**Project Proposal**

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| **Student Name** | Vinod Sahan Nawarathna | |
| **Student Number** | 2136690 | |
| **Course** | BSc (Hons.) Computer Science & Software Engineering | |
| **Supervisor Name** | Dr. Yasas Jayaweera | |
| **Course Coordinator Name** | Dr. Enjie Liu | |
| **Title of Project** | Conqueror Gamer Management by using an Artificial Intelligence (CGM) | |
| **Abstract of the project** | * The project is about a gaming industry base project. It was a gamer management system. The aim is for those who play video games and those who are addicted to them and willing to come to video games. Because today the thing called video games have gone beyond that. The idea is to complete a software related to it. That is, engaging in video games is something that does not happen with any kind of procedure. Gamers participate in it when needed or spend the whole day there without thinking about any food or drink, without caring about the people around them. Therefore, need to develop software that will not make them stop playing video games, but formally, with some time management, spend time with those around them and socialize that playing video games is something that does not harm the future anymore. This is the problem to be solved here i.e., to create an application that allows video game addicts and other gamers to play games without affecting their future in any way and with time management. As a solution to this problem, gamers who are addicted to sports should be given the opportunity to work on time management. This application provides solutions to the player. First, there is awareness of the importance of time management. The finished time packages are uploaded and displayed in a way that is easy for a player to choose or the gamer's personal details are analysed, and a default time package is screened through the application itself. After selecting the time package, instructions are given to the gamer. In accordance with the schedule for playing the game, notifications indicate the times to be stopped. Although there are various applications related to video games, there is no application that requires engaging in video games with time management. The services available through the existing software are as follows. The services are, respectively, screenshot capture and filtering, screen recording during gaming, system diagnosis (FPS counter, GPU counter, and CPU usage), and automated game optimization. These are the technologies used. If they are Artificial Intelligence (Analysing the gamer’s personal information using Machine Learning technology and creating a personalized time package), Data Analysing (To analyse the data of the Gamer and to analyse the data of the system). This is the main uniqueness of this research. These are the areas that need to be researched. (Health problems caused by prolonged use of computers or other technical equipment, The importance of time management in life, About the times an eye can be exposed to a computer screen or any other radiation, Correct postures to using technical devices, Takeaways from video games for future applications). | |
| **Project deliverables** | Software Deliverables:   * Desktop Application   Document Deliverables:   * Monthly Progress Report * Project Proposal * Ethic Form * Contextual Report * Thesis Report * Reflective Report * Final Report | |
| **Description of your artefact** | Context of Project and Similar Applications:   * There are many gamming applications like NVIDIA GeForce Experience (Geforce experience 2022), Steam (Steam, the ultimate online game platform 2003), Game Loop (GameLoop official 2022), Rockstar Games (Rockstar Games Launcher - Rockstar Games Social Club). However, no matter how many gaming applications there are, there is no opportunity to do them with time management. The proposed application provides an opportunity for this feature. * There are the articles details the problem that is expected to be solved i.e., game addiction done by Aviv Malkiel Weinstein (Weinstein, Computer, and video game addiction—a comparison between game users and non-game users 2010). * There the articles detail the solution that is expected to be solved i.e., time management done by Alvarez Sainz et al (Alvarez Sainz et al., 2019), Wolfling et al. reports on the efficacy of short-term treatment of Internet and computer gaming addiction (Wolfling et al., 2019). There is a video on how to use computer game addiction to succeed in the future (TEDtalksDirector, YouTube 2021).   Aim & objectives of the project:   * Aim - To develop a desktop application which is capable of analysing the gamer’s personal information using Machine Learning technology and creating personalized time packages. * Objective - * To evaluate existing desktop gaming applications. * To design a desktop application which is capable of analysing the gamer’s personal information. * To identify artificial intelligence approaches suitable for modelling time management patterns. * To use machine Learning technology. * To evaluate new desktop gaming application with current desktop gaming applications.   List of features that the artefact will include:   * User Login * User Sign in * Create User Account * Delete Existing account * Capture and filter Screen Shots during gaming. * Screen recording during gaming. * Notifying through email about the hours engaged in the activities related to the time package. * Gamer’s achievements page. * Gaming Mode. * Settings * System Diagnosis * Log out   Identify added value that the project provides:   * The proposed desktop application can indicate how much the gamer is addicted to playing the game as a percentage by using the gamer's personal information through artificial intelligence.   Identify the intellectual challenges involved:   * Determining the gamer's addiction level as a percentage based on the information gathered.   Reference:   * (2021) YouTube. YouTube. Available at: https://www.youtube.com/watch?v=ylS-6UK9FhQ (Accessed: November 1, 2022). * Alvarez Sainz, M., Ferrero, A.M. and Ugidos, A. (2019) “Time Management: Skills to learn and put into practice,” Education + Training, 61(5), pp. 635–648. Available at: https://doi.org/10.1108/et-01-2018-0027. * GameLoop official 2022 (no date) The Best Android Emulator for PC. Available at: https://www.gameloop.com/ (Accessed: November 1, 2022). * Geforce experience (no date) NVIDIA. Available at: https://www.nvidia.com/en-us/geforce/geforce-experience/download/ (Accessed: November 1, 2022). * Rockstar Games Launcher - Rockstar Games Social Club (no date). Available at: https://socialclub.rockstargames.com/rockstar-games-launcher (Accessed: November 1, 2022). * Steam, the ultimate online game platform (2003) Steam, The Ultimate Online Game Platform. Available at: https://store.steampowered.com/about/ (Accessed: November 1, 2022). * Weinstein, A.M. (2010) “Computer and video game addiction—a comparison between game users and non-game users,” The American Journal of Drug and Alcohol Abuse, 36(5), pp. 268–276. Available at: https://doi.org/10.3109/00952990.2010.491879. * Wölfling, K. et al. (2019) “Efficacy of short-term treatment of internet and computer game addiction,” JAMA Psychiatry, 76(10), p. 1018. Available at: https://doi.org/10.1001/jamapsychiatry.2019.1676. | |
| **What methodology (structured process) will you be following to realise your artefact?** | * Iterative waterfall methodology * The grant purpose of this application is to present a good time management plan to the gamer so that good feedback can be obtained through the gamer, so the researcher is using this development methodology. | |
| **How does your project relate to your degree course and build upon the units/knowledge you have studied/acquired** | * As a student of computer science and software engineering, the researcher hopes to complete this project in 4 steps. They are planning, implementing, testing, and maintaining. This will enable the knowledge of the software development life cycle to be updated.   Therefore, planning is expected first. How to collect information, and how to organize that information can be reflected again. The questionnaire method is used to collect information and the information is shown by a pie chart. Time is managed by the Gantt chart. Then implementation is done. It is expected to use case diagrams and class diagrams etc. for that. Then there is the selection of suitable languages ​​for implementation. For this, the researcher expects to use Java and C# languages ​​for the Back end. Front-end design is done by software. It is expected to use Adobe Illustrator and Adobe Photoshop software applications for graphics design and other graphic design and GUI creation.  Then there is the coding and testing. If there are not any mistakes researcher can finalize the project. The researcher hopes to reflect on all this knowledge and finish the project. For that, researcher is interested in paying attention to all the units that have been completed so far and learning about new technologies. | |
| **Resources** | Hardware   * Personal Computer (Laptop) * Mouse and Keyboard * External monitor * Wi-Fi Router * Writing Materials * Speaker   Software:   * IntelliJ * Adobe Illustrator * Mongo DB for database. * Unreal Engine * Adobe Photoshop * Microsoft word * Microsoft Project * Notpad++ | |
| **Have you completed & submitted your ethics form?** | YES | NO |
| **If the project is a development of previous work by yourself or others, give details below. Failing to declare such previous work here may be treated as an academic offence** | | |

**Supervisor Signature:**

**Student-supervisor meeting schedule:**

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| **Supervisor’s name** | **Student’s name** | **Meeting on the day of the week** | **Meeting at the time of the day** |
| Dr. Yasas Jayaweera | Vinod Sahan Nawarathna | Sunday | 15.00 P.M |
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**Course Coordinator Signature**

**After the proposal has been signed off by both the supervisor and course coordinator scan the proposal and upload on BREO with signatures. Projects that follow proposals that have not been approved may be cancelled and there will be no compensation for any time lost.**

**Part 2 – List of relevant resources**

*Fill in this section after your project proposal has been approved by your supervisor. Use Harvard referencing (see* [*https://lrweb.beds.ac.uk/a-guide-to-referencing*](https://lrweb.beds.ac.uk/a-guide-to-referencing) *). Modify the list below as appropriate. This list is part of Assignment 1 and will be submitted with the Project Proposal.*

1. Books:
2. Cole, M.R. (2019) Deep learning with C#, .NET and kelp.net: The ultimate kelp.net deep learning guide, Amazon. BPB Publications. Available at: https://www.amazon.com/Deep-Learning-Net-Kelp-Net-Ultimate/dp/9388511018?asin=9388511018&revisionId=&format=4&depth=1 (Accessed: November 2, 2022).
3. Partridge, D. (1992) Engineering Artificial Intelligence Software, Amazon. Intellect. Available at: https://www.amazon.com/Artificial-Intelligence-Software-Engineering-Partridge/dp/1579580629?asin=1579580629&revisionId=&format=4&depth=1 (Accessed: November 2, 2022).
4. Journal Papers:
5. Blehm, C. et al. (2005) “Computer vision syndrome: A Review,” Survey of Ophthalmology, 50(3), pp. 253–262. Available at: https://doi.org/10.1016/j.survophthal.2005.02.008.
6. Falla, D. et al. (2007) “Effect of neck exercise on sitting posture in patients with chronic neck pain,” Physical Therapy, 87(4), pp. 408–417. Available at: https://doi.org/10.2522/ptj.20060009.
7. Hodent, C. (2017) “UX strategy,” The Gamer's Brain, pp. 209–218. Available at: https://doi.org/10.1201/9781315154725-18.
8. Martínez-Fernández, S. et al. (2022) “Software engineering for AI-based systems: A survey,” ACM Transactions on Software Engineering and Methodology, 31(2), pp. 1–59. Available at: https://doi.org/10.1145/3487043.
9. Web Sites with relevant information:
10. (no date) Java tutorial. Available at: https://www.w3schools.com/java/ (Accessed: November 2, 2022).
11. 4 ways playing video games can help you find a great job (no date) 4 Ways Playing Video Games Can Help You Find A · Accurate Personnel. Available at: https://www.accurateusa.com/blog/2022/02/4-ways-playing-video-games-can-help-you-find-a-great-job-accurate-personnel?source=google.com (Accessed: November 2, 2022).
12. *Create Harvard, APA & MLA Citations* (no date) *Cite This For Me, a Chegg service*. Available at: https://www.citethisforme.com/ (Accessed: November 2, 2022).
13. Published: Dec 27, 2021L.U.M.9 (2022) How to make money playing games, Small Business Trends. Available at: https://smallbiztrends.com/2021/12/make-money-playing-games.html (Accessed: November 2, 2022).
14. Relevant software:
15. Download Unreal Engine (no date) Unreal Engine. Available at: https://www.unrealengine.com/en-US/download (Accessed: November 2, 2022).
16. Industry-leading vector graphics software | adobe illustrator (no date). Available at: https://www.adobe.com/products/illustrator.html (Accessed: November 1, 2022)
17. Relevant hardware:
    1. …
    2. …
18. Other:
19. (2019) YouTube. YouTube. Available at: https://www.youtube.com/watch?v=cCsOvzB3rK8 (Accessed: November 2, 2022).
20. (2021) YouTube. YouTube. Available at: https://www.youtube.com/watch?v=iONDebHX9qk (Accessed: November 2, 2022).