



Not E-Lone

# MEET THE TEAM



Joshua is a Computer Science major at ODU, expected to graduate in Fall 2023. He currently lines in Chesapeake, and has hobbies in playing/making video games and music.



Nanielyn is a Computer Science and Cybercrime major, expected to graduate in Fall 2023 at ODU. She is a pacific islander who enjoys traveling, meeting new people, and experiencing new cultures.



Aaron is a Senior at Old Dominion University pursuing a Bachelor's of Science in Computer Science with a minor in Cybersecurity.



Donic is a senior at ODU and majoring in Computer Science. He currently resides in Woodbridge, VA. On his free time, he either read books or plays music instrument.



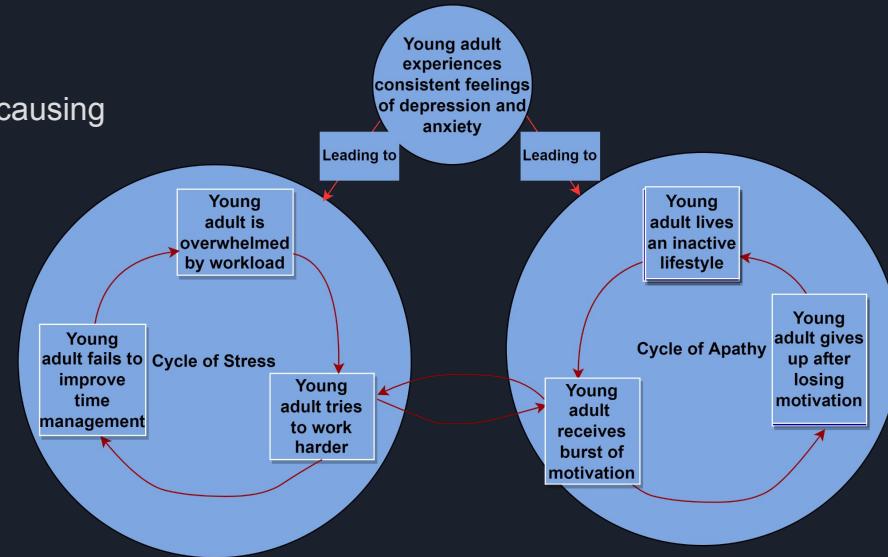
Tessa is a senior at ODU and is majoring in Computer Science. She resides in Stafford, VA and plays video games and reads in her free time.



Freddie is a computer science major with a minor in CyberSecurity. Currently working as a Data Center Engineer.

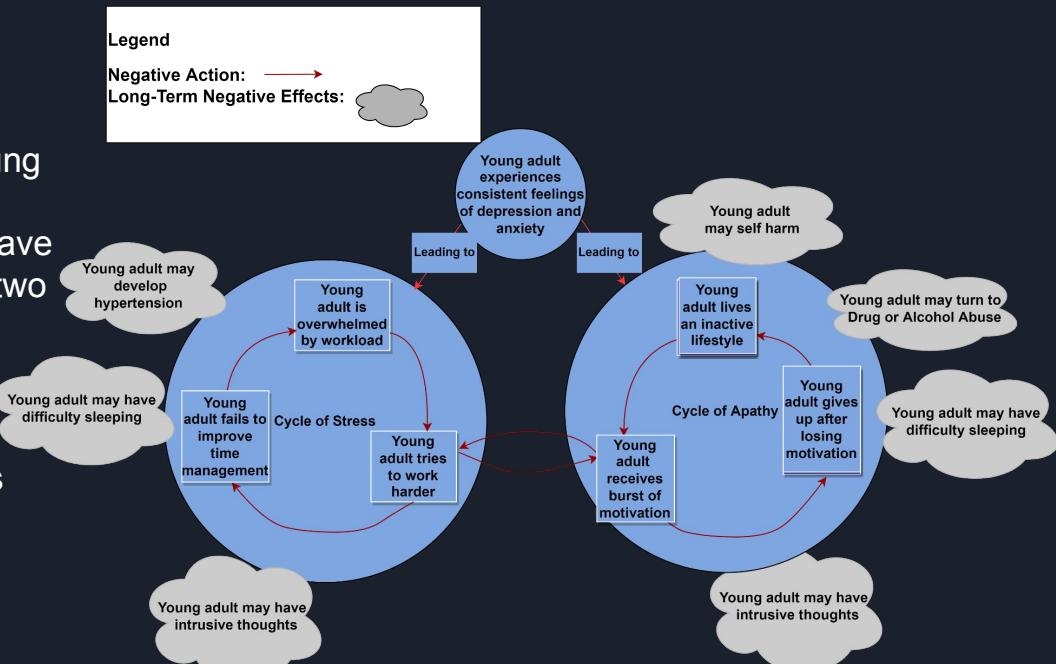
# The Problem

Anxiety and depression can drain the motivation of a young adult, causing them to fail to complete their daily activities, and leading to further demotivation.



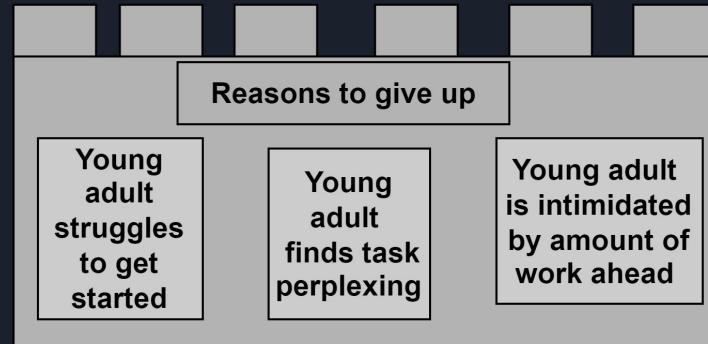
# Background

- A meta-analysis of multiple studies of global mental illness rates among young adults concluded that around 1 in 4 adolescents between ages 10 to 19 have some form of mental illness, with the two most prevalent being anxiety and depression [1].
- Immediate effects of feelings of stress include sleeplessness and difficulty focusing [2].
- If left untreated, these feelings can progress into physical and mental illnesses including hypertension, anxiety, and depression [2][3].

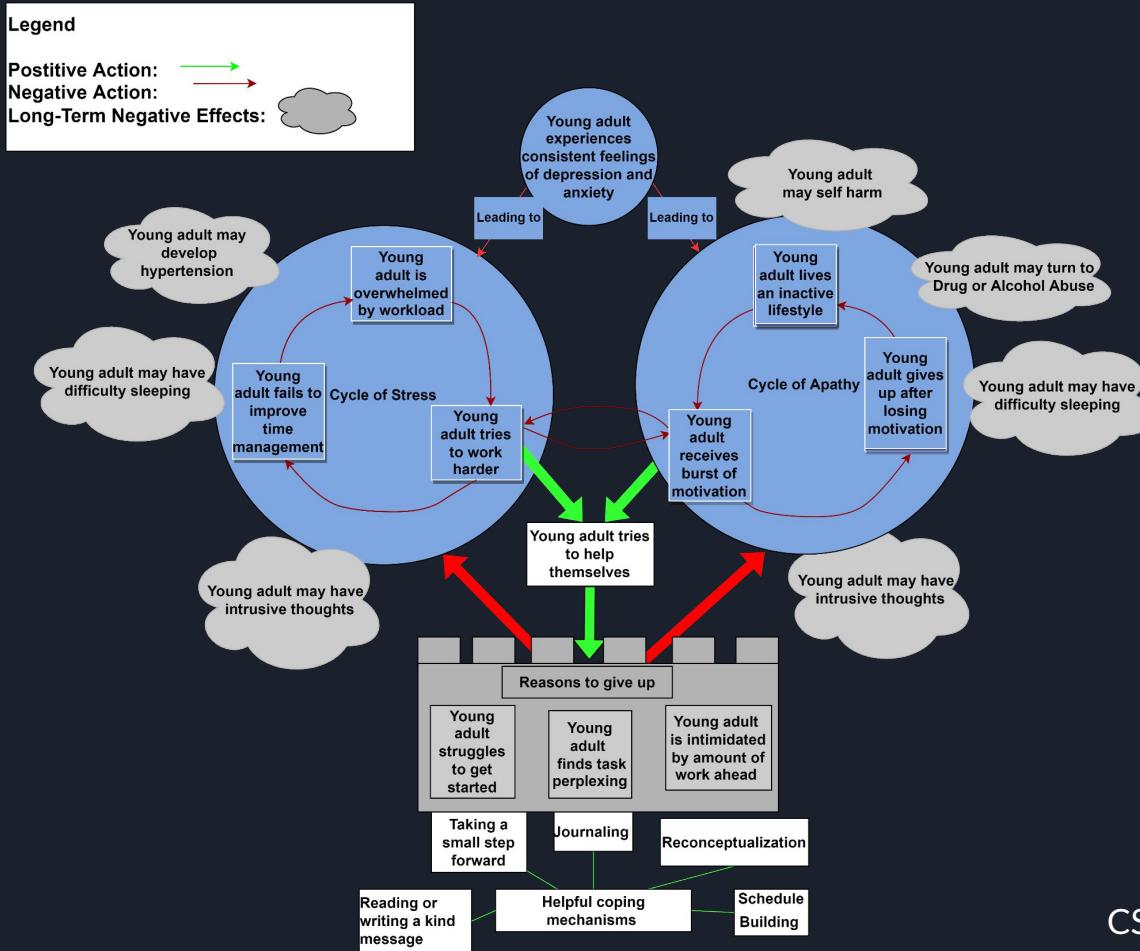


# Problem Characterization

1. Conventional mental health solutions require money and meeting with a professional.
2. Young adults who have busy schedules may struggle to stay organized and complete their necessary daily tasks.
3. For Young adults who struggle to do anything at all, figuring out where to start can be overwhelming.

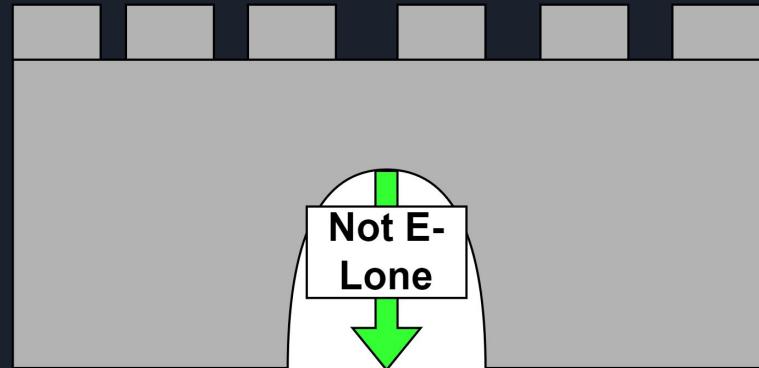


# Current Process Flow



# Solution Statement

The *Not E-Lone* app will provide a helping hand to young adults caught in a cycle of anxiety or depression, by presenting them with a choice between small, easy tasks that the young adults can complete immediately.



# Solution Characteristics

Not E-lone will offer the following activities as part of a game:

- Note-passing
- First Step
- Journaling
- Schedule Building
- Reconceptualization



# Note-passing

- Shifting a young adult's focus towards helping others can help reduce feelings of depression and anxiety [5].
- *Not E-lone* will encourage depressed or anxious young adults to write short, anonymous messages using a pool of words of support to randomly-selected young adults.
- The note-passing feature will also provide instant motivation to young adults by sending them messages of support throughout the day.

Improve  
young adult's  
mood

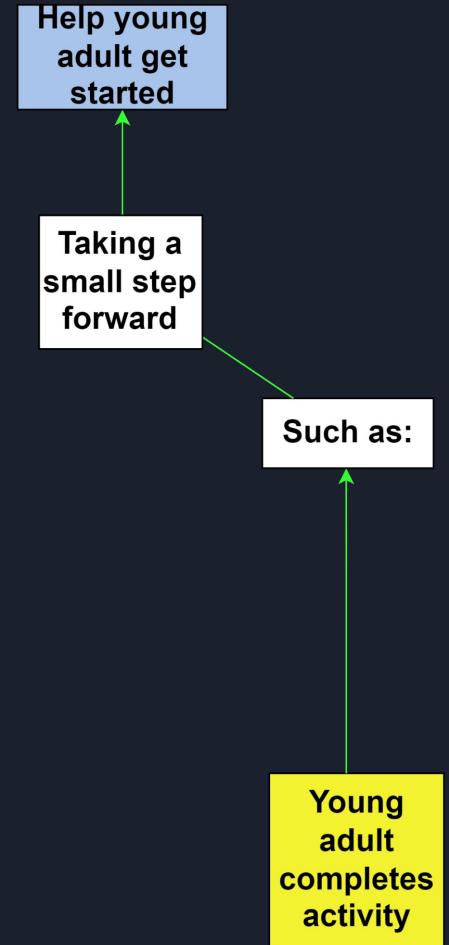
Reading  
or writing  
a kind  
message

Such as:

Young  
adult  
completes  
activity

# First Step

- *Not E-lone's* First Step feature will help young adults struggling to complete their daily activities.
- Step-by-step templates for large problems will be provided to the young adult, helping them isolate and focus on completing one step at a time.
- The young adult will see a list of the tasks they have completed at the end of the day and feel a sense of accomplishment.
- *Not E-lone* can use the information to help generate suggestions in the young adult's schedule.



# Journaling

- Not *E-lone's* journaling activity will incentivize self-expression, a common therapeutic technique shown to ease feelings of anxiety and depression [6].

Help young adult deal with their emotions

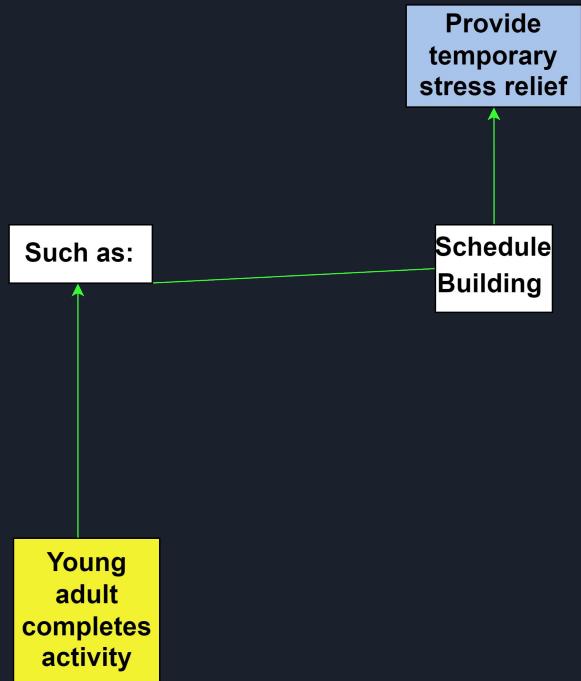
Journaling

Such as:

Young adult completes activity

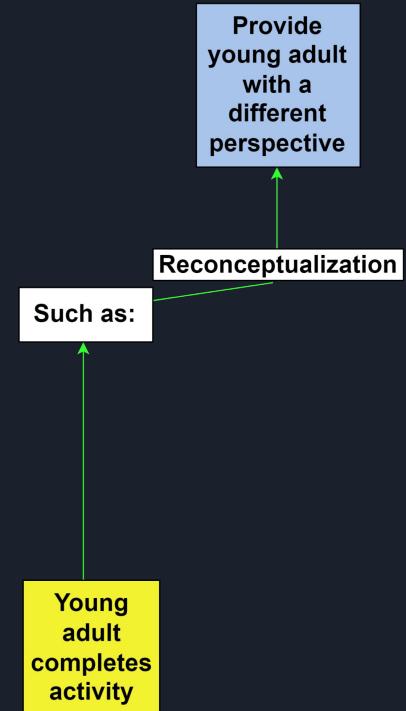
# Schedule Building

- Not E-lone will streamline task management by providing those individuals with a quick schedule-builder.
- Focusing on completing a goal can sometimes increase a young adult's stress levels and reduce their ability to focus on that goal [7].
- Organizing a list of tasks can help relieve that stress by shifting the young adult's focus towards creating a plan to complete the overall goal, instead of thinking about how the tasks are unfinished [7].



# Reconceptualization

- Reconceptualization involves presenting a person with a different way of thinking, and is another tool used by therapists to treat their clients [8].
- *Not E-lone* will provide young adults with parables and analysis from different schools of thought.



# Gameplay

Not E-lone will present each activity as part of a game, with a system of challenges and rewards for completing each activity. This system will help attract young adults who would normally find these activities unappealing, as well as give them a reason to practice each activity on a regular basis.

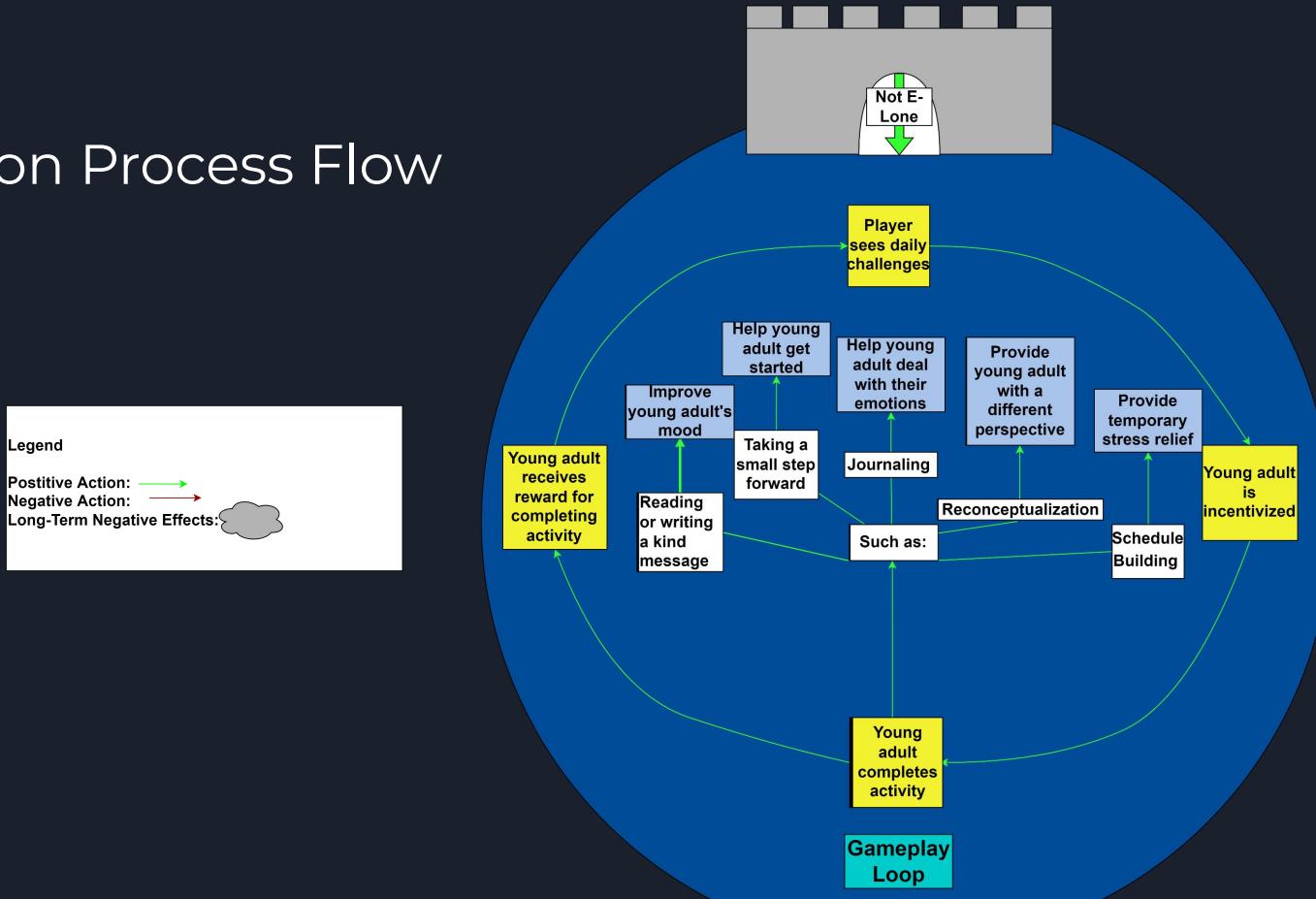


# What Not E-lone Will Not Do:

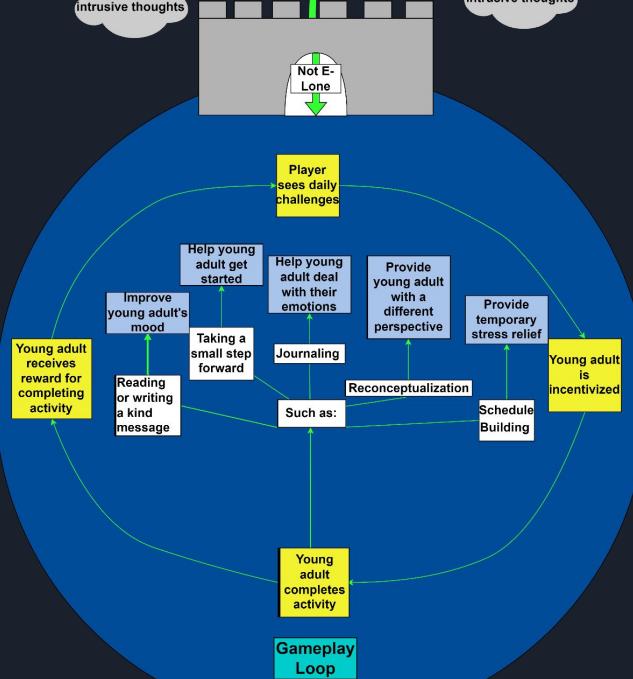
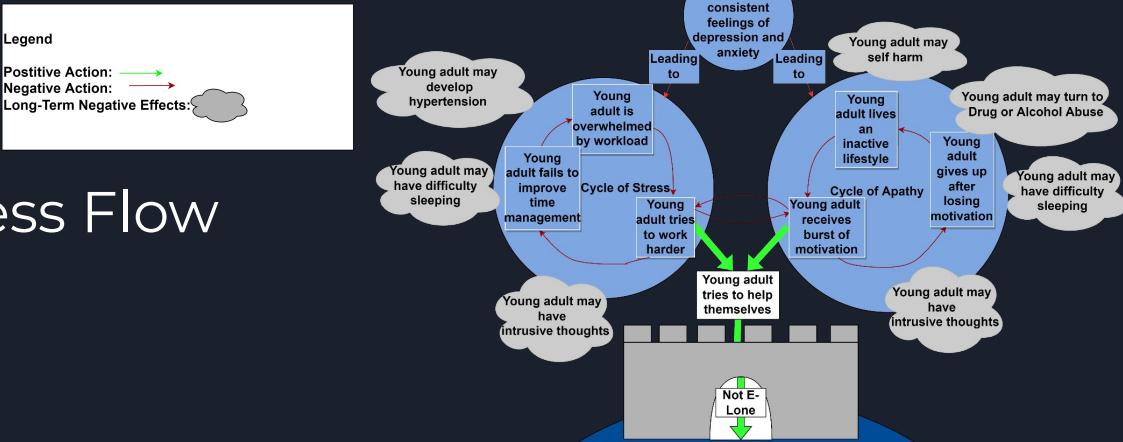
- Not E-lone will not serve as a replacement for professional psychological help.
- Not E-lone will not provide emergency services.
- Not E-lone will collect information without consent.



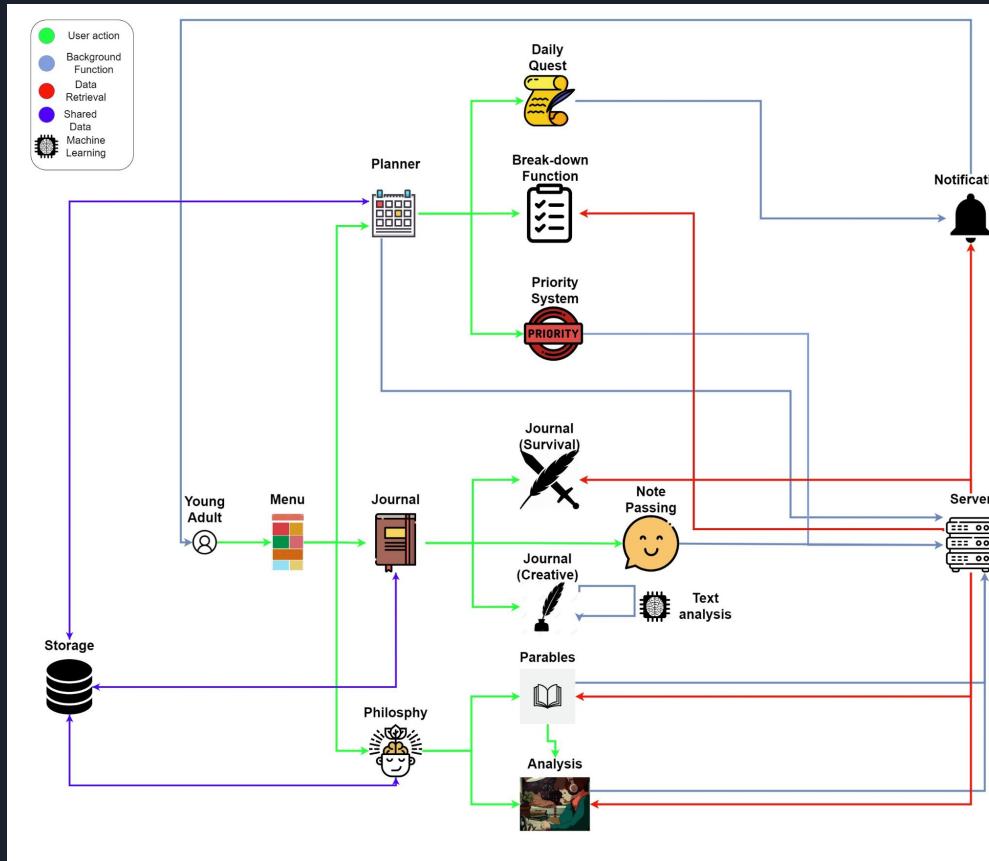
# Solution Process Flow



# Solution Process Flow

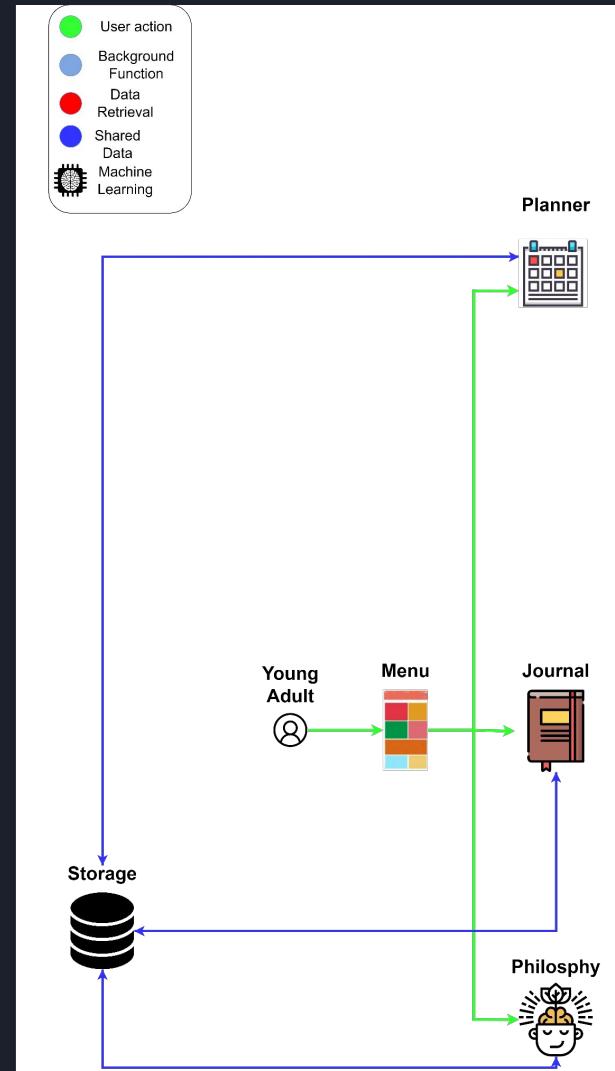


# Major Functional Component Diagram



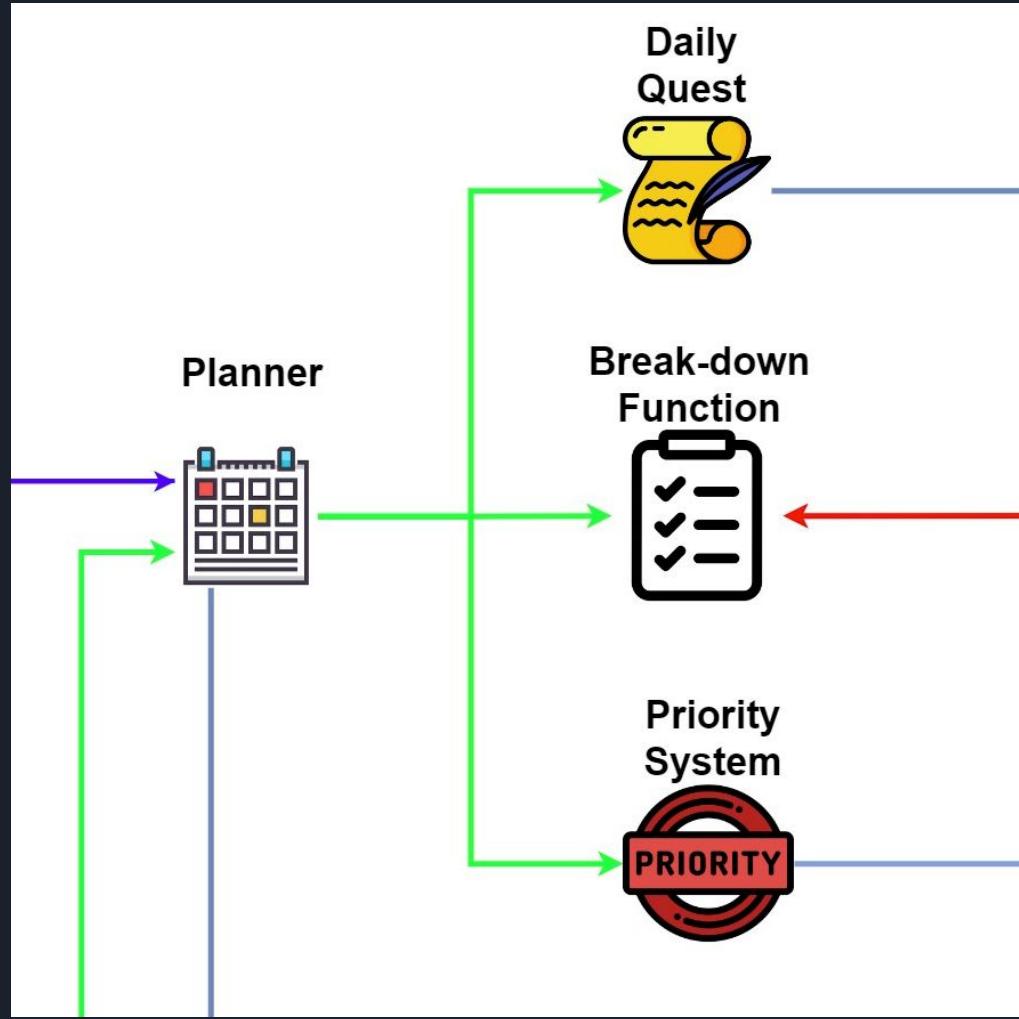
# Core Functions

- 3 Options from the Menu
- All functions share data for individualized Experience
- All of it will be presented in a game-like format



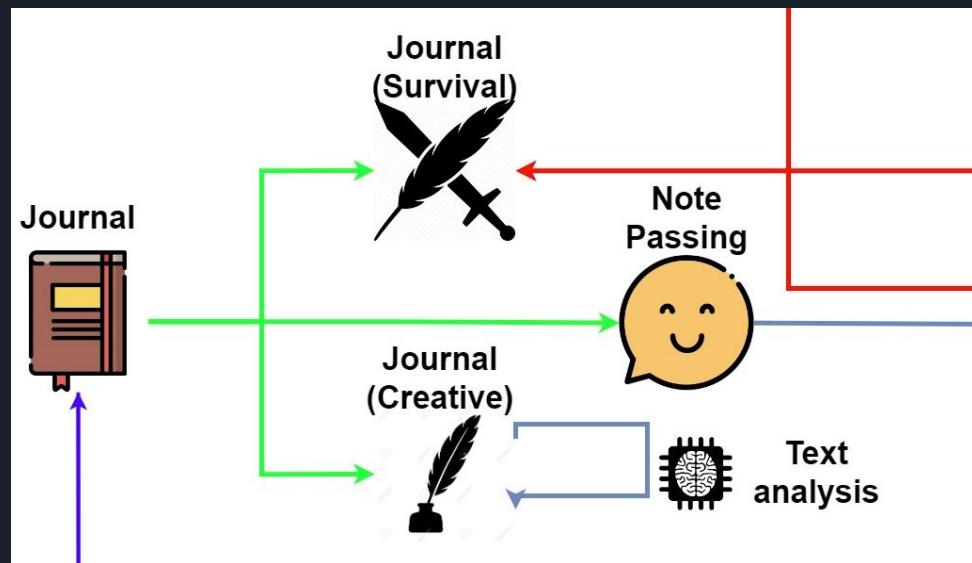
# The Planner

- Planner is a teacher, not a tool
- *Daily Quest* encourages a random task
- *Break Down Function* assists with multi-step problems
- Priority System dominates visuals



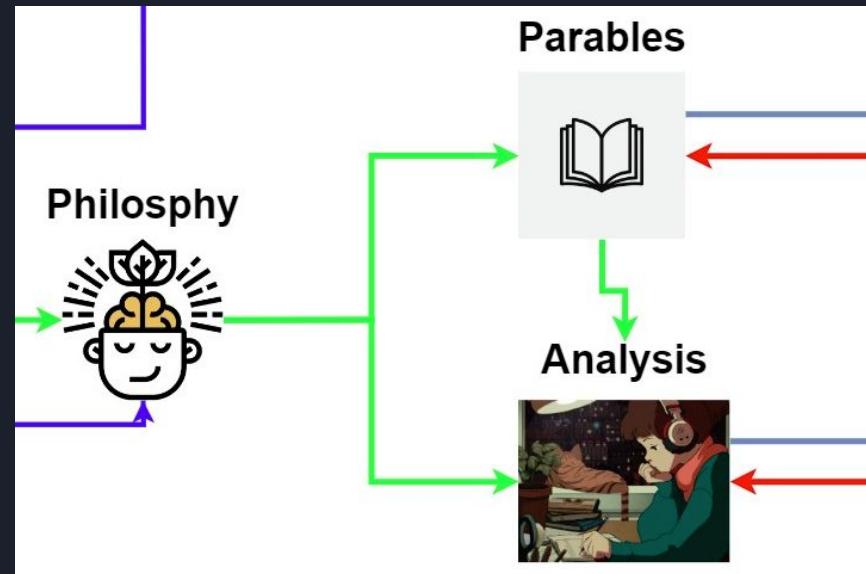
# Journal

- Journal's main goal is to encourage Free writing
- *Survival mode* gives a random Prompt
- *Creative mode* will analyze text for future use
- *Note Passing* for random acts of kindness



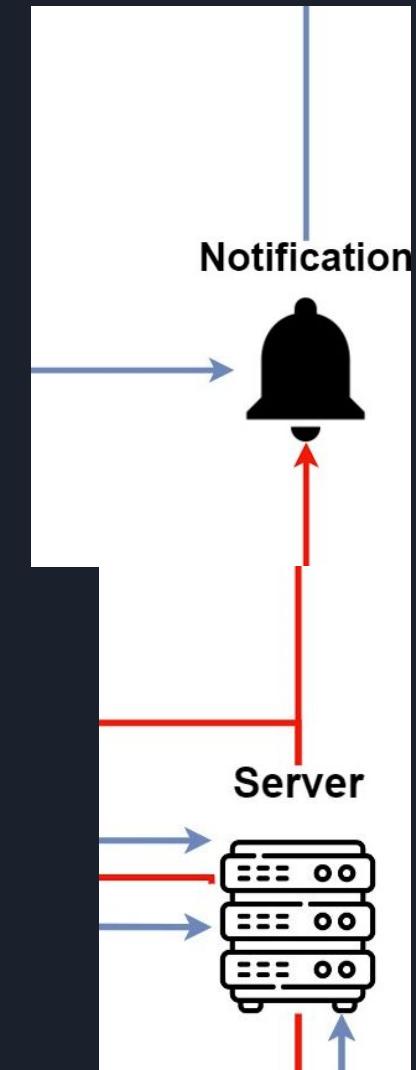
# Philosophy

- *Parables* offer short stories with Associated philosophy themes
- *Analysis* allows for further exploration in specific branches of philosophy

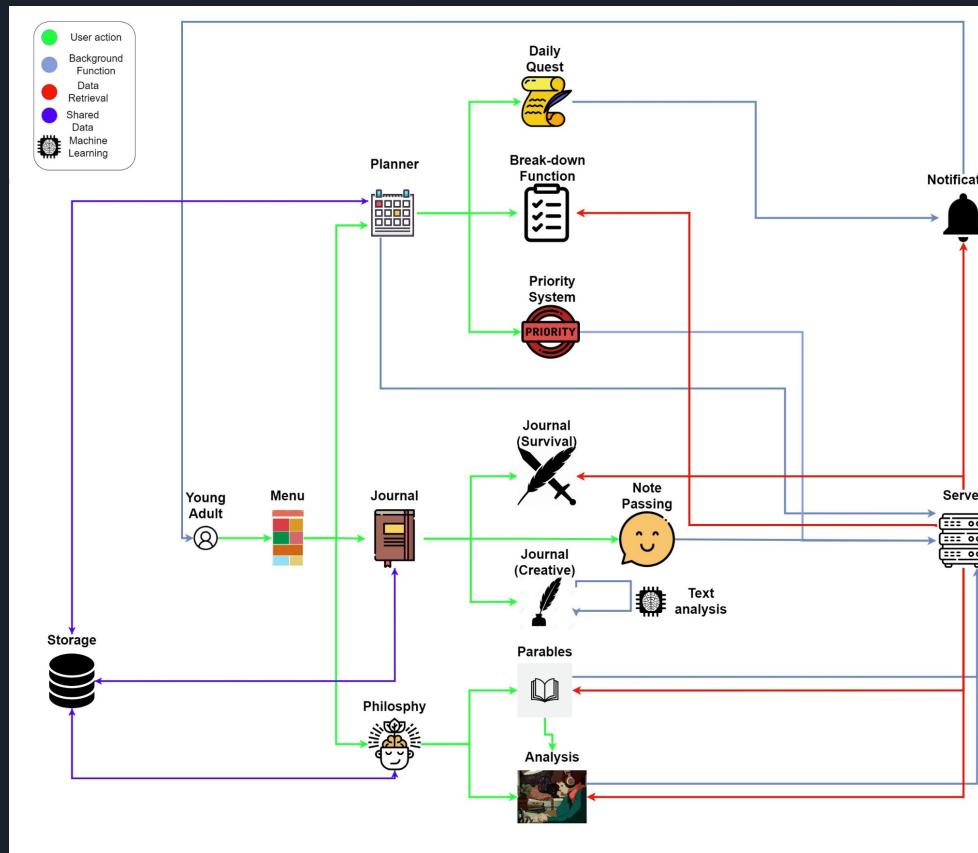


# Server and Notifications

- The server will restrain from holding onto personal information
- Main use is for notifications or to retrieve data
- Possible Uses to share planning templates or questionnaires to improve machine learning capabilities



# Major Functional Component Diagram



# Risk Matrix (Pre-Mitigation)

Risk Matrix		Impact				
		Very Low	Low	Medium	High	Very High
Likelihood	Very High					
	High			CR3	CR2	
	Medium			TR2, TR3	CR1	
	Low	TR1				CR4
	Very Low					

## Consumer Risks:

- CR1: Consumers feel the application set up is too complex
- CR2: Consumers become less motivated to keep software in use
- CR3: Application doesn't encourage consumers enough to maintain entire routine
- CR4: Inspirational message function is used to maliciously

## Technical Risks:

- TR1: Consumer doesn't possess technical skills needed to operate the app
- TR2: Auto generated scheduling algorithm ignores some consumer preferences
- TR3: Quests and Goals may add to stress instead of relieving it

# Risk Matrix (Post-Mitigation)

Risk Matrix		Impact				
		Very Low	Low	Medium	High	Very High
Likelihood	Very High					
	High					
	Medium					
	Low		CR1, TR3	CR3	CR2	
	Very Low	TR1		TR2		CR4

## Consumer Risks:

- CR1: Application will provide an option for “generic” preferences that allow consumers to bypass detailed schedule customization
- CR2: Push notifications and game “rewards” offered to consumer if they repeatedly use the application
- CR3: Application rewards users for each consecutively completed tasks, and penalizes consumer’s game progress if a task is missed
- CR4: Have messages be selected from a pool of approved words

## Technical Risks:

- TR1: Application will provide a full tutorial on how to properly set up the application
- TR2: Ensure algorithm re-evaluates all preferences before posting consumer schedule
- TR3: Users can earn a “pass on this quest” voucher, allowing them to take a break when needed

# Competition Matrix

	Not E-lone	Superbetter	Habitica	Habitify	Fabulous	HabitBull
Targeted towards people experiencing feelings of depression and anxiety						
Uses game mechanics such as challenges and rewards for completing activities						
Encourages people to write uplifting messages to one another						
Offers stories to help give the person a new perspective						
Promotes self-expression through journaling						
Provides a way to help the person focus on a single task						
Sends motivational quotes to person						
Tracks progress, habits, and goals through a schedule						
Uses reminders						



: Competitor has a feature



: Competitor lacks a feature



# As an Administrator...

- I need to be able to create and delete individual user account
- I need to be able to access individual user accounts so that I can manually view and update user information
- I need to be able to enforce website policies to ensure that any offensive content or users are removed
- I need to ensure that all personal information is protected by encrypting all user data.



# As a young adult experiencing feelings of depression and anxiety...

- I would like to be able to build a schedule to help get started on my daily tasks.
- I would like to have a schedule built for me to make it easier to build a schedule.
- I would like have a template to more easily build a schedule.
- I would like to see what schedules have worked for others
- I would like to be able to share what has worked for myself
- I would like to receive messages of kindness to improve my mood.
- I would like to be able to write messages of kindness to improve my mood.
- I would like to be able to read stories to gain a new perspective to help cope with my feelings.
- I would like write a journal entry to better deal with my feelings.
- I would like receive advice based on my feelings.
- I would like the advice I receive to be grammatically correct.
- I would like the messages of kindness to not be able to be abused.



# As a data analyst...

- I would like to be able to collect information about how the people using our system are feeling to determine who to send what advice to
- I would like to be able to collect information about how the people using our system are scheduling their day in order to identify common daily activities to build recommendation and templates for them
- I would like to be able to collect information about how the people using our system are feeling to determine who to send which messages to
- I would like to be able to collect information about what features retain users the most

# References

- [1] S. A. Silva, S. U. Silva, D. B. Ronca, V. S. S. Gonçalves, E. S. Dutra, and K. M. B. Carvalho, "Common mental disorders prevalence in adolescents: A systematic review and meta-analyses," *PLOS ONE*, 23-Apr-2020. [Online]. Available: <https://journals.plos.org/plosone/article?id=10.1371%2Fjournal.pone.0232007#pone.0232007.ref010>. [Accessed: 22-Sep-2022].
- [2] "How to help children and teens manage their stress," *American Psychological Association*. [Online]. Available: <https://www.apa.org/topics/child-development/stress#:~:text=Prolonged%20stress%20can%20cause%20high,becoming%20more%20common%20in%20youth>. [Accessed: 22-Sep-2022].
- [3] "I'm so stressed out! fact sheet," *National Institute of Mental Health*. [Online]. Available: <https://www.nimh.nih.gov/health/publications/so-stressed-out-fact-sheet#pub3>. [Accessed: 22-Sep-2022].
- [4] Beck, Arne, et al. "Severity of Depression and Magnitude of Productivity Loss." *Annals of Family Medicine*, American Academy of Family Physicians, 2011, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3133577/>.
- [5] T. M. Erickson, M. T. Granillo, J. Crocker, J. L. Abelson, H. E. Reas, and C. M. Quach, "Compassionate and self-image goals as interpersonal maintenance factors in clinical depression and anxiety," *Journal of Clinical Psychology*, vol. 74, no. 4, pp. 608–625, 2017.
- [6] K. M. Chan and K. Horneffer, "Emotional expression and psychological symptoms: A comparison of writing and drawing," *The Arts in Psychotherapy*, vol. 33, no. 1, pp. 26–36, 2006.
- [7] E. J. Masicampo and R. F. Baumeister, "Consider it done! plan making can eliminate the cognitive effects of unfulfilled goals.,," *Journal of Personality and Social Psychology*, vol. 101, no. 4, pp. 667–683, 2011.
- [8] R. J. Gatchel and K. H. Rollings, "Evidence-informed management of chronic low back pain with cognitive behavioral therapy," *The spine journal : official journal of the North American Spine Society*, 2008. [Online]. Available: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3237294/>. [Accessed: 30-Sep-2022].



# Glossary/Appendix