oldest high education institute which established in Indonesia. The school established in 1920 as Technische Hogeschool and become Institut Teknologi Bandung in 1959 [2].
Introduction to ICT Development is a general course for freshmen since 2008 that aims to give basic knowledge for students of ITB on recent ICT development. This course is given based on the notion that almost all of ITB’s study program are applying and innovating recent technology. There are 2 types of Introduction to ICT Development course, one is heavily emphasize on delivering ICT knowledge in classroom and workshops of application and programming in computer laboratory for most of engineering faculty students. While another is heavily emphasize on giving knowledge and creating insights in classroom while supported by workshops of introduction to basic ICT tools. The content of the course can be grouped into 3 subcontent, they are, a. basic of ICT explanation, b. computer’s applications illustration of tools, networks, and problem solving practices, and c. Implication of how ICT affects human lives, world, and future. The content of Introduction to ICT Development is mainly derived from Beekman’s Digital Planet: Tomorrow’s Technology and You published by Pearson Education [3]. The book for lecturers and students are supplied by school and it comes with continuously updated website and Compact Disk consists of digital content and basic presentation tools in powerpoint form.


Students of Visual Art and Design Faculty take the Introduction to ICT Development Course in 2nd semester of their 1st year and divided into 3 classes with different appointed lecturer. In the beginning, mid, and end of semester, the lecturers are gathered to evaluate the lecturing process. The idea of Gamificating Introduction to ICT Development course is based on appreciation level of the students in faculty of Visual Art and Design towards content delivery is less every year which evaluated qualitatively by the lecturers since 2010. Although the freedom to elaborate the content is given to the lecturers because the learning outcomes of the course is heavily emphasize on giving the insight of ICT in Visual Art and Design studies.

In the beginning of 2nd semester in academic year 2013/2014, the author gathered student assistants in order to experiment new concept in delivering Introduction to ICT Development, gamification. We create a game simply through applying 7 game mechanics such as Badges, Levels, Leaderboards, Progressbar, Virtual Currency, Awards, and Challenges among participants [4] and experiment the combination among mechanics for 3 academic years until 2016.

Techo-Gaia (2014)

Techo-Gaia is the 1st gamification of Introduction to ICT Development we develop in 2014. The basic concept of this gamification is all of the participants are players in a virtual world called Techo-Gaia and start as novice who will climb as the top significant profession at the end of semester. The lecturers and assistants positioned as guild masters who deliver contents and missions to be done and collected on the next class meeting.

The game apply common Roleplaying Game system like Ragnarok Online MMORPG or Final Fantasy Tactics where the player can choose certain role which may affect the next assignment and missions. They have similar avatar and only differentiated by the role they chose through answering initial job test (See figure 1). After they get their role, the game begins through class presentation and mission delivery by the guild masters. The assignments or missions are delivered through class session or via facebook group. Their performance in finishing the personal or group mission will affect participants position on real time updated leaderboard using facebook group. Achievement badges are given through core emblem which they get in the beginning of the game and some markings will be added when they achieve certain points.

Imitator War (2015)

In academic year 2014/2015, the author offers the participants in Introduction to ICT Development to create group consists of no more than 5 people and propose a concept of gamification which will be played through the semester and winner is the one who voted by the most of participants. The winning group assists the author as gamemasters throughout the semester delivering course’s content and missions. The concept of gamification in 2015 is the world in 3058 are dominated by the Germans (as game masters) who win the 3rd world war a thousand years ago, but there are people from 4 countries are racing to turn them down. Group of participants or clans are enlist under one of four countries and doing mission in order to protect their cities from being obliterated. Each country has significant characters which will affect their attitude and way in finishing the clans’ missions. In this gamification, the game master team introduce sabotage mission system and clash of clans which eventually heat up the competition.

Kala Isvara (2016)

Kala Isvara is the latest concept of gamification which is applied in academic year 2015/2016. The concept of Kala Isvara is more like Techno-Gaia but deeper in local content and traditional atmosphere. The participants are divided into 5 countries and must serve under Yaksha Technologia (Game masters) and must make their own avatar based on their country characteristics. The visual and background story of each avatars are published in Facebook group, appreciated by others and at the end approved by the game masters. The approved avatars are printed on a card and must be presented as proof of presence. In Kala Isvara, the active participation of the students are emphasize through DIY avatars, choose mission content, votes and appreciates the best presentation materials of the game masters, and develop a game at the end of semester.
Figure 1: Techno-Gaia Gamification Visual Elements, Badge of Various Jobs (left), Players common Avatar (from left to right) Bounty, Novizio, and Trader.

The Imitator War

Figure 2: Imitator War Gamification Visual Elements. Game Logo and Title (upper left), Country representation (bottom left), Achievement Badge (right)

Figure 3. Kala Isvara Gamification Visual Elements. DIY Avatar (left), emblems of Kala Isvara Countries and Yaksha-Technologia (right).
Gamification Concepts Review

Each gamification concepts have its own uniqueness which engage different deep interactions. Techno-Gaia 2014 gamification concept gives participants the freedom to choose their jobs and make the best of their mission based on it. The real-time scoring leaderboard system creates competition among participants. The achievement points which depicted by additional markings of their emblems is also becomes their goals. Despite of the success of creating immersive game, the game masters are exhausted from creating different missions and calculating points every week.

While in Imitator War 2015 gamification concept, the variety of jobs are minimal, but the deep interaction and competition are heated up by sabotage missions and clash of clans activities (distributing points by quiz sessions before mid semester test and end of semester final test).

In 2016, the concept of active participants in re-creating avatars and clan’s emblem, voting system on presentation materials, quiz sessions, and developing interactive content gain higher interaction from the participants more than previous gamification concepts.

3 Conclusion

The results of gamificating Introduction to ICT Development are various. Almost all gamification concepts are successfully creating interaction and playful experiences, there is one important aspects that will engage participants deeper, is giving room for participants to actively innovate the game while enrich the interaction among participants to shake the dynamics of playing in the process.

References