

Leveraging AI to help people become more productive

Problem Statement: How would you extend the approach that Lieder, Chen, Krueger, and Griffiths (2019) used in Experiment 4 to help people become more productive in the real world? What technical challenges do you foresee? How would you tackle those challenges?

Approach:

Proposal to extend current research

In experiment 3, optimal gamification is used to help people procrastinate less and complete the tasks that might be difficult but contribute more towards the end goal. In experiment 4, optimal gamification helps people prioritize by assigning much greater rewards to the important tasks in hand and reducing the rewards of the unimportant ones helping users waste less time on such tasks. I would extend this work by introducing two changes further:

1. Extension to current work:

I would include further priority classification of tasks i.e. we could make five groups of priority where the first group or GROUP A would be the tasks of highest priority, the second group or GROUP B would be tasks of comparatively less priority as compared to tasks of GROUP A but are tasks of importance. GROUP C would comprise tasks that the user wants to do but can be done at a later time. GROUP D would consist of tasks that are important but can be delegated to other people to complete. Finally, GROUP E would have unimportant tasks. Here we would be increasing productivity immensely because we have prioritized our tasks properly into groups and also included delegation of tasks where the tasks might be important for the user but not actually worth his time and so he might be willing to bear some costs and delegate the task to his subordinates increasing his productivity indirectly.

Difficulties Faced:

The main difficulty faced is how do we assign priority to tasks. Do we base priority on deadlines or rewards or some other metric? Also, once a task is assigned a priority based on some parameter, what if the environment changes, what would happen to the priority in such a case?

Solutions:

A solution to this problem could be is that we would have to incorporate dynamic priorities i.e. we would initially base our priority usually with respect to rewards, the deadline of the task and contribution of the task towards the end goal. Also, once priorities are set then we perform the tasks from GROUP A first and then GROUP B and so on. If it so happens that the environment changes for example the deadline for a certain task in GROUP A changes then we could reduce its priority and shift it to GROUP B, hence doing the task at a later time.

2. Extension to current work:

Also, the paper always assumes that there are distant deadlines and hence enough time to complete all the tasks properly but in real life scenarios, the user is faced with deadlines and situations where the time left is not enough to complete all tasks in hand.

Difficulties Faced:

In this extension there would be great difficulty assigning priority to tasks considering the tradeoff between rewards and deadlines, hence we would have to leave certain tasks incomplete or delegate the tasks to someone to win the rewards for some other more important task. Deciding all this along with real time changes in the environment where a new important task might just come up, is indeed a very difficult task.

Solutions:

I don't think there is a concrete solution to this problem. It depends upon the user whether he/she is in the position of delegating tasks or can they afford to not do certain tasks at the cost of some other task. Also, dynamic priority would definitely have to be employed. Different scheduling or prioritizing algorithms could be used to define the optimal policy so that user can productively maximize rewards and the number of tasks completed.