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Milestone 1: Team Project Proposal and Description

### CEN 4010 Principles of Software Engineering

### Summer 2023

*Team Name - Task Mates*

*Project Name - Task Buddy*

*Team Number - 18*

Names of students

(team lead first) and emails:

[Sofia Torres](mailto:sofiatorres2022@fau.edu)

[Mia Marte](mailto:mmart2020@fau.edu)

[Hunter Padilla](mailto:hpadilla2020@fau.edu)

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To be submitted on 6/20/23

\*History table can be provided upon request

# **Executive Summary → *LEANDRO***

A short description of the final project and its key advantages, novelty, and values, up to 1 page. Make it an executive summary -- think of answering the question of why you develop this project and target at what market sectors. Assign a product name to your project. This executive summary should be readable to a general audience who is not a computer science specialist. The executive summary is also used to advertise and promote your project.

Our project will be the creation of a Web Application called TaskBuddy. Our revolutionary app will be designed to help you stay organized, track your habits, and accomplish your goals, all while nurturing a virtual pet. Your pet will serve as your digital companion, assisting you in managing your daily habits and to-do lists efficiently by keeping you responsible for the pet’s health.

The app provides a comprehensive dashboard where you can easily set reminders, prioritize tasks, and track your progress. Each time you complete a task you earn points or coins that are used to sustain and care for your adorable virtual companion. By nurturing your pet, you develop a sense of responsibility and attachment, further fueling your motivation to stay productive and achieve your goals. The coins you earn will not dictate directly the state of your pet, but rather they are used to buy necessities for them, adding an element of fun and engagement to your productivity journey.

With each level up, you gain the ability to design your pet's home, creating a personalized sanctuary for your virtual friend. This creative outlet provides a sense of achievement and allows you to express your individuality as you continue to thrive in your daily life. We will also add a community feature that allows you to connect with friends, view their pets, and view their worlds, further enhancing the overall experience. This feature enables you to add friends within the app, you can see how your friends are nurturing their companions, what level they've reached, and the tasks they've completed. This feature also creates a sense of camaraderie and encourages healthy competition, inspiring everyone to stay productive and motivated.You will also be able to participate in challenges with your friends, such as who can achieve the longest streak of completed tasks or the highest number of coins earned in a week. This app harnesses the power of Technology to enhance our productivity and motivate ourselves through the caring of a digital pet and healthy competition with other users.

# **2 Competitive analysis → *HUNTER***

Analyzing competitive products available today. Present competitors’ features vs. your planned ones. First, create a table with key features of competitors vs. yours. Only at a very high level, 5-6 entries max. After the table, you must summarize what are the planned advantages or competitive relationship to what is already available.

# **3 Data definition → Dom**

*This section serves as the “dictionary” of your document. It defines main terms, data structures and “items” or “entities” at high or logical (not implementation) level (e.g. name, meaning, usage, and NOT how the data is stored in memory) so it is easier to refer to them in the document. Focus on key terms (main data elements, actors, types of users etc.) specific for your application and not on general well known terms. These terms and their names must be used consistently from then on in all documents, user interface, in naming software components and database elements etc. In later milestones, you will add more implementation details for each item. You will later expand this section with more details.*

**\*List items subject to change as we progress throughout the project\***

Terms and Entities:

TaskBuddy: The web application being developed, which combines task management, habit tracking, and gamification elements with a virtual pet.

Virtual Pet: A digital companion within TaskBuddy that users nurture by completing tasks and earning points or coins. The virtual pet serves as a source of motivation and responsibility.

Dashboard: The central hub within TaskBuddy where users can set reminders, prioritize tasks, and track their progress. It provides an overview of the user's productivity and serves as a management tool.

Coins: In-app currency earned by completing tasks in TaskBuddy. Coins are used to purchase necessities for the virtual pet and add an element of fun and engagement to the productivity journey.

Level Up: The process of progressing to higher levels within TaskBuddy by earning experience points or achieving specific milestones. Each level unlocks new features and customization options.

Community Feature: A feature within TaskBuddy that allows users to connect with friends, view their pets, and engage in challenges and healthy competition. It promotes camaraderie and inspires productivity.

Challenges: Competitions within TaskBuddy where users can participate in tasks or achievements against their friends or other users. Challenges foster healthy competition and motivate users to achieve their goals.

These terms and entities will be used consistently throughout the application, providing users with a clear understanding of the functionality and features of TaskBuddy.

# **4 Overview, scenarios and use cases → *SOFIA***

*This section describes the project overview (in much more detail) and likelihood usage scenarios of your product from end users’ perspectives. Focus only on main use cases. Simple text format is OK and preferable – tell us a story about who and how the application is used. Focus on WHAT users do, their skill level, not on HOW the system is implemented. You can expand use cases provided in high level documents in future milestones.*

Project overview:

Likelihood Usage Scenarios:

Sarah - The Achiever:

Sarah is a young professional who wants to excel in her career and personal life. She uses TaskMaster to create a to-do list and prioritize her tasks. With the virtual pet companion by her side, she feels a sense of responsibility to complete her tasks to ensure the well-being of her pet. She sets reminders, schedules her activities, and monitors her progress. As she completes her tasks, her virtual pet thrives and grows, reinforcing her motivation to stay productive.

David - The Habit Builder:

David is determined to establish new habits and break old ones. He utilizes TaskBuddy to set up habit trackers and reminders for activities like exercise, reading, and meditation. The virtual pet companion becomes a visual representation of his progress, rewarding him with achievements and unlocking new features as he consistently practices his habits. David feels a sense of accomplishment and is motivated to maintain his streaks.

Emily - The Organizer:

Emily is a busy mom managing her household, work, and social commitments. TaskBuddy becomes her go-to tool for keeping everything organized. She uses it to create shopping lists, plan meals, schedule appointments, and manage family events. The virtual pet companion adds an element of fun for her children, who help take care of the pet by completing their own tasks. Emily feels more in control and less overwhelmed, knowing that she has a reliable system to manage her responsibilities.

Alex - The Procrastinator :

Alex often struggles with procrastination and finds it challenging to stay focused. TaskBuddy becomes his accountability partner. He breaks down his tasks into smaller, manageable steps and sets timers to work in focused intervals. As he completes each task, his virtual pet rewards him with virtual treats and unlocks mini-games for short breaks. Alex feels a sense of achievement, and the gamification aspect keeps him engaged and motivated to conquer his procrastination tendencies.

In all these scenarios, the end users - Sarah, David, Emily, and Alex - have varying levels of experience and skill when it comes to productivity and habit-building. TaskBuddy simplifies the process by providing a visually appealing interface, intuitive task management features, and the added motivation of a virtual pet companion. The users focus on defining their goals, organizing their tasks, and tracking their progress, while TaskBuddy handles the backend complexities to ensure a smooth and enjoyable user experience.

Usecase:

# **5 Initial list of high-level functional requirements → *HUNTER***

This refers to the high-level functionality that you plan to develop to the best of your knowledge at this point. Focus on WHAT and not HOW. Keep the users in mind. Develop these functions to be consistent with use cases and requirements above. Number each requirement and use these numbers consistently from now on. For each functionality use 1-5 line descriptions.

# **6 List of non-functional requirements → *MIA-*** Some of our non-functional requirements are:

# **Usability:**

# The web-app should have an user-friendly interface.

# It should also provide instructions that are clear, and error messages to help users.

# Should be accessible with different browsers, and devices.

* **Performance:**
* By adding a fast load speed, we can minimize user wait time.
* The app should handle concurrent user interactions efficiently.
* Actions like adding or updating tasks should have minimal response time.
* **Security:**
* We should use secure authentication mechanisms, such as password hashing and encryption.
* The app should protect user data and prevent unauthorized access or data breaches.
* The app should implement measures to prevent cross-site scripting and SQL injection attacks.
* **Reliability:**
* The web-app should be available and accessible to users with a high uptime percentage.
* The app should handle errors gracefully, providing informative error messages.
* **Scalability:**
* The app should be able to handle a growing number of users and tasks without significant performance degradation.
* The app should efficiently manage database connections and handle increasing amounts of data.
* **Compatibility:**
* The web-app should be compatible with different operating systems, including Windows, macOS, and Linux.
* The app should support major web browsers such as Chrome, Firefox, Safari, and Edge.
* The app should adapt to various screen sizes, including desktop, tablet, and mobile devices.
* **Maintainability:**
* The codebase should be well-structured, modular, and stick to industry-standard coding practices.
* The app should have proper documentation, including a user manual and developer documentation.
* The app should be easily upgradable, allowing for the addition of new features or enhancements.
* **Privacy:**
* The app should provide options for users to control their privacy settings, including data sharing and visibility of tasks.
* The app should have a clear and comprehensive privacy policy explaining the collection and usage of user data.

# **7 High-level system architecture → *MIA***

These are our high-level system architecture for our web-app.

* Our main software products are:
* Jira
* GitHub
* VSCode
* Figma
* Software tools:
* She Codes Coding Tools
* Favicon Generator
* Languages:
* HTML 5
* CSS
* Javascript
* Bootstrap
* JQuery
* SQL
* APIs
* Google Calendar API
* Supported browsers:
* Google Chrome, Microsoft Edge, FireFox and Apple’s Safari.

For our framework we have decided on using

You also have to decide on which frameworks you will use if any. These provide both user interface, as well as cross-platform and cross browser layout/css. All external code you plan to use must be listed along with their license.

# **8 Team → *LEANDRO***

*List student group names, name of Scrum master, product owner and initial roles for each member*

* Group Members: Mia Marte, Leandro Alfonso, Hunter Padilla, Sofia Torres, Dominique Nelson
* Product Owner: Sofia
* Scrum Master: Leandro
* Initial Roles:
  + Front-end: Mia Marte, Sofia Torres
  + Back-end: Hunter Padilla, Dominique Nelson, Leandro Alfonso
  + API: Hunter Padilla
  + Team Lead - Sofia Torres
  + GitHub Master/ Scrum Master - Leandro Alfonso

# **9 Checklist → *LEANDRO***

For each item below you must answer with only one of the following: DONE, ON TRACK (meaning it will be done on time, and no issues perceived) or ISSUE (you have some problems, and then define what is the problem with 1-3 lines). Reflect these items in your Trello project space:

* ~~Team decided on basic means of communications → DONE~~
* ~~Team found a time slot to meet outside of the class → DONE~~
* ~~Front and back end team leads chosen → DONE (mia & hunter)~~
* ~~Github master chosen → DONE~~
* ~~Team ready and able to use the chosen back and front-end frameworks →DONE~~
* ~~Skills of each team member defined and known to all → DONE~~
* Team lead ensured that all team members read the final M1 and agree/understand it before submission → ON TRACK

# **10 Tasks before submission → Dom**

Teams must collaborate in creating M1 documents by having working M1 documents on their team GitHub repository (similar to managing code) so all team members can access it. Added advantage of doing it this way is that it builds teamwork and communication. We recommend having a folder for project documentation on team’s GitHub where milestones and other similar files can be kept.

# **11 Submission → *SOFIA***

Each team submits **one** single word document with all the above required sections to Canvas by the due date. Must have a title page to your document, including:

* 1. Course Title and term: CEN 4010 Principles of Software Engineering,

Semester and Year

* 1. Document name: Milestone 1 Project Proposal and High-level description
  2. Your team name, and project name (you can use the name you chose for your team)
  3. Team number (I will assign you one)
  4. Names of students (team lead first) with names and emails
  5. Documentation Date
  6. History table (revisions dates) (Note: you will update this document based on instructors’ feedback so this is important)

# **12 Grading criteria**

Your document needs to be well-written, well-organized (formatted) and reads well. Grading is based on cohesiveness and completeness.

1. Executive Summary 10 points
2. Competitive analysis 10 points
3. Data definition 10 points
4. Overview, scenarios and use cases 10 points
5. Initial list of high-level functional requirements 10 points
6. List of non-functional requirements 10 points
7. High-level system architecture 10 points
8. Team and checklist 10 points
9. Working with GitHub 10 points
10. Deliverable 10 points