Proposal

PMtoGo

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**ISSUED BY**

Team Algorithmic Alchemist

<https://github.com/abhay772/AA_Senior_Project>

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**Introduction**

Most property management software provides property owners, managers, and landlords the foundation to keep track of their finances and business needs. These applications are tailored toward the residential bookkeeping and tenant management side of a property. However, what these applications lack, and overlook is arguably the most important factor of property management, the physical property.

Property management software mainly focuses on the accounting aspect of a business rather than the property itself. However, property value and appearance need to be maintained, restored, and preserved. Algorithmic Alchemist proposes a web application that will allow the common property owners and commercial property managers to manage maintenance services, and renovation projects(upgrades), assist in scheduling and budgeting and provide generic property value estimations and schedule appraisals. On the other hand, maintenance and property services companies will be able to incorporate and utilize this application to provide their customers with a tool to oversee and manage their services with that company such as canceling or requesting additional work to be done to their property.

# **Problem Scope**

## What is the problem we want to fix?

Property managers and owners lack a foundation to effectively manage and improve their property appearance and value. Software for property management today focuses on residential businesses, bookkeeping, and connecting maintenance companies with property managers. For instance, the top property manager application, Buildium allows its users to keep track of rental payments, vacancies, and accounting (*Buildium*). However, you need to attract and retain tenants first and foremost. For instance, Hales Property Managements published an article titled “8 ways to make your rental property more appealing to prospective tenants” in 2021 with each listing pertaining to the property’s appearance and upkeep. On the other hand, Angie’s, an application that connects property managers to pros in their area, allows consumers to keep track of their open projects and compare quotes(*How does Angi Work*). However, Property Manager to Go will allow for the common property owner and property managers to keep track of their properties, maintenance services, and renovation projects, manage and assist in the scheduling of services, and provide quick estimates for property value. The appearance and value of a property are equally as important for reasons such as tenant attraction and retention, in addition to simply wanting a well-maintained home. What the industry lacks is a one-stop-shop application for property owner's to efficiently and thoroughly manage their property while overseeing their property value change. Thus, Algorithmic Alchemist proposes PMtoGo, a web application to meet these needs and provide a foundation for all property services management one room at a time.

# **Our Product Value**

The value of our product is in providing a foundation that prioritizes increasing property value by organizing all property services management into one platform. Our goal is to provide property management software that will efficiently and thoroughly assist its users, with the elevation of property value as its objective, an overlooked outlook within property management. The software will focus on digitizing and organizing services that property managers use frequently for property upkeep, in addition to organizing business transactions and needs. While providing insight on how the property value changes before and after all transactions and assisting in the scheduling, budgeting, and planning of value-increasing services. Our software provides property managers with one app that manages all their needs rather than property managers utilizing multiple apps. Our software also provides the feature to give services a rating based on performance. This also tells maintenance and property services companies what they can improve on and what they are doing well, improving their overall quality of work. Our software will accommodate each user by recommending service schedule dates and comparing estimates for budgeting. Lastly, our software will help with the planning of future services by providing the change in property value for mere service inquiries and after-service completion.

# Project Scope

## **Target Audience**

The target audience for PMtoGO will include homeowners, landlords, and property managers. These are people who own or currently manage a residential space and need to be connected to specialists in order to maintain and improve upon that space. They will be provided with a range of services they can choose from such as cleaning, repairing, home renovation, and maintenance on residential properties. In addition to budgeting via estimations, scheduling, and planning assistance of these services. The target audience also includes companies and organizations that provide property and maintenance services. They will be provided with a platform to sell and market their services to a wide range of properties and property owners and managers. In addition to receiving feedback on the services they provide and customer service.

## Supported Culture

Currently, our app only supports the en-US language. All transactions through the app will be in the US dollar. The currently supported browser is Chrome version 104.0.5112.79 for Mac/Linux and Chrome version 104.0.5112.79/80/81 for Windows(*Chrome Releases*).

# Product Scope

## Goals

The main focus of the website will be to make the process of maintaining a property easy with a one-stop website. The software would allow the Contractors and Service Providers to upload their information in the form of profiles and manage their requests from property owners and managers. While, the property manager and owner will be able to view these profiles, filter through them, compare, and request services from the service providers. Property managers and owners will also be able to set days and times for these services and rate them after completion or cancellations. The objective is to help the target audience increase their property value while providing a means to help them with budgeting, planning, and prioritization of services while increasing their property value.

## Limitations

* At the initial stage, the product will only be accessible from the web. Which in the future will be available as a **Mobile and Desktop/MacOS app**.
* At the initial deployment, the app will only cover Contractors, Service Providers, and Properties in **California**.
* At the initial deployment, the app will only support US-English.

# Feature Scope

## Feature Descriptions

**Users:** include property owners, commercial property managers, landlords, organizations, and maintenance companies that provide services. Users will be distinguished by those getting service and those providing the service.

* **Service Providers** include organizations and companies that provide any type of property service or maintenance.
* **Property managers** include property owners, commercial property managers, and landlords, those that manage a property.

These two groups of users will have access to different sets of features as shown below:

**Authorization:**

Prior to logging into PMtoGo, all users will have access to a listing of service providers. After logging in all users will have access to user management, user profile, dashboard, and scheduling

* Property Managers would have access to the service manager, property evaluations, maintenance/ renovations, smart save, neighbor volunteer, and DIY manager.
* Service Providers, after they log in, would only have access to request management.

**Features for Property Managers:**

Once a property manager has successfully **logged in** they would each have access to service providers and the following features:

**Property evaluation**

Property evaluation allows the user to request property walk-throughs with local appraisers. Property evaluation will also provide the details of how the value of the property is estimated. This estimation will account for the condition of the interior and exterior of the property including any stains, plumbing problems, or leaks along with the size, bedroom and bath count, and the overall design of the property. Information provided for the property evaluation will be validated by prompting the user to answer questions regarding the state and condition and their property.

* **Estimate:**
  + The estimate will show how refurbishments or remodels on the property will affect its value. The estimate will include the property value.
* **Calendar:** 
  + The calendar will allow users to arrangean appointment to get their property evaluated by a professional.

**Maintenance and renovation**

* Gather maintenance and renovation project details from the user by prompting the user to answer questions regarding each desired service with predetermined answer options, thus validating user input.
* **Compare:**
  + Compare the costs of each maintenance and renovation service to help the user budget and choose the service provider that best fits.
* **Estimate:** 
  + Estimate the cost of maintenance and renovation projects and show how much property value increases or decreases from inquired or completed service. Allow property owners to manually change and input costs when concrete costs are figured out.
* **Smart Saver:**
  + **Price Charts:**
    - This service will have automatic price history charts of raw materials so homeowners know when it is the cheapest to buy materials for their projects. With options to view the past month, 3 months, or year. It will automatically search the web for prices daily by using web scraping on websites like Home Depot, Lowes, and Ace Hardware for prices on standard raw material items like wood, metal, nails, and tools.
    - This service will also have a manually inputted service price chart that property managers will be able to enter the type of service they had already done and the price they paid. That data will be made into a chart to see the average price for services over time so that when the average price goes down they can pay for the service then.

**Service Management:**

* **Service Search:**
  + Users will be able to search for registered service providers.
  + This can be used without logging in.
* **Request Service:** 
  + Request service will allow users to request a range of maintenance services from the service providers such as landscaping, street sweeping, janitorial, steam cleaning, window washing, and repairs. Plus additional property services such as remodeling which will include changing the layout of a room or entire property0 and upgrades/renovations which will include replacing tiles and flooring, fixtures, and appliances.
* **Show Services:** 
  + Show services will allow the user to view services and their status including ongoing, completed, or canceled. Show services will also show the service details for each service such as the days a week service is provided, the hours for each visit, and the cost as uploaded by the service providers.
* **Service Tool:** 
  + The service tool will allow users to request service cancellations or frequency change
  + A cancel request can be automatically completed or require further speculation from the service provider. The user will be updated according to the company's cancellation policy.
  + A frequency change will allow the user to change the frequency of ongoing services such as times a week, bi-weekly, monthly, quarterly, or annually for ongoing maintenance services. The user should also be able to pick the day of the week they want their service done.
* **Service Rating:**
  + Service ratings will allow users to rate their experience with the company and their performance. Service rating will be available during or after a service is completed. The user will be prompted with questions on the service using a Likert scale.
* **Sign Contract:** 
  + Contract signing will allow users to digitally sign and agree to contracts uploaded by service providers.

**Neighborhood Crime Alerts:**

* **Crime Alert Map:**
  + Service will allow users to view a map with a dot marking the location of a crime in the user's neighborhood and when hovering over a dot it will show a text bubble listing the details of the crime.
  + The users will also be able to report crimes that they have witnessed and create a “Crime Notification” to add a new dot to the Crime Alert Map. To report a crime they will be required to enter the location, crime type, crime summary, date, and time. That user that created the notification will be able to edit or delete the notification.
* **Email Notifications:**
  + The users will be able to sign up for email notifications whenever a crime near their house happens. The user will be able to choose the radius in miles of how far away from their home they would like to monitor for crimes.

**DIY Manager:**

* **DIY Post:**
  + Users will be able to post how to do Do-It-Yourself(DIY) tutorials and manually enter how long it should take for each step along with the supplies and cost.
* **DIY Project Manager**
  + Other users will be able to add one or multiple DIY Posts to their Project Manager and then select their free time to work on the projects on a personal calendar. The manager will automatically fill in the steps into the calendar to allow decent time management to finish their projects.
  + The Project Manager will also make a list of all the total supplies and tools needed to complete all of the tasks. The user will see the total price of everything and have a complete shopping list that has a button to print or share through email.

**Features for Service Providers:**

Once a service provider has successfully **logged in** they would each have access to the following features:

**Request Management**

* **View Request:** 
  + View Request will allow users to see any request made by clients such as adding, canceling, or changing the frequency of service.
* **Update Service:**
  + Update service will allow service provider representatives to update any changes to the user services such as the frequency change, cancellation status such as pending or accepted, and service status such as ongoing or finished.
* **Service Rating:**
  + Service Rating will allow users to rate their clients after a service is provided or canceled as difficult or as pleasant and will work with them again.
* **Upload Contract:** 
  + Upload contracts will allow the users to upload established contracts to the website for client viewing.

**Features for All Users:**

Once a user has successfully **logged in** they would each have access to the following features:

**User Management**

Users will have account and profile management features to manage their accounts with features that include:

* **Account Creation/Deletion:** 
  + Users will need to create an account with our service in order to use the application. Should the user decide that they no longer require our application, their account may also be deleted through the account deletion feature.
* **Forgot/Reset Password(recovery):** 
  + Should a user forget their current password or need to reset it, this feature will be available on the login screen of our website and will allow the user to reset their password.

**User Profile**

* **Account History:**
  + History will store past services and projects, this allows service providers and property managers to have access to previous services.
  + Property Managers will see their history of services done by service providers.
  + Service Provider history will include property managers and the services they provided to them.
* **Rates:** 
  + Property Managers will see how they rated past services and the service provider for future service request inquiries. They will also see their accumulated rating given by service providers.
  + Service providers' rate is their accumulated rating out of 4-star ratings from property managers.

**Calendar**

The calendar will show all your upcoming appointments and services and ongoing projects.

Property Managers will be able to

* Scheduling appointments with service providers or contractors or appraisers.
* The calendar will show available dates for scheduling appointments with service providers, contractors, or appraisers.

**Document Storage with Optical Text Search**

* This will allow users to store documents and make them searchable using the Optical Text Search algorithm.
* This also allows users to share documents with other people in a case where the receiving party needs to review, modify, and/or digitally sign them.

**Dashboard**

* A Service Provider’s dashboard will show their upcoming appointments with users sorted by the soonest to latest date.
  + **Appointments Manager:**
    - This will allow service providers to add, delete, or modify appointments.
    - Here they can manually add appointments. Which allows them to manage appointments from non-users.
  + The dashboard will also show the user’s overall user rating
* A Property Manager’s dashboard will be where they can find any updates about their services and upcoming appointments or service days sorted by the soonest to latest date.
  + The dashboard will also include an automated property value estimation and any updates from service providers.
  + These updates include the cancellation, frequency change, service addition request status, and contract upload notifications.

**Logging:**

* Activity Logs:
  + If a user or client uses any of the before-mentioned features, the feature name, time of access, date, and identification will be recorded and logged.
  + Time spent on the website will also be logged for each user along with their navigation patterns between features.
* Errors Logs:
  + Error messages should be saved to the logs.
  + The date and time of the error should be logged.
  + The type of error should be logged.
  + What caused the error should be logged.
* Log Archiving:
  + Once storage is nearing capacity, the oldest data in the system will automatically start to be offloaded to create space for new data.

# **Competitors**

## Buildium

Buildium is a cloud-based solution for property managers to monitor and maintain their business from wherever they may be (*Buildium Reviews, Demo & Pricing - 2022*). It offers a myriad of features, such as online rent payments and vacancy listing, but important for comparison to our offering, Buildium also allows tenants or employees to submit maintenance requests. These requests can be set as recurring, and vendor payment for maintenance requests can be done through Buildium (*Buildium*).

## DoorLoop

DoorLoop prioritizes providing property owners/managers with analytics, presented in a clear, graphical format. They allow for quick assessment of a property’s success anywhere, anytime. DoorLoop offers a space for tenants to submit maintenance requests as well (*DoorLoop Reviews, Demo & Pricing - 2022*). The property manager, or their staff, must still arrange for a vendor to address the request, but DoorLoop makes it easy for tenants to receive updates about their request (*DoorLoop*).

## RentRedi

RentRedi provides property owners/managers with a suite of features designed to make their work easier. They can collect remote rent payments, list properties on popular sites such as Zillow, and vet potential tenants (*RentRedi Reviews, Demo & Pricing - 2022*). For the tenants of a property that utilizes RentRedi, they can schedule rent payments and reminders, as well as make maintenance requests with short videos of the issue from their phones. RentRedi includes an optional feature to automate maintenance requests entirely. Their automated coordinator will allow tenants to select third-party service providers, with a budget set by the property owner, and will send updates to the tenant about their request (*RentRedi*).

**Angie’s list**

Angie formerly known as Angie's list prides itself on connecting consumers with pros and allowing its users to request and compare estimates for a wide range of maintenance services and renovation projects. Users can find various information on contractors in their areas with ratings and reviews, they also have the option of hiring contractors through the website making it a simple and easy process for its users. Angie’s list also offers its members huge discounts when hiring contractors through them. The process goes as follows, you will be able to search for the type of contractor you need and view their ratings and reviews, request a quote, and choose, once you choose a contractor you will be able to book the service you want from them through Angie’s list and after that, you will be able to schedule an appointment.

**Our Vision**

**Evolution of our product:**

In the future, we plan to expand upon the functionality of PMtoGo by including new features such as the following:

* **Project Proposal Generation:** User project information gathered from the user features like property evaluation, user profile, estimates from maintenance and renovation and scheduling will be combined to generate a project proposal for client search.
  + **Project Search:** Service providers and maintenance companies will be able to search through project proposals generated by property owners, landlords, and managers.
* **Value Report:** A value report can be generated for users to see the fluctuates in the value of their property from services that are completed or any damages from the past six months to the present.

In the meantime, our product will provide users with peace of mind and around-the-clock access to the services provided by clients. This product will act as a medium that will expedite the process of getting services like cleaning, repairing, home improvement, and maintenance provided. Our product will also increase response time for the common services changes and requests, all while alleviating and assisting client representatives' workload by redirecting them to the app. For homeowners, landlords, and property managers to get the services they need. For contractors, freelancers, and construction/cleaning/handyman companies to provide those services.

**Contact Us**

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