Pomodoro Technique©:

The Pomodoro Technique© was developed in 1992 by Francesco Cirillo as a method to provide focus to study time. He discusses the anxiety that surrounds unstructured time, writing that "if we try to measure ourselves against the passage of time, we feel inadequate, oppressed, enslaved, and defeated more and more with every second that goes by" (Cirillo 2018, 22). His "Pomodoro Technique" structures time to alleviate this anxiety. The basic premise is to focus on one thing for 25 minutes (called a "pomodoro"), followed by a five-minute break during which one can disconnect, deal with any distractions, and reset (Cirillo 2018). This fits tasks into a set time-frame and develops awareness of how much time and effort different kinds of tasks take. The process asks users to record the number of pomodoros that each task takes, allowing users to learn to estimate time more effectively, thereby increasing their ability to break tasks down into meaningful segments and complete them in a timely manner. Building realistic expectations of time in this way helps users plan their project goals more realistically, allowing users to form positive associations with their work, reduce procrastination, and build momentum. Many scholars who focus on student writing in academia encourage the use of the Pomodoro Technique© to facilitate the understanding of time in relation to goal setting and project completion (Bast 2016, 79; Thomas 2017,33-34). Furthermore, a study on procrastination among university students (Dionne et. al., 2016) found the method to be useful as an intervention in reducing procrastination (although they acknowledge that further study specifically on the Pomodoro Technique© is needed).

The facilitation of this method in various mobile and online apps makes the technique readily useable for students and mentors. These apps include the 25-minute timer (which is customizable to different lengths), automatic breaks in between segments, the ability to label each pomodoro according to task, and various data analytics that allow users to see breakdowns of their work according to day, week, or project. This helps users to easily perform the time tracking that the Pomodoro Technique teaches, allowing users to easily reap the benefits of the method, and facilitate discussions about time usage and productivity.

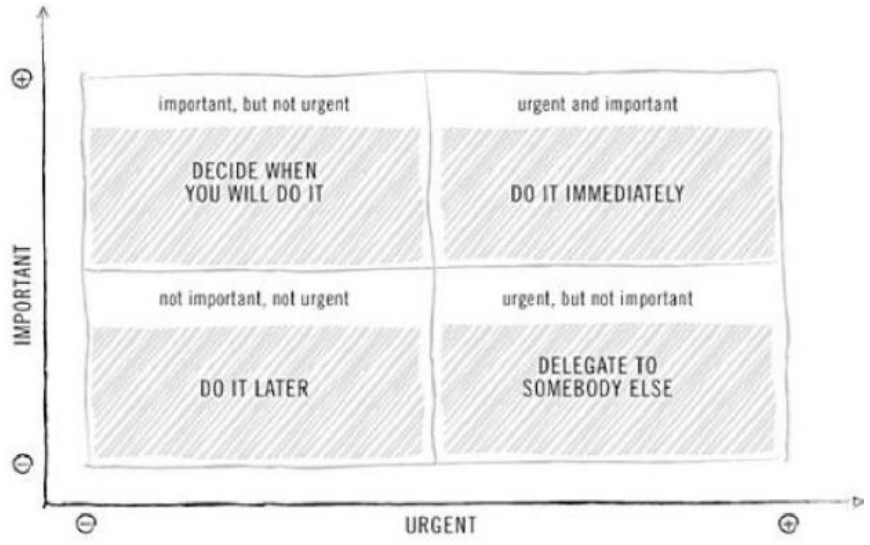
Apps that use this technique: Forest, Brain Focus, Tomato.es, ATracker (optional).

Eisenhower Matrix:

The Eisenhower Matrix is a prioritization and task management tool that helps users make decisions about which tasks have priority and deserve to be done first. It was coined the "Eisenhower Principle" after a 1954 speech President Eisenhower gave to the Second Assembly of the World Council of Churches, during which he said "I have two kinds of problems: the urgent and the important. The urgent are not important, and the important are never urgent" (Eisenhower 1954, quoted in Clark and Sousa 2018, 187). The matrix is made up of four quadrants (see Figure 1), arranged along urgency and importance axes, yielding the following categories: urgent and important, urgent but not important, important but not urgent, and neither important nor urgent. Each quadrant necessitates a different type of work structure, and helps the user understand where tasks fall in terms of priority, and in relation to each other. Clark and Sousa write that "ideally, no important tasks become urgent" (2018, 188), explaining that most time should be spent on the tasks marked important before they move to the urgent side of the matrix, and that these tasks should be scheduled so that they are completed appropriately before they become urgent. Often times this does happen, however, so they advocate the allowance of buffer time in one's schedule to deal with urgent and important tasks that need to be done immediately. Urgent tasks that are not important should be taken care of quickly, or delegated, such that they do not take too much time away from important tasks, and the tasks that are neither urgent nor important can be done later (Tschäppeler and Krogerus 2011, 10-11).

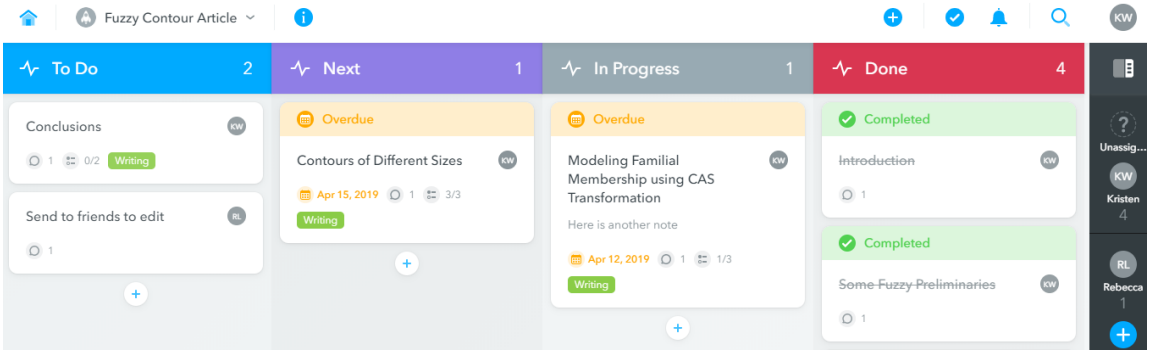
Apps like Ike facilitate the prioritization process with regard to tasks by arranging them according to this matrix. The app functions in much the same way that normal to-do list apps work, in that the user can create lists, tasks, subtasks, and the like. The difference is that for every task, the apps ask the user to make a decision as to which quadrant of the matrix the task belongs. Users can then see which tasks are urgent, important, both, or neither, and can plan their time accordingly.

Figure 1. The Eisenhower Priority Matrix (Tschäppeler and Krogerus 2011, 11)



Kanban:

Kanban is a project management system that visualizes workflow by taking notecards representing tasks and moving them through columns representing various stages of completion (see figure). This workflow allows users to "visualize the flow of items, helping to identify backlogs, blockages, and bottlenecks" (Bass 2016, 5). Kanban originated as a scheduling system for lean manufacturing, developed by Taiichi Ohno for Toyota (Bass 2016, 3) in order to improve productivity and reduce waste.



The Kanban method is like a virtual corkboard that involves three categories of flow, through which each notecard (representing a specific concept or task) moves. These three categories are "the backlog"—a repository of every item that is yet to be done for a project, "doing" or "in progress," and "done." Each card represents a single task or concept and will have all the necessary information about the task on the back of the card (Metcalfe 2018, 317). In digital representations of Kanban, the card can also have features like checklists, attachments to relevant links and documents, comment functions, and tags identifying either priority, type of task, or delegation.

The backlog section can be a simple list, or as complex as a notecard-based storyboard, allowing users to visualize the project at hand. One then "pulls" tasks from the backlog into the "doing" section of the flow, providing a level of intentionality that requires one to prioritize, consider time management, and reflect meaningfully on the needs of the project. The "doing" category has a limit, such that one should only have the number of tasks in this category at a time that one can reasonably handle. As tasks are completed, their cards are moved from the "doing" category to the "done" category, allowing for a sense of completion that provides momentum (Benson and Barry 2011, 27-46).

Apps have taken steps to simplify the Kanban process by providing the "board" and "notecard" functionality. Trello, Asana, and MeisterTask have all developed these Kanban style productivity environments that allow users to create these workflow categories and notecard tasks in order to build robust project visualizations and then see each concept through to completion. Furthermore, Kanban already has a significant academic following (see writings by Cathy Mazak, Christian Bettsetter, Andy Whitford, Jim Benson), especially in the humanities which makes it easier to use for music theorists and their students.

Apps that use this method: Trello, Asana, MeisterTask

Gamification:

Gamification refers to apps using game elements, especially rewards, to engage its users. The types of rewards used vary depending on the app and its goals. While some apps reward users with "stuff" (e.g. free merchandise, coupons, or discounts), many—including the ones tested for this project—use other ways of incentivizing their users. Apps can reward users with "status," e.g. being the top user amongst a group on Nike Run Club ("bragging rights"). Other apps use the opportunity to give to others as a potential reward, e.g. apps like Charity Miles and Donate A Photo. Rewards can be stable, random, or chance-based. While rewards of any type can incentivize users, some studies suggest that unpredictable rewards (the latter two categories) and those that provide the user with stature or privilege are the best at engaging one's audience.

Several apps in our study use gamification to incentivize users. Forest, a time management app, allows users to earn coins for each block of distraction-free time completed. These coins can be used to purchase new items within the app or to plant a tree somewhere in the world. Habitica, a task management app, includes the most complex realization of this methodology and employs a variety of reward types. Using elements from role playing games, the app creates a world where users and their friends (or "Party") fight against enemies, collect gold, and earn rewards all for completing their to-do list. Other apps feature simpler versions of gamification.

Apps featuring Gamification: Forest (time management), Habitica (task management)

Hemingway Mode:

Hemingway Mode refers to a setting in the writing app "Draft" (although other writing apps have similar features), that embodies a larger methodology best described as "write now, edit later." When using this method, the writer continually moves forward in their document—not pausing for misspelled words, misplaced punctuation, citation, or any other sort of editing. Although specific in our study to a single app, the method here is beneficial for writers of all experience levels.

In Draft, Hemingway mode disables the backspace and delete keys as well as the writer's ability to mouse-click into earlier portions of the document. Naturally, a writer may take the idea of Hemingway mode and apply it to any other writing program (though depending on one's level of self-control and self-awareness when writing, "practicing" Hemingway mode using Draft may be a good idea).

n.B. Hemingway Mode is not to be confused with a similarly named app, "Hemingway," which aids writers to edit papers.

Mind-Mapping:

A mind map is defined as a freely structured set of hierarchically arranged nodes. These nodes are typically arranged in such a fashion that the main concept or idea of a project lies at the center and hierarchically organized related ideas or sections radiate out from there (see Figure 1). This is not the only format they can take, however, and the flexibility of mind maps help manage the content of a project, allowing users to see relationships between concepts, and break down these concepts into smaller components.

Digital mind-mapping applications allow users to easily create and move around nodes on a map; attach pictures, videos, web links, and other sources; make notes and comments; collaborate with others; and print mind maps. Mind maps have been used as a pedagogical tool for decades in the instruction of a wide variety of students, and are also useful for the writing process. It is a good tool for mentors and students to use to develop and discuss projects in the early stages of research before they hit the writing stage.

Apps that use this method: Coggle, MindMeister