Tomadoro: A gamified Pomodoro device

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***Abstract*—This device is intended to be an aesthetically pleasing pomodoro timer with a hint of gamification, allowing for a relaxed experience without the need for screens or boring timers.**

I. Introduction / Background

The pomodoro technique is used by many people around the world to increase productivity [1]. Created by Francesco Cirillo in around 1980's, he started off by using a tomato shaped kitchen timer (pomodoro). The original method was to physically wind the timer up to set the intention (normally to complete the task at hand), which would keep ticking away counting down, ringing when it hit 0 minutes. Cirillo suggests using a 25-minute focus block, combined with either 5 or 10 minutes of break; this is repeated 4 times after which a longer break can be taken. Nowadays there exist applications and websites with tools for working with this technique. A standard clock or mobile timer can also be used to do this.

Image 1: A classic pomodoro kitchen timer (image from: Amazon)

Many people also like to put on music during work or study [2]. Some videos on video sharing sites such as YouTube have taken advantage of these parameters to create videos that are styled around the Pomodoro technique, with aesthetic background art to look at and lo-fi/classical music to listen to. The identified issues with the currently available pomodoro setups are as follows:

- Using Pomodoro applications on the computer or mobile makes it difficult to be completely screen free, especially for non-screen tasks.
- Using a plain pomodoro kitchen timer or clock can feel too boring.
- Some people enjoy listening to classical music, lo-fi music, or other ambient noises when they work which makes having the plain ticking noise in a physical timer or clock sound unsuitable for them.
- Gamification has been shown to increase engagement and motivation, but the current pomodoro applications do not take that into account.
- Currently available pomodoro devices on the market are little more than physical, rechargeable countdown timers priced anywhere between £10-£40.

Image 2: An ad for a pomodoro device currently available to buy on Amazon

Keeping all of these in mind, the Tomadoro device is proposed.

II. Related Work

A few studies in the literature have shown that using techniques like Pomodoro when working can provide efficiency benefits [3], [4], [5]. Taking breaks and managing fatigue is an important part of task competition, and using techniques such as Pomodoro that have breaks built in at regular intervals helps people self-regulate which leads to higher concentration [3]. This is also true if people work in other settings such as online (e.g. Zoom based meetings), wherein Pomodoro has been shown to help manage motivation [4]. Finally, the technique has been shown to help with time management and decreasing procrastination as well [5]. With regards to the design of the prototype, it was found that there exists a prior study wherein pomodoro, gamification and leaderboards were combined to create an

anti-procrastination framework for employees at work [6]. It was found to put positive stress on users so that they could complete their tasks and increase productivity. This study strengthens and supports the design idea for the device, that is explained in more detail in the next section.

There exists varying evidence on the use of music for task focus and work with many individual factors influencing the end result [2], but this author is keenly aware of many people who do not feel motivated to work without having music or some kind of background noise. Hence, it is important to provide this option to the users of this device, to allow them to decide what works best for them every time; whether this be music or silence.

Finally, gamification has been well researched to provide increased engagement and motivation through elements such as points and leaderboards [7], [8], [9]. However, it is also important to note that this is mainly extrinsic motivation, but it should be seen as providing a starting platform for task competition. Gamification can also increase attention/concentration [10], but having too many elements can be distracting. This point has been used to keep device design and the actual game elements to a minimum, providing a relaxed idle game experience.

III. Imagined or existing prototype sketches/drawings/photos

A. Device outline and vision

No prototypes have been built yet but sketches and AI designs have been created based on the identified requirements and general vision. The main requirement is to keep everything as simple and fuss free as possible. This device is meant to help people focus on getting work done and any unnecessary additions are only likely to distract not add from the pomodoro technique. The identified requirements are as follows:

- A speaker to play desired music or sound
- A small screen that will show the timer countdown during the pomodoro block, a home screen and a leaderboard
- A game design inspired by idle games where very little interaction is needed
- An on/off button, + and - buttons, a select button
- A USB type C charging port with a rechargeable battery

The name Tomadoro was decided to be used from a combination of the word tomato and pomodoro. The main idea is that the user has their own tomato plant that will grow taller as they complete more Pomodoro blocks. Users can also access a leaderboard where they can look at the time taken and height of the tallest trees, which is expected to induce motivation to complete more blocks thereby getting more work done.

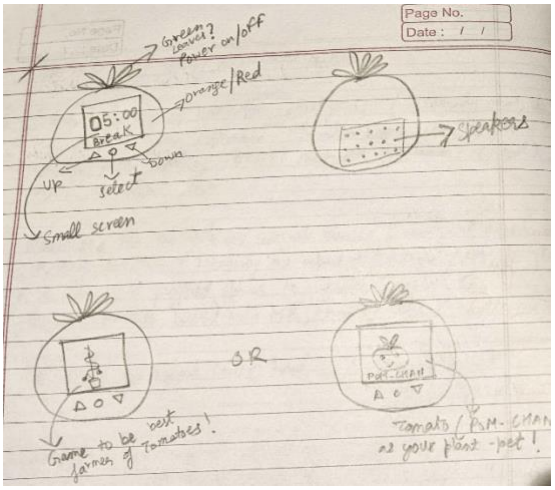

Image 3: Initial sketches of the device

As can be seen in the sketches above, physical detail has been kept to a minimum. The size of the device should be small enough to be carried around like a keychain, but large enough to view the screen and timer. The speaker should be loud enough so that the user can control the volume.

Image 3: AI generated prototype design

B. Sample use case of the device

Below is a step-by-step textual walkthrough of what a use of Tomadoro may look like:

- Janet needs to get some coursework done. She gets out her materials and sets Tomadoro on her table.
- She switches on the device, pressing the power button at the top. The screen lights up and she can see her tomato plant and its height.

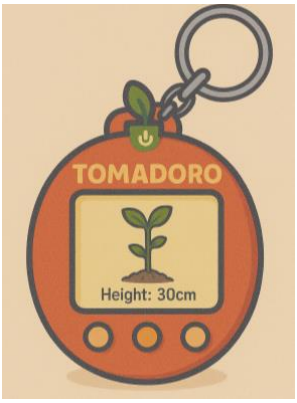

Image 4: AI generated prototype design

• She uses the select button in the middle to start a new pomodoro session. The screen asks how many blocks she wants to do and the length for each block (25 mins + 5 mins break or 50 mins + 10 mins break), and she opts to do four blocks of 25 minutes by using the increase/decrease/select button.

• After this, she gets the option to choose what kind of sounds she wants the device to play, if any. The options (in this scenario) are classical, lo-fi, ambient noise (ocean waves), brown noise, ticking sound, and no sound. She selects the ocean waves option.

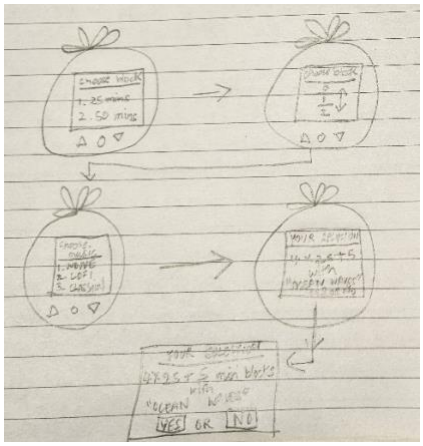

Image 5: A sketch of this process

• The device is now set up, so she places it on the table beside her laptop. It gives her a 3 second countdown and then starts the first Pomodoro block countdown. The speakers play soothing ocean wave sounds, and a glance at the screen shows her a cute tomato character that shows the timer above it. There will be a soft ringing bell sound to indicate the start of each block, including the breaks.

• When the Pomodoro blocks are complete, the screen will revert to the home screen, where she can see her tomato vine has grown taller as she has worked hard on her tasks. A double tap of the select button shows that her plant is currently the 15th tallest amongst all users, which pleases her but also motivates her to work harder and make it grow the tallest.

IV. Responsible Innovation

One of the main issues is that the Pomodoro technique is a registered trademark, and as such it would be important to gain permission from the maker in order to proceed with production. The use of a 3D printer will allow for more control over the design during the prototyping phase, and additive processes will ensure minimum wastage. Something that the current design does not account for is that there is no option to connect to Bluetooth device such as headphones, meaning that the best practice would only be to play any sounds in private spaces or if agreed with all occupants of the place. This would be one of the things to add during the second iteration of the design.

Finally, it is hoped that this device will help users stay focused and complete their pending tasks in a fun manner on a user friendly and attractive device without the need for extra effort or devices.

V. Author bio(s) / Experiences

I am a PhD student with a background in Psychology and HCI, currently studying at the Nottingham School of Art and Design at NTU. I often put on YouTube videos with nice art and classical music when I work, this helps me stay focused on the task at hand. I have noticed many of my peers do something similar, in fact there is even a weekly Pomodoro working group set up in the office! A lot of these YouTube videos are styled around the pomodoro technique, which I find super helpful because I don't need to put in extra effort to plan my work time and break time. However, I cannot use these when I am doing non-screen tasks, and using a phone timer is too boring; finally using playlists on Spotify or other applications is an option but these are normally not free for use (or have ads). I also like low effort casual clicking games where you only need to click to collect coins or water your tree. The design is also partly inspired by Bandai Namco's Tamagotchi keychain pets. Hence, I thought it would be a good idea to join all these together in the form of a cute all in one device that people could carry around anywhere.

VI. Acknowledgements

I would like to thank my supervisor Lars Holmquist for helping me refine my idea, and to JP for letting me yap plenty. Finally, I want to thank the creator of the pomodoro technique and all the free YouTube pomodoro videos with the beautiful art/ music that have inspired this device idea.

VII. References

[1] The Pomodoro® Technique, "Pomodoro® Technique - Time Management Method," *Pomodoro® Technique*, Feb. 08, 2025. https://www.pomodorotechnique.com/

[2] F. Goltz and M. Sadakata, "Do You Listen to Music While Studying? A Portrait of How People Use Music to Optimize Their Cognitive Performance," *Acta Psychologica*, vol. 220, p. 103417, Sep. 2021, doi: 10.1016/j.actpsy.2021.103417.

[3] F. Biwer, W. Wiradhany, M. G. a. O. Egbrink, and A. B. H. De Bruin, "Understanding effort regulation: Comparing 'Pomodoro' breaks and self-regulated breaks," *British Journal of Educational Psychology*, vol. 93, no. S2, pp. 353–367, Mar. 2023, doi: 10.1111/bjep.12593.

[4] N. M. Ismail, Z. Putri, and A. Noviyanti, "POMODORO TECHNIQUE ANALYSIS IN ZOOM-BASED CLASSROOMS," *JEELS (Journal of English Education and Linguistics Studies)*, vol. 9, no. 1, pp. 75–96, Aug. 2022, doi: 10.30762/jeels.v9i1.4298.

[5] K. Almalki, O. Alharbi, W. Al-Ahmadi, and M. Aljohani, "Anti-procrastination online tool for graduate students based on the Pomodoro technique," in *Lecture notes in computer science*, 2020, pp. 133–144. doi: 10.1007/978-3-030-50506-6_10.

[6] A. J. Amit, S. R. G. Shankararam, P. Pradeep, R. Perumalraja, and S. Kamalesh, "Framework For Preventing Procrastination And Increasing Productivity," *2021 3rd International Conference on Signal Processing and Communication (ICPSC)*, pp. 228–232, May 2021, doi: 10.1109/icspc51351.2021.9451773.

[7] J. Xu *et al.*, "Psychological interventions of virtual gamification within academic intrinsic motivation: A systematic review," *Journal of Affective Disorders*, vol. 293, pp. 444–465, Jul. 2021, doi: 10.1016/j.jad.2021.06.070.

[8] M. Sailer and L. Homner, "The Gamification of Learning: a Meta-analysis," *Educational Psychology Review*, vol. 32, no. 1, pp. 77–112, Aug. 2019, doi: 10.1007/s10648-019-09498-w.

[9] E. Ratinho and C. Martins, "The role of gamified learning strategies in student's motivation in high school and higher education: A systematic review," *Heliyon*, vol. 9, no. 8, p. e19033, doi: 10.1016/j.heliyon.2023.e19033.

[10] M. Campbell, "Gamification: How much is too much? - Mason Campbell - Medium," *Medium*, May 21, 2022. [Online]. Available: https://medium.com/@masonacampbell/universal-design-and-gamification-how-much-is-too-much-21ed5d4be849