DECO3500 - Social and Mobile Computing Workshop 1

Team - Nondescript

Concept Proposal

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Introduction

The project we have chosen for DECO3500 is to explore and design a solution for Gaming addiction in Adolescents. We aim to research, understand and design solutions for the underlying factors of this problem space. Our goals as a team for this semester is to produce a series of iterative prototypes that address and provide realistic solutions to this problem space; more specifically we want our solution to have useful merit within our intended audience and domain.

Domain/Problem Space

The Gaming Industry has gained increasing popularity in recent years, partly due to the rapid advances in technology and social media coverage. However, their growing presence also poses a serious threat to adolescent players, since they are more vulnerable to behavioural implications. Using findings from the domain research and our independent research, we look into how gaming is affecting adolescents and explore potential solutions to educate parents and help them moderate their children's gaming habits.

Video games are appealing because they're fun to play. They are ideal for stress relief, increasing problem solving, spatial and motor skills, while encouraging interactions with other fellow gamers. Furthermore, games have been proven to be effective tools for education and training due to their engaging nature. However, depending on the context and motives, gaming can yield both positive and negative implications. Players are motivated to keep playing by the achievements in the game, the status or knowledge they might gain, or simply to just escape reality. According to Digital Australia, in 2016, 68% of Australians play video games, where 20% of them are under the age of 18 years. Nevertheless, this age group is more vulnerable to gaming abuse due to their lack of self-awareness and impulse control. A study found that gaming for leisure and social motives promote positive effects in adolescents, whereas using games to escape, gain status or due to demands often yield negative consequences. (Hellstrom et. al, 2012) This study also stressed that such negative effects should be taken seriously, especially when playing games become the dominant activity in an adolescent's life.

Massive multiplayer online role-playing games (MMORPGs) such as Fortnite, League of Legends etc. are the most popular game genre among adolescents, specifically in male players. Due to their social nature, such platforms allow players to feel a sense of achievement and gain social status within the peers, which results

in a dopamine-inducing activity similar to an ‘high’. This can become a form of behavioural addiction, especially if a player is either unaware of the consequences or lack the mental resistance from such behaviours. According to Brown’s core facets of addiction, a person is considered addicted if they display one or a combination of the following:

- **salience** (the activity dominates the person’s life, either cognitively or behaviourally)
- **relief** (the activity provides a ‘high’ or relief of unpleasant feelings),
- **tolerance** (greater activity is needed to achieve the same ‘high’),
- **withdrawal symptoms** (the experience of unpleasant physical effects or negative emotions when unable to engage in the activity),
- **conflict** (the activity leads to conflict with others, work, obligations, or the self)
- **relapse and reinstatement** (the activity is continued despite attempts to abstain from it). “ (Brown et. al, 1991)

Therefore, it is imperative that these criteria are critically considered to not only provide a more thorough approach to our development cycle but also to help educate parents and adolescents about the risks of gaming addiction. According to Digital Australia, even though up to 90% of Australian parents play games with their children, 2 out of 3 parents are familiar with parental control tools on game systems and only 1 out of 3 parents actually implement such tools on their children. Currently, parental control tools have 4 different functions:

- **Blocking IP address** to avoid access to specific domains and addresses.
- **Filtering content** to identify inappropriate content
- **Managing usage** to limit access by setting time limit
- **Monitoring activities** to check activities online via alerts and reporting.

This can be done by installing a software on their children’s devices, subscribing to online filtering services or a combination of both. The effectiveness of these tools can be assessed using a dedicated framework such as the SIP-BENCH III that looks into the functionality, effectiveness, usability and security of each tool. Depending on the context and approach, such framework can be useful to help us develop an effective and accurate product for our target audience.

Design Opportunity / Concept

For our project the team has decided to focus around the concept of information sharing and awareness. More specifically we think that parents nowadays want the best for their children but do not always have time or tools to monitor them as much as they would like. According to both the domain research that our fellow students conducted as well as our own independent research, it's clear that gaming addiction is a real and important concern for both the physical and mental wellbeing of an adolescent ,this is something that parents should be showing a greater concern for; however in reality most parents lack the time or knowledge to accurately gauge or remedy the addiction.

The concept is a Web app/Mobile application that tracks and displays the time played and type of gaming that the adolescent partakes in via the use of console specific parental controls and API's. This tracked data can be viewed and interpreted by the parent and/or guardian to reward behaviour and actions related to gaming via the application or to change the child's behaviour directly through parenting. Depending on user testing the exact rewards and parental controls available are subject to change however a rudimentary reward system that rewards positive actions where a child complete tasks such as chores, physical activity or social interaction will allow them to earn video game time through the application. The intention behind this concept is that parents are often concerned about the potential dangers that gaming and other electronic media can present to children, however they are unaware as to the severity and are unsure on how to monitor it. For more mature children, the tracked data can also be viewed by the teenager as a percentage of their total daily time and compare it to the other activities they partake in. When the data of total time played and metadata on time usage variation over different days are gathered, clear trends and conclusions can be drawn about gaming habits. Below in FIGURE 1 an example of possible gaming activity monitoring graphs that could be displayed to the user (More examples of possible graph interfaces in appendix A.

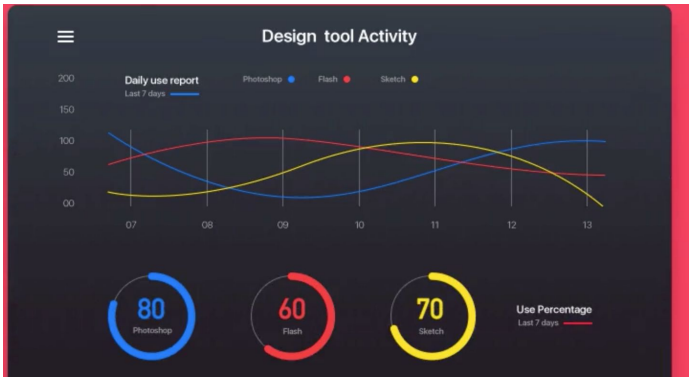


Figure 1
https://uimovement.com/ui/4293/analytics-chart/

As stated above, the audience for this application would be the parents

or guardians of the adolescents as well as the adolescents themselves depending on their age and maturity. A 17 year old may be inclined to use this application to better keep track of their gaming and to use it as a tool to help breaking the addiction they may have. Similarly, parents can use the app to garner a better understanding of the time their child spends playing video games as well as what games they are playing.

In the market currently there are not that many social or mobile solutions for this problem at all. The few that exist focus solely on detecting and stopping all forms of gaming over the network such as console or mobile phone gaming. We intend to differ from these solutions by not being such a black and white solution of outright stopping all gaming, but instead making the parent (or adolescent) aware of how much time they have invested into gaming and how this can reach dangerous levels if not monitored and acted upon. The social aspect comes into play due to the fact that both the parent and adolescent can download the app and see the data together, this includes the ability for the parents to message the child or adolescent through the app with the message appearing in game if the adolescent is currently gaming; this way the parent can give a friendly reminder to do chores or a certain task etc. without having to be within physical proximity

Plan of Work

In terms of how we intend to conduct this project, our aims and method flows can be broken down into four distinct stages:

- Phase 1: Initial Requirements & Design (Week 8)

As stated prior, our solution to the issue of gaming addiction in adolescents comes in the form of a web/mobile application that links to and monitors an individual's game account activity in order to help moderate use. Furthermore, we have also already identified our target audience to consist of an adolescent's guardians should they fall on the younger end of the spectrum or the adolescent themselves if they are older. With these initial requirements set, the first thing we need to do is conduct target research into our audience, which will consist of three distinct phases in of themselves. The first will focus around a general populace survey aimed at all individuals regardless of whether the fit the demographic and designed to gather insight regarding public opinion on game addiction. This will likely consist of a survey ranging between 10 – 15 questions and will be disseminated online. The second phase of research will involve conducting specifically tailored interviews with members of the target demographic, i.e. children, teenagers, and parents. These interviews will be centred around learning how gaming addiction is personally affecting their lives at the moment and what strategies they are using to try and combat it. The final piece of research will be a set of interviews with school teachers, more specifically those who tech younger members of the demographic, to see how gaming addiction is affecting their schooling and the classroom environment as a whole. Once all of

this information has been collected, we will use it to help tailor the focus of our initial prototype.

- Phase 2: Prototype & Evaluation (Week 10)

While the results of our initial user research will obviously have an impact on how the first prototype is constructed, generally speaking there are a few aspects of its design that can already be commented on. As an initial prototype, the design will surely be medium-fidelity in nature and likely be conducted as a guided wireframe experience centring on the applications core functionality, i.e. tracking game use, sending messages, setting alerts, etc. Obviously, this is all subject to change. In terms of how this prototype will then be iterated on, a series of user testing sessions with focus groups, hopefully consisting of a healthy mix of both returning subjects and new individuals within the target demographic, will be conducted to evaluate the effectiveness of the solution. Due to the fact that our target audience is split between both parents and the adolescents themselves depending on age, the makeup and conduct of each testing session may have to be separate.

- Phase 3: Iteration & Evaluation (Week 11 & 12)

Once again taking into account the results of the prior prototype, the general form of the next stage of the assignment can already be largely commented on. While prototype 1 was all about testing the solution conceptually, prototype 2 is all about beginning to construct and test it physically/ properly. To break this down more simply, the second stage of the application will begin to incorporate more technology into the design. What these technologies will be and how the design will come together is once again subject to the results of prior tests, programs and devices like Arduinos and unity will likely see use. In terms of how we will then go on to test all of this, the process will more than likely follow the same general flow as the prior phases focus tests. That being said there will obviously be some leeway in this structure to account for how prior feedback has been interpreted and any issues with the previous session.

- Phase 4: Final Prototype (Week 13)

The final form of the prototype as it will stand in this phase of the assignment is up completely dependent on how each of its prior iterations performs, and as such is difficulty to comment on in terms of design or function outside of the general acknowledgment that changes will be made based on said feedback. What can be said though is that, as this iteration of the prototype will be the one presented at design showcase, it will need to be robust in its form and complete in its feature set, presenting a user with an accurate representation of the applications final use. With this finality in mind there will likely be no further forms of user testing past this stage, though minor tests prior to showcase will surely be a reality. Despite this it will be important for us not to treat this prototype as a final product and to be mindful of any possible improvements that could be made in the future.

Score analysis

Strengths

- We have a strong understanding of gaming and the problems addiction to it can have.
- Between the five of us we have a good foundation of UX designers who are passionate about this Domain space.
- We have a very flexible, fluid and open minded approach to our design process, no idea is too precious to be spared from critique or redesign if it improves our prototype.
- Good access to user groups; we have access to Teachers and Adolescents who game to various degrees.

Challenges

- A tight schedule of uni courses and work keeps us from meeting more than once a week realistically.
- Providing a social and mobile solution to this domain is challenging due to the maturity and understanding level of some of our user group, we have to design around this potential problem.
- Addiction’s are often always multifaceted and deeply personal so cannot be easily overcome with a comparatively simple application or device we may develop, understanding what we can do and can’t do will be a big challenge.

Options

- There is a very real possibility that we struggle to come to grips with the domain and accurately propose a solution for the problem space that is actually beneficial to the user in a social or mobile way. We must ensure user testing informs us of our progress to maximise productive time spent on the right prototype.
- The team has the potential to produce an amazing prototype we can be proud of, however making sure our energy is spent in the right areas is crucial.
- The nature of this problem does insure a rather decent grasp of modern mobile and social technology from our main user group, we can leverage this in our prototype.

Responses

- Measuring and understanding the user feedback we get for our first prototype will be very important in gauging if we are on the right track for the final prototype, we do not want the solution to be so suffocating to enjoyable gaming that it reduces the positive aspects along with the negative aspects of gaming addiction.
- A possible consequence of misunderstanding our responses will be poorly iterated upon prototypes that do not focus on what users did and did not like.
- We want to avoid a response from parents that our solution erodes privacy or is simply a virtual parent.

Effectiveness

- To maximise our teams strengths we should strive to ensure time together as a team is focused and productive
- Ideally the final prototype will affect all the targeted user groups in a positive and beneficial way.

Team

Team Nondescript consist of :

Zach Clark: Bachelor of Multimedia design.

My aspirations for what I hope to achieve in this course are to gain more experience in programming development and UX design, as well as implemented knowledge obtained from previous courses such as DECO2300 and DECO2500 into a more relevant project.

Adam Roe: Bachelor of IT, majoring in UX design.

Generally speaking, my aspirations and learning goals for this project revolve around furthering my understanding of the social/ mobile computing landscape in the context of UX design. Furthermore, I hope to use this course to expand on the prototyping knowledge/ skills I acquired in DECO2300 and DECO2500 while also generally improving upon my ability to work within a group.

Scott Phillips: Bachelor of IT, majoring in UX design/Team leader.

My goals for this course in regards to what I hope to achieve from the project being undertaken are rather simple, that is to further my knowledge in the field of UI/UX design and to improve my prototyping skills within a group setting. Having completed DECO2300 which was a good look into rapid prototyping and interactive design I am interested to see how I can implement the skills I learnt in that course to the group based prototyping of DECO3500.

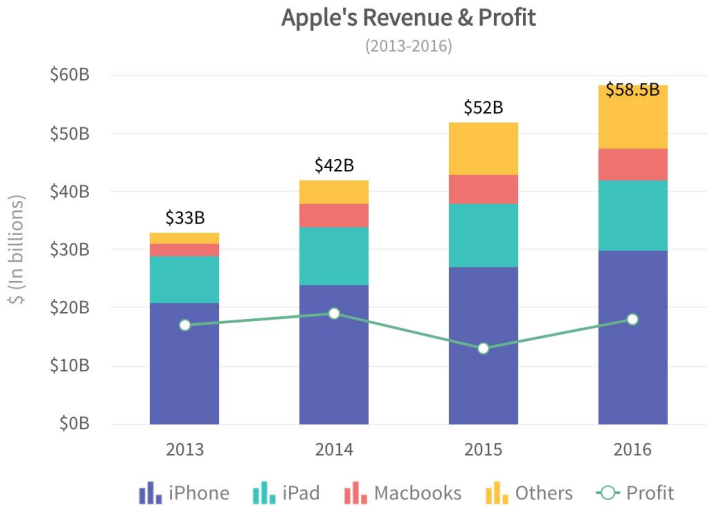
Kyle Pettigrew: Bachelor of IT, majoring in UX design.

My aspirations for this course is to gain more knowledge and understanding about the current social/mobile computing landscape as well as develop and hone the skills I have already acquired. I hope that I will be able to find new and innovative ways to tackle the problem space of gaming addiction as it is a social issue that is increasing daily and is often neglected when talking about social reform of addicts.

Joe Le: Bachelor of IT, majoring in UX design.

In this course, I aspire to gain more knowledge about the current landscape of social and mobile computing, and use the skills I have learned thus far to develop potential solutions for a particular problem within a scope. By the end of this project, I hope to gain better product development skills and more experience working collaboratively with other members to solve a problem.

APPENDIX
Appendix A



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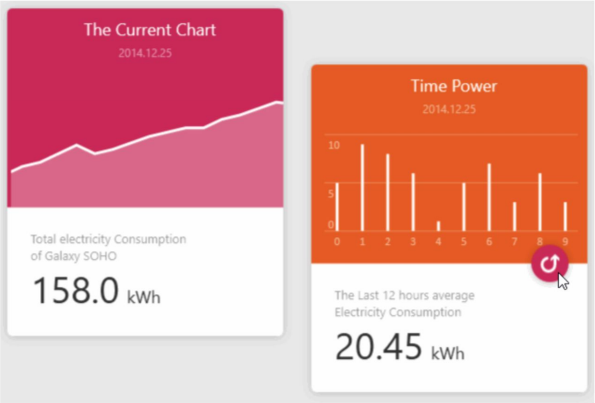

https://lvcharts.net/App/examples/v1/wpf/Material%20Design

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