Homeowner Association and Property Management Application~~Applicaiton~~

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CSC480A Computer Science Capstone Project I

Project Proposal

National University, San Diego, CA

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Contents

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Contents

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1.0   Introduction

Our project is based on the idea of a mobile application that allows its users to submit work requests, such as architectural improvements and maintenance repairs, to Property Management Companies or Homeowners Associations (HOA) for approval. An application like this has several benefits in today's business environment. First, we believe it will expedite the work request process making homeowner's more likely to use the application. Second, we believe it will offer a better way for Property Manager's and HOA's to manage work request and complete tasks. Lastly, we believe that the application could be a platform for contractors to bid on projects or even advertise their services.

> **Commented [BR4]:** You mean property owners? If not how are you going to bring in the property owners?

2.0   Background and the Need for the Project

A key part of Homeowner Associations has been the communication between the members (tenants) with the management/supervisory board. Excluding financial exchange for membership, there exists a need for members to communicate with the HOA to obtain approval for changes to the exterior and interior of their homes. This is traditionally done using phone communication and paper forms that need to be submitted for processing by the HOA. The HOA may also need to communicate policy changes to the HOA members, which is typically done through placing a notification in the members mailbox or taped to their door.

> **Commented [BR5]:** Property owners – I do not think HOA will take any work order from a tenant.

This process is inefficient and error prone, as physical copies can be lost, the member has no record of when their form was sent and the progress of the approval. The HOA must spend time to keep track of all requests and any physical notifications to their members may also be lost. Implementing an application to handle communication between members and managers will provide a digital record that can be tracked by all parties and cannot be lost. It will nearly eliminate the need to maintain and track any physical paperwork and allow all members access to the most current policies.

These issues also apply to the needs Property Managers, communicating to their tenants. Excluding financial exchange for rent, the tenant may need to notify the landlord of issues with the property that need repair or maintenance. This communication is usually done by phone. Once the call has been made there is no record that the tenant can check to ensure that the issue is being resolved. If the Property Manager receives a request, if not immediately recorded, then the request can be forgotten or misunderstood. If there are several requests from several properties, then organizing these requests can become time consuming. Implementing an application to handle these types of communications will provide a digital record that can be referenced by both tenant and Property Managers. This can greatly increase the efficiency with how this communication occurs.

3.0   Project Objectives and Scope

The objective of this Homeowners Association and Property Management application, from the customers perspective, will provide a streamline ability to submit and view work requests. The work requests submitted by tenants (or owners) might include, but are not limited to, changes in yard configuration and upkeep, the maintenance or replacement of light fixtures and outlets, and the repairing or replacement of appliances. The work requests submitted will be reviewed by management/supervisory board for approval. Upon approval, any outsourcing that will require a bidding process can be pursued. Once work requests are approved and a bid has been accepted, a notification of final approval will be provided.

The scope of the Homeowners Association and Property Management (PM) application is relatively straight forward. The application will require the user, tenant, to login to the application. The login will establish the identity of the tenant and there their residence. Once logged in, the user will be able to not only create new work requests but also view there their requests, its status, as well as provide and receive feedback about the job performed. Additionally, the user will be able to cancel theirthere requests at any time during the process. Not only will the HOA/PM application provide tenants with a portal for making requests, but management will also be able to log in to review requests, provide feedback to tenants, assign any third party contractor or on siteon-site maintenance worker, and ultimately approve or deny requests.

BDR – Objectives need to be listed – it will help you to do future sections. My notes clearly indicated that requirement.

 I had noted about the writing issues when I sent it back and it all mostly came back with the same errors. Means no one is really looking at these when MS Word is telling you already that there is an issue.

The application comes across as little too simplistic – for scale and complexity of the project. Suggest you introduce some additional features like status , report, cost estimate, etc.

4.0   Customers and Stakeholders

For the Homeowners Association and Property Management application, the stakeholders of the project are the owners, Home OwnersHomeowners Association or Property management organizations, onsite management/supervisors, maintenance workers and the agile team. Communication will be maintained with homeowners and tenants on issues of concern or type of problems they want to commonly report to the HOA management/Property Management team. In additionaddition, the homeowners and tenants can also tell communicate with the agile team on how to best serve their needs of communication with the maintenance and management groups. The management team will be provided a portal that allows the tracking of work orders and its progress, as well as functionality to provide feedback. Ultimately, we expect the management team to be the end customer and financially support the development of this application. Lastly maintenance workers need to communicate how they would like to interact with the service requests i.e. indicating if a project is in progress versus if it is done and if things like taking images or notes would be useful as well as a billing system. Having these three groups interact with their portion of the system will help us define if there are any overlapping portions between the groups that we as agile developers must account for during planning.

BDR- In this last paragraph, the tenant has disappeared. The writing needs consistency on the actors in this application. See my comments at the end.

(Instructor's Note – All the above four sections are due at the end of the first week – will be a first pass. Can be updated during subsequent submissions).

Commented [BR8]: Is this your team, I assume.

Commented [BR9]: This is good.

5.0   Project Requirements

For each of the major objective above, based on the customer need, list the performance expected from the customer and these will drive the architecture, platform and other design criteria. There may be other performance requirements not related to the objective. Break the requirements as functional (features from customer/owner) and non-functional. Suggest creating a table with list of the objectives from 3.0 above and the expected performance for each one. There could other indirect performance expectations too – e.g. downtime and recover timings; reports, metrics, etc.
Performance expectations also become criteria for testing.
High level use case scenarios
Break down the requirements in to three subsections as shown below.

5.1 Functional Requirements

5.2 Non-Functional Requirements

5.3 High Level Use Case Scenarios

6.0 Project Assumptions and Constraints
List all the project assumptions as you start the project
Constraints could be budget, time, staff, technology, etc.
List any project priorities as a part of this section

7.0 Project Delivery Methods
Clearly state how the customer is expecting the system to be delivered – website, mobile or both
What are requirements from the customer's perspective required on their system to run, if any. This would apply to enterprise systems.

8.0 Project Issues and Risks
List all the items that are obstacles now (issues) and in the future (risks) that would prevent the team from accomplishing their project objectives. Categorize the risks as low, medium and high on their impact to the project to complete.
Also, propose mitigations for the risks.
Simple and effective approach for this is to create a table (see sample below). Add additional columns as needed (e.g. due date) for tracking during implementation

	Issue or Risk Brief Detail	Risk Probability: High, Medium, low	Mitigation Plan	Responsibility	Status: Open, WIP, closed
1					
2					
3					

(Instructor's Note – all above 8 sections are due at the end of second week).

9.0   Evaluation, Selection of Technology and Tools for Project Implementation.
The teams would need to do some research for the appropriate technology and tools for the project. Implementation/development requirements: Software, hardware, network, database, platform, etc. Although the goal is not to do any implementation in this first course, but identification of technology and tools are needed at this stage.

10.   Product Backlog: Prioritized Feature List and Effort Estimates (hrs.)
Breakdown the project main requirements in to prioritized feature list for implementation by the Agile team with estimates for each. This would be the first pass at this stage.

11.0   Initial Architecture Design
This will be the initial design aspect when the team designs the high-level architecture using Object Oriented design principles: students should identify the top-level subsystem and components and how they are interconnected. UML activity and class diagrams, objects, etc.

Include a brief description of why the team chose this approach.

(Instructor's Note – all the above 11 sections are due at the end of 3rd week).

12.0   Agile Team Formation, Responsibilities and Implementation Iterations (schedule).

12.1. Team Responsibilities: Individual team member assignment will be listed per the Agile process requirements. Project Manager/Scrum Master, Architect, coder, tester, etc. In a small team, one might wear more than one hat. But the responsibilities must be clear. Also, the specific times for meeting each day (as required by the Agile team – need to be agreed up at this stage which guarantees everyone's participation and contribution. The project manage/scrum master should be given authority to call upon other as required to help meet the iteration goals.

12.2 Iteration Plan: The team should decide the implementation of the prioritized feature list within the 4 iterations for the rest of the eight weeks with each iteration being 2 weeks.

The team will list here the feature(s) that will be completed and working in each iterations and demonstrable. Again, simply create a table for each iterations.

Part of the last iteration will include a final project presentation during the last session of the class (CSC480C) to the Chair and other School Faculty and submitting a final project documentation as required by the Instructor.

13.0 Conclusion

<mark>Brief summary of this project proposal and the plan to implement it using Agile methodology in iterations/sprints.</mark>

References

Appendix 1 - Proposal Plan Responsibility List

CSC480A Project I - Proposal Plan and Responsibility List

Project Section	Section Title	Author(s)	Reviewer(s)
1	Introduction		
2	Background and Need for the Project		
3	Project Objectives and Scope		
4	Customers and Stakeholders		
5	Project Requirements		
6	Project Assumptions and Constraints		
7	Project Delivery Methods		
8	Project Issues and Risks		
9	Evaluation, Selection of Technology and Tools for Project Implementation		
10	Prioritized Feature List and Estimates		
11	Initial Architecture Design		
12	Agile Team Formation, Responsibilities and Implementation Iterations (Schedule)		
13	Conclusion		

BDR – Why is this not updated to the sections completed – I covered this also as required. Needs to be updated in the next submission.

Appendix X

Attachments, if any.

List of Abbreviations

Definitions

(Instructor's Note – the full document is due at the end of 4 weeks).

Instructor's Comments on Wk1 Submission.

1. I think this would a simple but an interesting project if the actors are well defined. As noted above, there is some inconsistencies.

2.Writing is not up to par due to the issue pointed out even I sent out the first document back and most of the same errors came back. Looks like no reviews were done within this team. The Appendix 1 needs to be completed for the next submission. Active roles from the leaders and the team members to submit high quality document should eliminate several issues noted here.

3. . The document is not per APA format – which double spaced and Times New Roman 11 or 12 font. Your next submission should reflect APA format and will discuss it in the next session.

4. Overall Grade ➔ S