Team Pomato's Project Pitch

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Problem

The all-too-common problem many individuals face each day is the struggle with productivity. It has become increasingly difficult to concentrate on the task at hand when there are never-ending distractions fighting for our attention. Common side effects include, but are not limited to: procrastination and burnout. For instance, a college student could find themself constantly distracted by their phone amidst studying for an exam. A programmer could fail to resist the urge to browse Reddit during a debugging session. Experiences with fleeting focus cause for prolonged time spent on accomplishing tasks and lack of grasp of personal agenda. Focus is one of the most important skills for productivity, yet very few master this necessary prerequisite for success. Acknowledging the root of the productivity problem is key to resolving impediments that are hindering one from attaining their personal potential.

Statement of Purpose

Team Pomato is committed to implementing an effective time-management web application that intends to resolve the productivity issue. Through extensive design research, numerous prototypes and careful deliberation, we have arrived at our prized proposal: Electric Pomato! Electric Pomato captures the key components of an acclaimed time-management system known as The Pomodoro Technique developed by Francesco Cirillo.

The design behind Electric Pomato web application is intended to be as user-friendly as possible to ensure easy adaptation into a user's work regimen. Since the overarching problem is focus and productivity, the objective is to take as little amount of the user's focus away from their current task as possible, while also assisting them in completing the task at hand.

Our goals align with The Pomodoro Technique in the sense to alleviate anxiety linked to indefinite ideology of time, enhance focus and concentration by minimizing interruptions, increase awareness of one's decisions, boost motivation and keep it constant, bolster the determination to achieve one's goals, refine the estimation process and overall, improve one's work or study process.

Appetite

For our pitch, we want to note a few constraints for this project. We plan to start the development process at the beginning of Week 6 of Winter 2021 quarter, which gives us only around 5-6 weeks to finalize major and minor decisions, implementations, code, reviews, and tests. Additionally, being in a school setting will further constrain our ability to work on this project as all members are likely enrolled in three other classes that expect equal time and effort. Due to this, we will have limited availability within those 5-6 weeks to work on the Pomodoro Application. On top of this, the inability to synchronously meet in person will be a major challenge in making sure we are all on the same page within a reasonable amount of time.

User Personas

Person 1: Undergraduate Student

Biography: Student 1 is an undergraduate senior studying Electrical Engineering. She is in the process of exploring the various paths she can take after graduation. Currently, she is an assisting PhD student conducting research on creating security protocols for drone authentication. She hopes to get her name on more research papers, so she can be a fighting candidate for a Master's or a PhD degree in the near future. Her personal interests lie in drones and Indian classical music.

Behaviors & Goals: She is very hardworking and detail-oriented. She often goes on late night Taco Bell and coffee runs as she stays up to finish all her work. She tries to participate in every activity she gets to know about (both social and academic) so that she can broaden her experiences. The three goals she wants in her near future are to experience European Study Abroad programs, work for a startup to learn a wide variety of technical skills, and get more papers published so her grad school application is stronger.

Pain-points: Despite her excellent performance in research, she often struggles to match her performance in classes with that of research. She tends to put off work in classes. She isn't fond of relying on coffee runs in Taco Bell to complete her work, especially if it's for school work.

Person 2: Employee of the National Science Foundation

Biography: Person 2 is a recent graduate who is now employed at the National Science Foundation. Her goal is to provide value for the foundation by discovering potential groundbreaking studies, which she intends to achieve by keeping maintaining connections and overseeing research efforts around the world. As suggested by her current employment, she has also completed several research programs during her undergraduate studies, specifically in the field of oceanography.

Behaviors and goals: Despite the tedious work, she is still patient in conducting research studies. Additionally, she's also passionate about the environment and understands the frustrations and difficulties of those who are also involved in research. Other than oceanography research, she also hikes and swims in her free time. While monitoring different studies, she hopes to identify high-potential areas in research, communicate with other researchers, and attend seminars to note observations that she can report back to NSF.

Pain-points: Although patient, she tends to have difficulty keeping with research efforts due to relatively inefficient work ethic. While oceanography is her field of study, she tends to get distracted by other topics in environmentalism and often would spend a few hours reading about them.

Person 3: Parent/Caretaker

Biography: Person 3 is a working mother with 2 toddlers. She works a 9-5 job as an accountant. She drops off her children at school, and picks them up after work from an afterschool program. She also prepares meals for her household at home. She runs a tight schedule, and needs help organizing her daily activities.

Behaviors & Goals: She runs a tight schedule, and needs help organizing her daily activities. She wakes up at 5 am every morning to prepare coffee, breakfast, and pack lunch for her toddlers. She is always in a rush and forgetting things. Her motto is "One step at a time." Her goal is to build a structured routine. She wants to keep her professional and personal life organized.

Pain-points: Common painpoints she runs into as a mother is not having enough time to prepare lunch for her toddlers. She often has to buy Lunchables or give them lunch money as a result. She feels as though she does not have enough time to exercise in the morning and forgets the tasks she has to do for the rest of the day. She often has to dismiss some of the tasks she had planned to do and delay it towards the next day or the end of the week.

Solution

Introducing Electric Pomato! Electric Pomato is a time management web application that simulates Francesco Cirillo's Pomodoro Technique. Electric Pomato is designed to empower everyday people to improve their productivity, boost motivation and keep it constant, and bolster the determination to achieve their goals. Our process follows three simple steps: plan, track, and record. Plan out the tasks for the day based on priority of completion and estimated pomodoros. Track completed and ongoing tasks throughout the day. Show an end-of-day record of completed tasks and actual pomodoros used for user analysis. To briefly explain the Pomodoro Technique, the core functionality of a Pomodoro Timer, which takes advantage of the short attention span that people have. The timer will alternate between 25 minutes of work (called a Pomodoro) and 5

minutes of break (25 minutes of break every 4 Pomodoros) -- the user must put full focus on the task during a Pomodoro and needs to mitigate as many distractions as possible. During a Pomodoro, the user isn't allowed to pause or stop the timer, specifically a Pomodoro is indivisible. It should be noted that the Pomodoro Technique is a complex method to learn, so we only included the basic functionalities of the technique to make it easier for the user to understand what to do. We will describe those functionalities in the figures below.

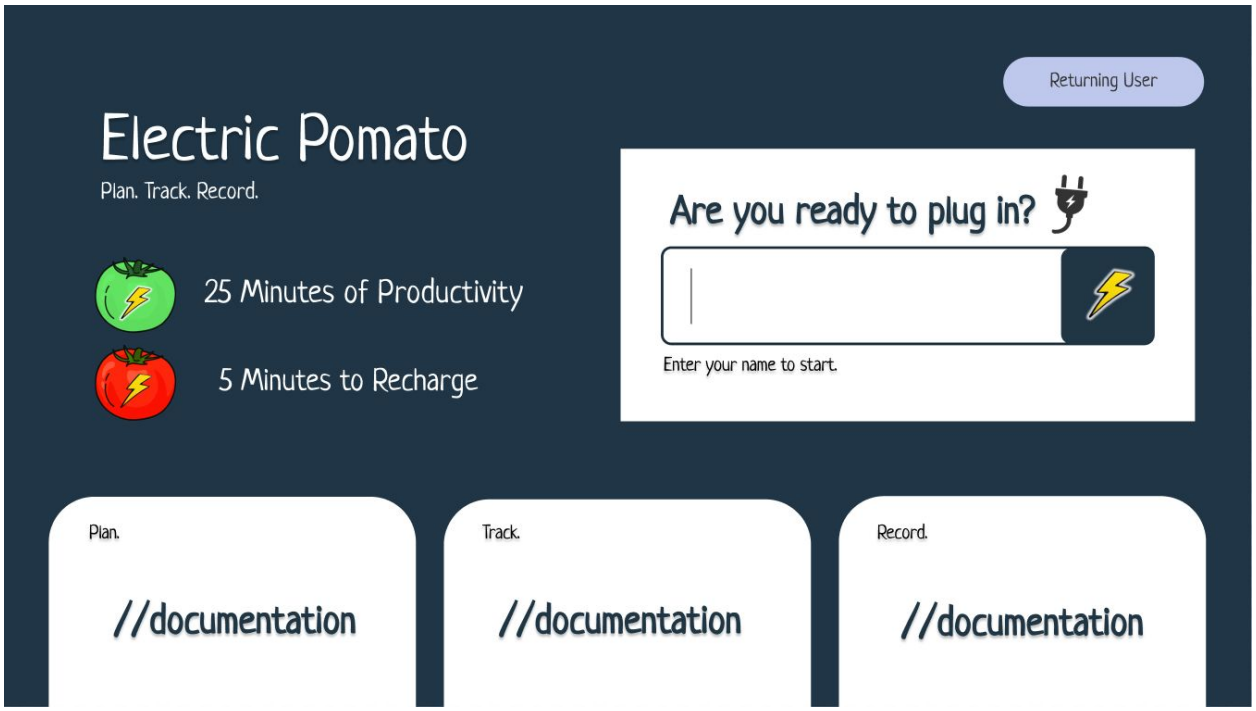

Figure 1: Landing page

When the user opens up the application for the first time, they will be greeted with the landing page shown in **Figure 1**. This page contains documentation that explains the mechanics of the Pomodoro Technique and the timers used in the application. Additionally, there is a prompt for new users and a button for returning users.

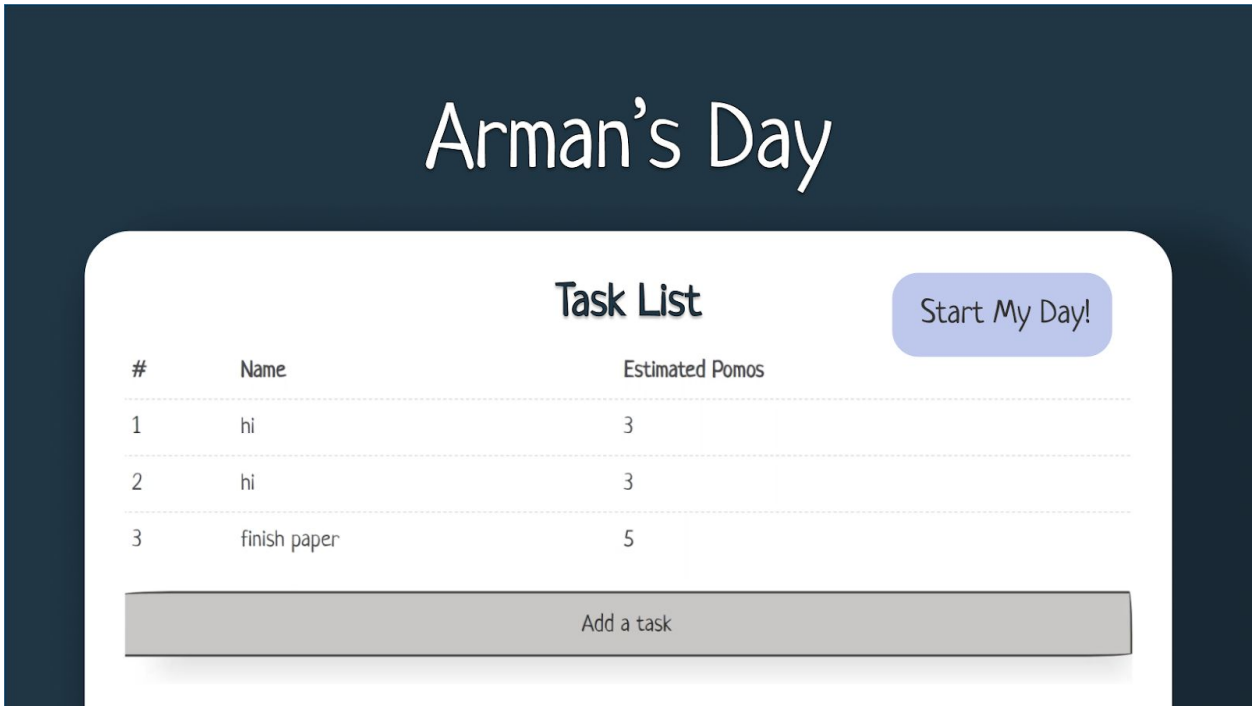

Figure 2: Planning page

The first part of the application is the planning page as shown in **Figure 2**. The user is presented with a task list that will keep track of all the tasks that the user will need to complete by the end of the day. To append a task to the end of the list, the user would press the "Add a task" button, which opens a new task slot at the bottom of the list. Furthermore, each task will also prompt the user to state his or her estimated Pomodoros (the indivisible 25 minute work sessions). Once they're done adding their tasks, the user would then press the "Start My Day!" button, which takes them to the page shown in **Figure 3**.

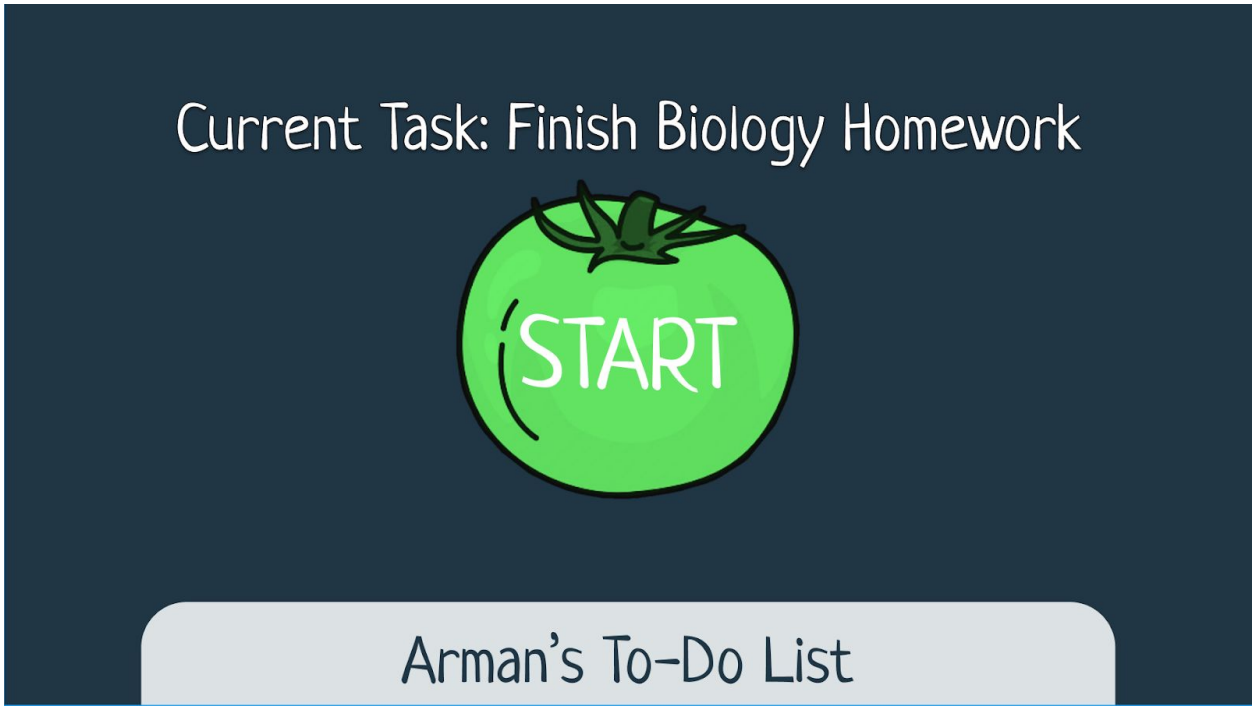

Figure 3a: Initial timer page

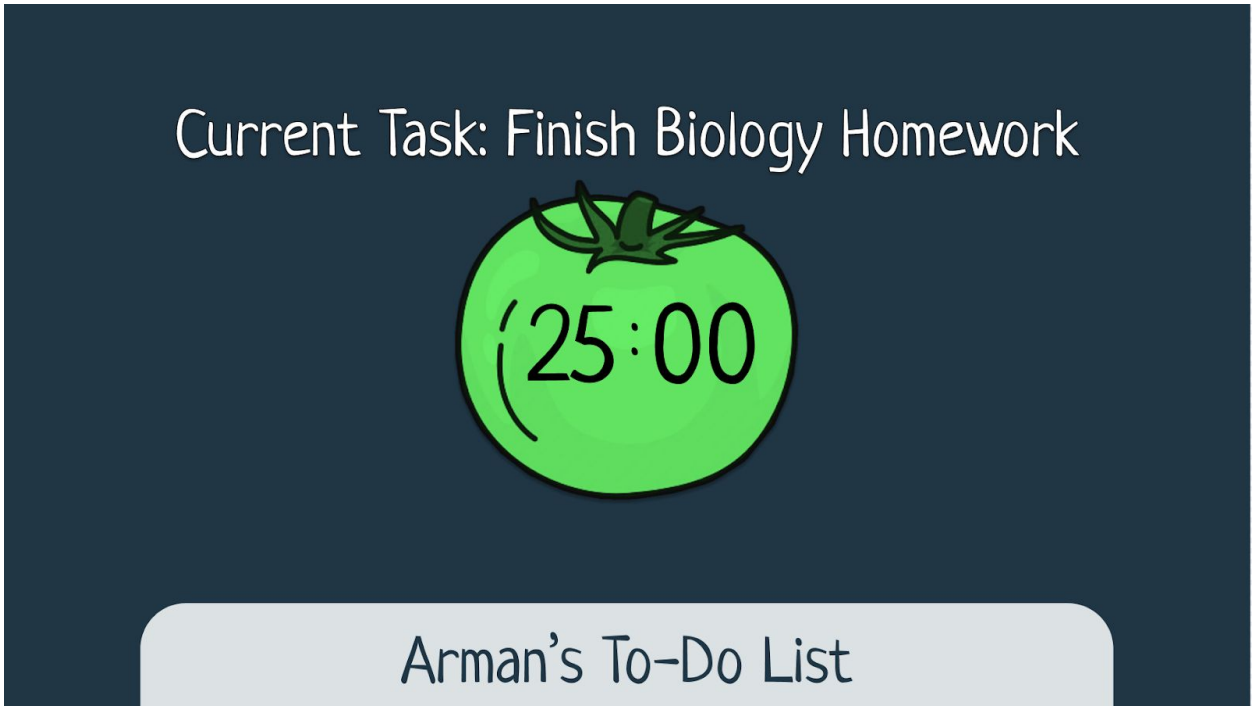

Figure 3b: Pomodoro/work session

On the timer screen ("track" part of the documentation) , the user will be given the option to start the timer by pressing the green tomato; however, this will be the only time they will be able to press the start button in **Figure 3a**. This is because the timer in the Pomodoro Technique isn't to

be touched. That is, the user must abide by the timer -- if the timer indicates to work (green), then you must work, but if the timer instead indicates to take a break, then you can not continue the task until the break is over. In **Figure 3b**, the user begins the Pomodoro (work session). Notice the minimal amount of things on the screen. We believe that the page should contain only the most important things to show, which are the timer itself, current taks, and the tab for the task list. This is to minimize the amount of distractions from the application itself as the ultimate goal of a Pomodoro session is to focus on completing the task at hand. If the user really needs to open the task lisk, however, they can simply click on the tab at the bottom of the screen, which will drag the task list up on the screen in **Figure 3c** below.

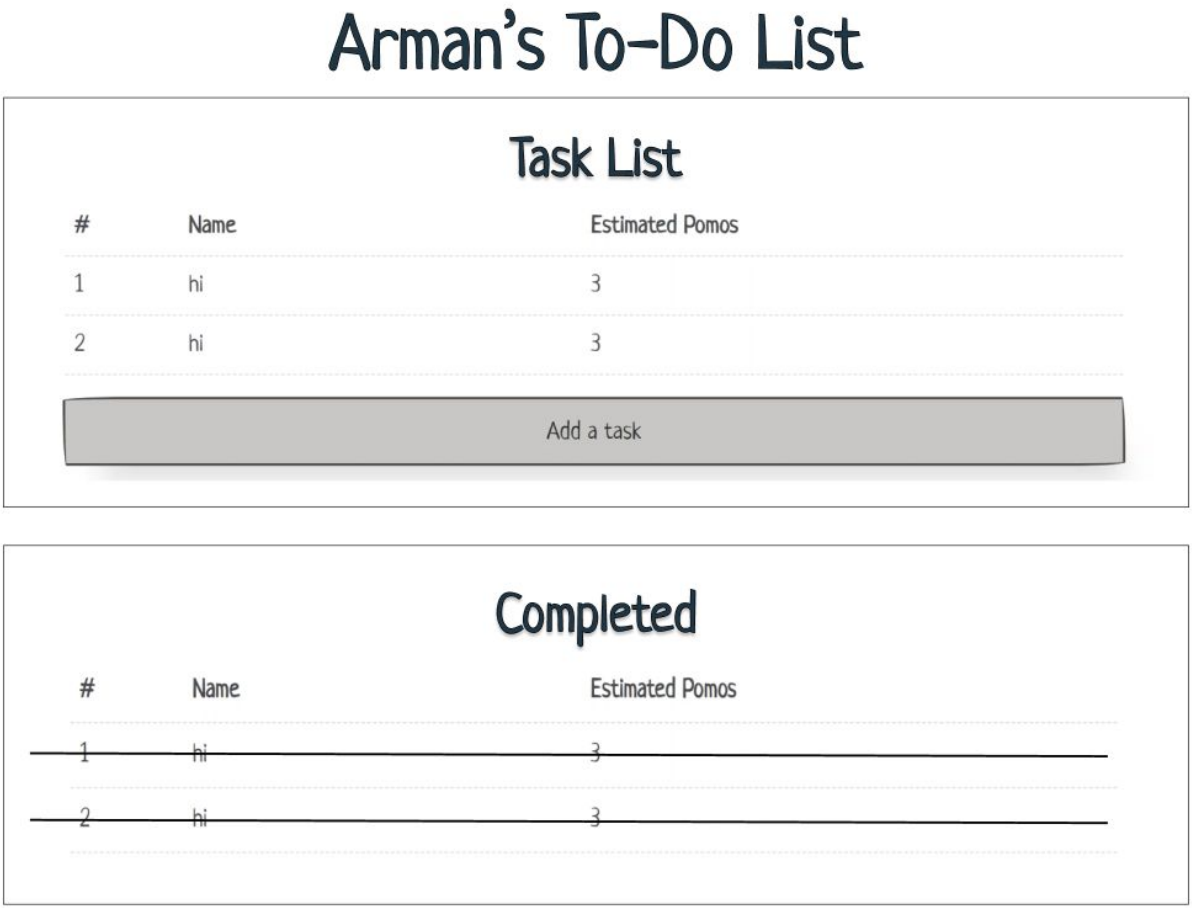

Figure 3c: task list during the Pomodoro session

This is pretty much the same as shown in **Figure 2**, but the only difference is that the user will also be able to see their completed tasks. We also decided to allow the user to add a task during their Pomodoro so they don't have to keep it in memory until the break timer. Finally, once the 25 minutes end, the page will automatically change to the break layout as shown in **Figure 4**. This won't open a new page. Rather, we decided to keep the entire timer part on a single page --

it will simply just change the tomato icon and add new buttons to the screen.

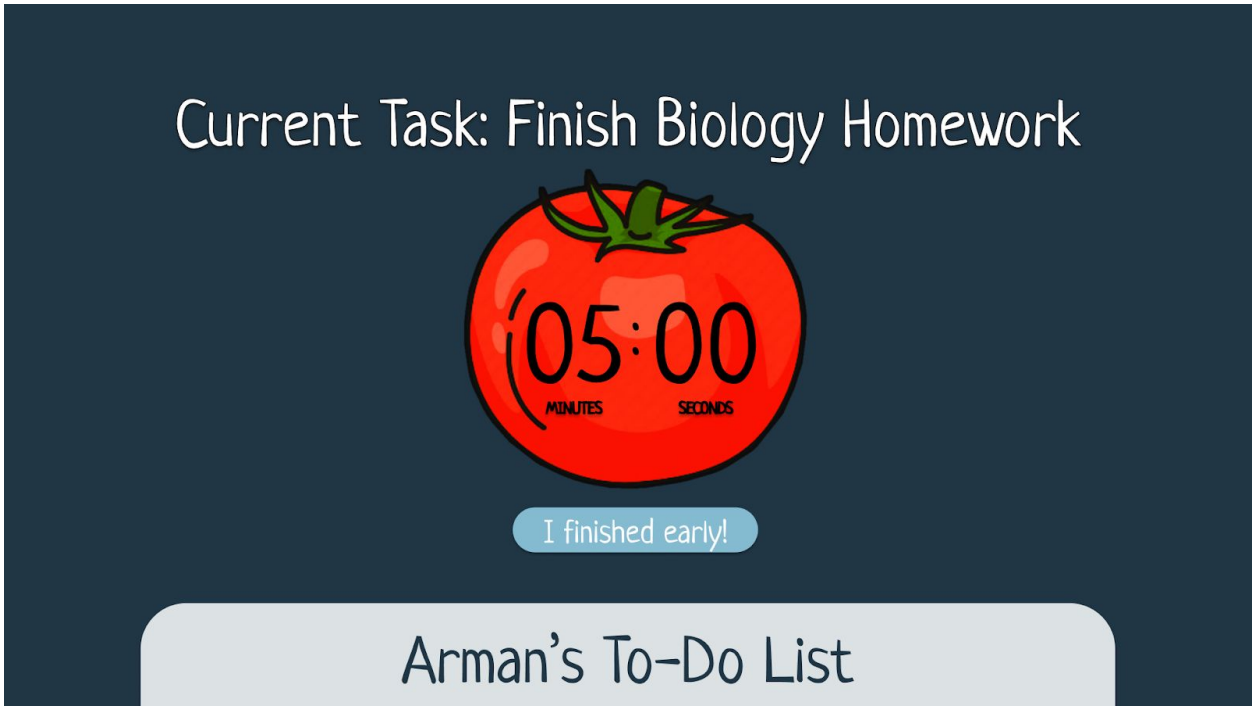

Figure 4a: Break page (I finished early!)

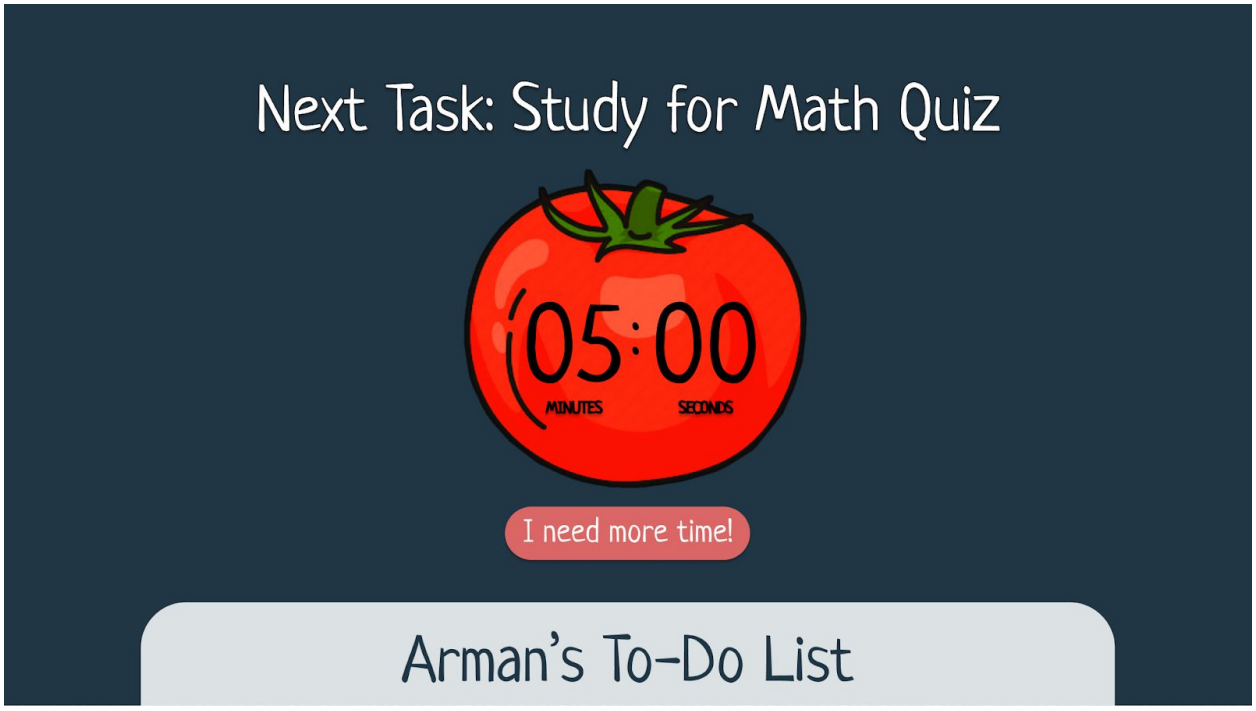

Figure 4b: Break page (I need more time!)

Figure 4 shows the break timer screen, which only contains three differences. The first

difference is the tomato, which will change to a red color as indicated by the icons in the landing page of **Figure 1**. Additionally, it will automatically start the 5 minute break timer (25 minutes if the user has completed 4 Pomodoros). The second difference is a new button on the screen, which will end the current task and pull up the next one in the task list. This will automatically move the completed task to the "Completed" section of the task list in **Figure 3c**. It should also be noted that the end task button changes based on the estimated number of Pomodoros of that task. For example, if the user currently has used less Pomodoros than the amount they estimated, then the button will say "I finished early!" (**Figure 3a**). Otherwise, the button will say "I need more time!" (**Figure 3b**). In the former scenario, the user can preemptively end the task by pressing the button. Alternatively, if the user doesn't press the "I finished early" button, the application will stay on the current task. In the latter scenario, the user must press the button to spend more Pomodoros on the task, otherwise the application will assume that the user is done with the task and automatically load up the next task as described earlier in this paragraph. The last difference, albeit a small one, is that the text on top of the screen will say "Next task" instead of "Current task".

Figure 5a: Final task

The last change that can occur on the break timer screen is the text that will be displayed if the user is on their last task. Instead of displaying "Next task," it will instead show "Final task." Once this task ends, the user will be greeted with the prompt shown below.

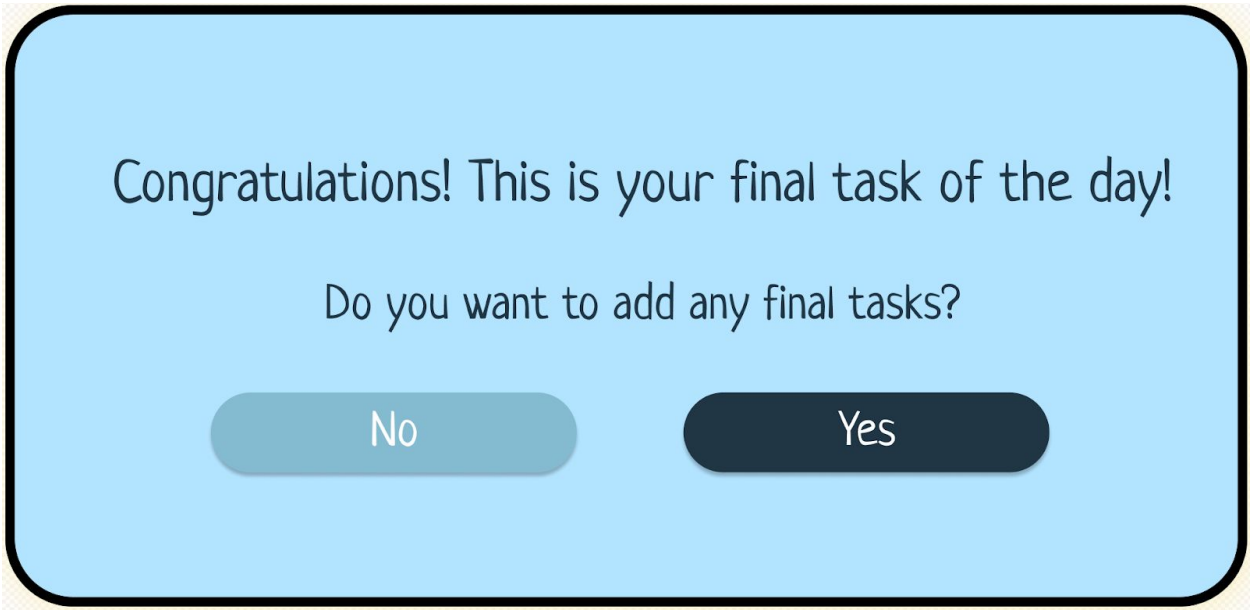

Figure 5b: Final task alert

While this prompt is on the screen, the timer will continue to run in the background. It will ask the user if they want to add any final tasks. If the user presses yes, they will be sent back to **Figure 5a**, and the task list will automatically open for them. If they press no, then they will be taken to the records sheet page in **Figure 6** below. If the user happens to not click anything at all during the duration of the break, the pomodoro will begin by default for the last task.

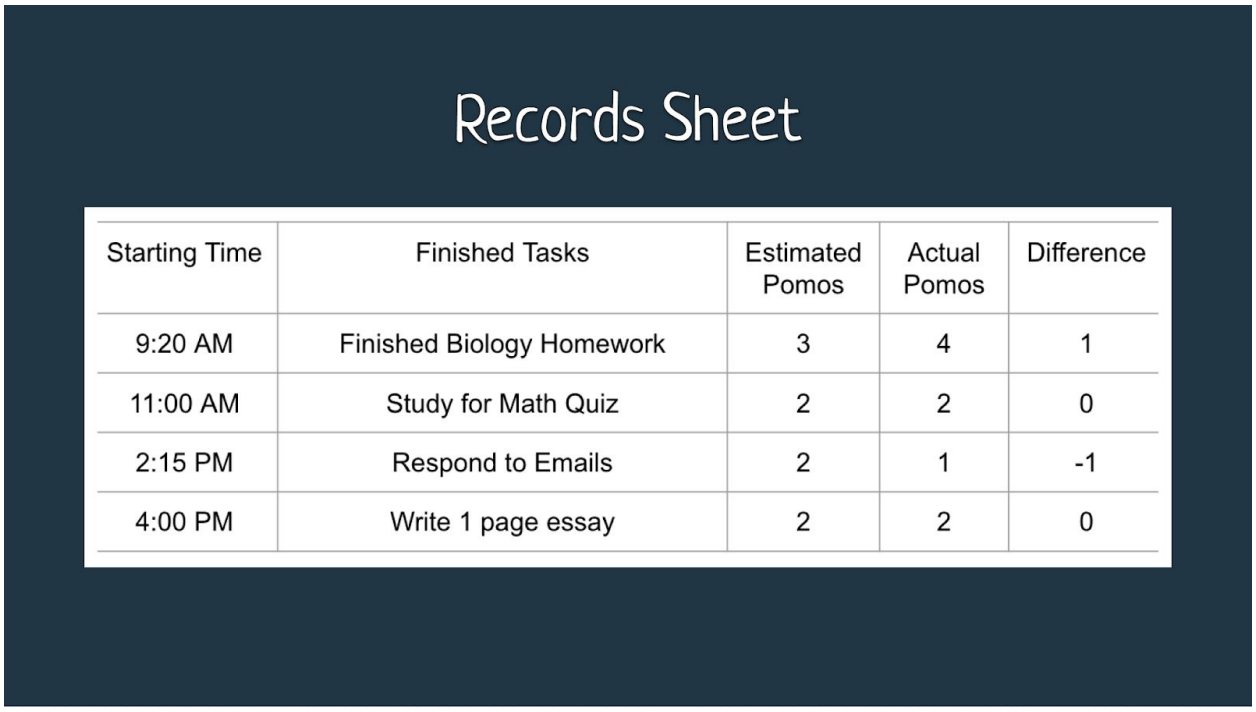

Figure 6: Records sheet

Lastly, the user will be taken to the records sheet page where they will see all the tasks they completed, which includes each task's starting time, estimated number Pomodoros, actual number of Pomodoros, and the difference between actual and estimated number of Pomodoros. The user can simply close the website after this point.

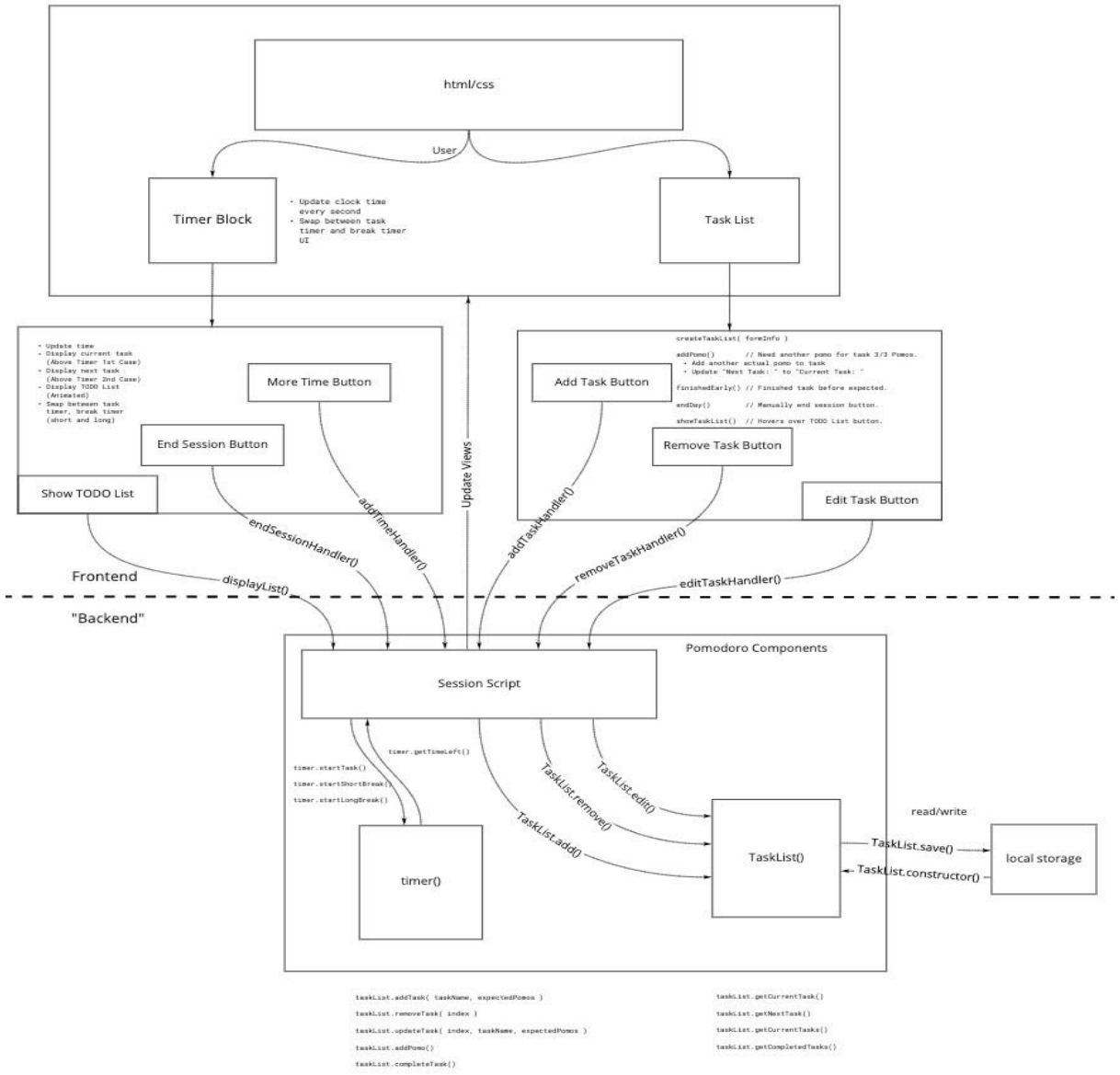

Figure 7: System Diagram

This is a system diagram which displays what we aim to achieve under the hood of our website. The diagram is split horizontally between the frontend and backend. Arrows between blocks show lines of communication between the module, they also give some context to what the intended communication is.

Risks and Rabbit Holes

Does this require new technical work we've never done before?

Yes, there are a few of us on the team that are not very familiar with web development technologies such as Javascript, HTML, and CSS. The labs have greatly helped with this but there are still gaps. How we are addressing this is by assigning dev roles to those in our team who do have experience with these technologies. Others will still help with the code but in an assistive capacity while focusing on other important tasks such as building the CI/CD pipeline, writing tests, designing UI/UX and overall team coordination.

Are we assuming a design solution exists that we couldn't come up with ourselves?

No. Because the pomodoro technique emphasizes simplicity and ease of use, we wanted to focus on as simple of an implementation as we possibly could, as seen in the system diagram above, we were able to sketch out our application in relatively fine detail due to the simplicity of our approach. We may face issues in future sprints however if we choose to incorporate additional features that were not part of the initial design.

Is there a hard decision we should settle in advance so it doesn't trip up the team?

There were a few disagreements in terms of page layouts. We had a debate on whether or not we want to have the timer and list on a single page, or have dedicated pages for them. After some deliberation however we agreed to have them on the same page and have the list available in a window that can be "swiped up". We also decided on having a landing page for first time visits and a log page when the day's tasks are completed. Again, we are choosing to take a simple approach and will not be using additional libraries or frameworks aside from testing so this keeps hard decisions about dependencies out of sight (for now).

No-gos

Some no-gos decided during the brainstorming that planning process:

- We decided against an account-creation component to our service so we can get away with only using local storage.
- We also decided not to separate the timer and task-list into separate pages.
- We decided against hard fixed roles. Everyone found their place amongst the rest of the team members and we are keeping the option open to people switching roles. We also implemented a primary/secondary role system to keep people involved in parts of the project not directly related to their primary roles.