Dani

**Activity Diagrams**

Customer Operations  
The following activity diagrams detail various Customer interactions and their progression within the resort such as purchasing goods and services, reserving rooms, and utilizing amenities. Customer requests that require approval or authorization are transferred to the appropriate resort Employee who can complete the transaction.

Materials

The following activity diagrams detail the progressive steps of managing the resort inventory, processing orders, creating and managing items, and vendor management. The diagrams highlight the information exchange between the user’s initial action to the final step of updating the inventory.

Personnel Management

The following activity diagrams detail the flow of management and employee operations including customer refunds, supply orders, distributing incoming packages and employee scheduling. Any employee requests are saved as “pending” and are then transferred to management for approval.

**Sequence Diagrams**

The sequence diagrams illustrate all available paths following a user’s initial action. Each diagram represents a resort entity and specifies the actions available and the communication that occurs within the program. All expected results of a requested action, including errors, are shown in the sequence they would occur.

## Food Operations

The following diagrams outline all the possible workflows initialized by action within food operations.

## Supply Operations

The following diagrams outline all the possible workflows initialized by supply orders and inventory updates.

## Facility Operations

The following diagrams outline all the possible workflows initialized by manufacturing and maintenance requests.

## Guest Operations

The following diagrams outline all the possible workflows within Guest and Member operations.

## Personnel Management

The following diagrams outline all the possible workflows relating to employee schedule management and employee role operations.

## Event Operations

The following diagrams outline all the possible workflows relating to event logistics.

## Service and Appointment

The following diagrams outline all the possible workflows within resort services, this includes valet, dependent care, and resort shuttles.

## Product Operations

The following diagrams outline all the possible workflows within the resort shops.

**Data Flow Structures**

There are no data flow diagrams and the structures are listed in the class diagrams.

**Class Diagrams**

The following class diagrams provide a detailed description of the program’s components by indicating where data and functionality reside. The operations listed in each class describe the interactions among the entities and illustrate how data is transferred from the database to the user interface . From the diagrams, we can pinpoint similar behaviors improving consistency and efficiency during coding.

Eric

ER Diagram

Interfaces

Automation

Data Dictionary

Wes

Use Case Diagrams - Done

User Stories - Done

Use Case Narratives -Done

Craig

Systems Requirements

Tools & Language

Timeline

Eric Bostwick

**Data Layer**

## **ER Diagram**

The ER Diagram shows a graphical depiction of our data model and the relationships between the entities. This gives a quick overview of the entire model in one view. This allows for seeing where relationships are missing or should be changed. As of now there are 48 entities defined. More will be added as the needed.

## **Data Dictionary**

The Data Dictionary shows the details of all the entities in the data layer for the purposes of our programmers and others who need to refer to them. It gives a detailed description of the items and what their purpose is. It also shows the relationships of all the entities in our data model.

## **Stored Procedures**

Following is a list of all the stored procedures we will be using to develop the solution for the resort. No plain text queries of the data layer will be allowed. The use of stored procedures gives us a secure interface to the database and also makes it easier to make changes to data layer access without having to recompile the program.

Eric Bostwick

Interfaces  
Shell   
The Shell interface is the base screen that will be the basis for almost all the user screens in the solution. There is a web interface shell for outside users and an internal shell interface for internal users. The design is intended to give the same look and feel for all the screens. Also, the design intent is to make all of the screens as intuitive and easy to use as possible. Users will navigate to the functionality of the solution through the shell.

## **Internal**

The internal interfaces are where internal users will interact with the individual functions of the solution. The design intent is consistency across all the interfaces to allow for a common look and feel and to make the user experience intuitive. This will make it easier to train new employees and to cross train existing employees.

## **External**

The external interfaces are where web users will interact with the individual functions of the solution. As with the internal interfaces, the design intent is to make the screens have a common look and feel and easy to use.

Wes Richardson

**User Stories**

The following User Stories are the gathered activities that each user wants to accomplish and what they need the software to do to accomplish that activity.

**Use Case Narratives**

The following Use Case Narratives are created from User Stories to describe how the system will accomplish what is described in the user story. It will include what a typical workflow, alternate flows and exceptions that the system may encounter while doing the task, what changes are made to the system, and what place in the system the user will be at when they finish the task. They are numbered based on area of the Resort, Database functionality and order they were created.

**Use Case Diagrams**

The following Use Case Diagrams are simple draws separated by subsystems with in the system. Each diagram will show what use case an actor will interact with and how other use cases relate to that use case.

**Automation**

**Work Scheduling**This automated feature to create weekly work schedules based upon scheduled entries done by supervisors and the expected need dictated by expected guests at the resort. It will show by department who is scheduled for the week and whether there are too many or too few employees scheduled. This is to make it easy for supervisors to create data driven work schedules.

## **Ordering Supplies**

This feature will automate ordering supplies from vendors. It is based upon hotel reservations and scheduled events and past history at the resort. It will calculate out all the orders and present a list of purchase orders to be reviewed by the purchaser. This will save a considerable amount of time in the ordering process.

## **Reservations**

The automation for setting up reservations on a timed schedule. This feature will allow for ease of making reservations by providing an overview of available rooms based upon date ranges.

## **Event Builder**

The Event Builder is way for an event planner to build all the necessary elements of an event in one location. It will walk the planner through scheduling rooms for the event, catering, event setups and adding an event performance. It will let the planner know at each step of the process if the resources are available to accommodate the event. This will streamline event planning.

**Estimated Software Planning Cost $19,200.00***(16 classes x 4 Hours x 12.00 /hr. x 25 students)*

**Estimated Millennial Resorts Software Suite Cost $250,900.00**(covers the four month long sprints)  
(62K x 4(months))  
(15,658 x 4(weeks))  
(626.34 x 25 developers a week)(52.195/hr x 12/hrs) = 626.34  
 Total Build Cost for MVP is $269,736.

**What Client training will be needed?**  *Software training -*  is needed for several applications. Millennial Resorts offers several solutions based on the client technology proficiency level. At a minimum the client will receive training on the applications used to run the Millennial Resorts system and connect with customer service and management resources. *Hardware training* may be needed for the user depending on their skill level. A basic introduction to the technology platform(s) that Last Resort Software Company uses to run their Resort Management Software. Training on both Windows and Mac hardware is available. All clients have access to LRSC, Inc. website login to access a resource page with free tutorials to software and hardware technologies. Who gets trained? Companies should have a minimum of 1-3 managers enrolled in training prior to launch of system. Clients can add additional users to training at 155.00 each for windows and mac usage for the system. (online training coming soon). For training on the Millennial Resorts Software Suite companies can add additional users up to 10 for 500 dollars for each user. Max of 15 persons per Class. At a minimum the client will have to go through a generalized presentation of the program, to include discussion of data, how the data is organized, how to view the data, how to manipulate the data to make various queries. LRSC, Inc database solutions offers training on all products we create and the technologies we use to implement them. Our training includes on site presentations, online training through existing resources, and free online tutorials. We can custom design training solutions to meet the users learning level. If the client has capacity to host the software internally and has the skilled labor necessary to set up and run applications, LRSC, Inc will reduce overall cost of the software suite at the point of sale of the final product. However if the user is not tech savvy, we can offer training and customer support. The next level of support would be to offer our client the ability to work with in house customer support and maintaining their legacy systems.

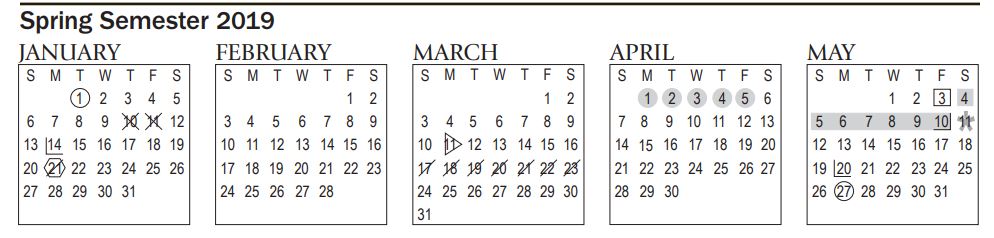
**Hardware and Software Service Contracts**

Service Contract - 5 year contract purchase for 14,479.40 each year. Service includes hosting of all software files and applicable data content. Includes Domain Setup and Management, Windows and Mac Training, Website version control. Azure hosting , or possibly hosted on clients systems, with IT approval.

Service Contract - 1 year contract purchase for 24,479.40 year. Service includes hosting of all software files and applicable data content. Includes Domain Setup and Management, Windows and Mac Training, Website version control. After first year hosting costs are reduced to 4500.00 a year and no customer support is available, unless service contract is renewed.Training on Internet Products includes updates for websites dashboards, adding emails, adding email marketing, renewals and billing, adding users to Microsoft office. Azure hosting , or possibly hosted on clients systems, with IT approval.

## 

**TimeLine**

Jan 14, 2019 -   


We will have 4 three week sprints, with in between weeks for recovery and discovery of backlog item to be finished in order to move forward on the next sprint. The sprints will be short, time-boxed periods when a Kirkwood scrum teams work to complete a set amount of work. Sprints are at the very heart of scrum and agile methodologies, and getting sprints right will help your agile team ship better software with fewer headaches.

## **Technology Requirements**

Develop in Visual Studio 2017 version 4.61. Framework libraries will be deployed for window 7 development using wpf. MsSql server will be used for data back end data management. The client applications will be built for Windows 7 above with scalable user interfaces and we will be using ASP.net for online content. Data tier application will based on client server relationship for desktop . There will be a client to server relation for the front end application using Chrome and Firefox for web testing and versioning for front end development. We will use Sql 2012 or newer software. We will augment the wpf with exceeds ui toolkit community edition. Web app is will use the standard jquery and ui libraries. Unit testing will use built in testing for windows applications. Hand coded mocks and fakes will be used for testing. We will manage project with a github shared repo that we will be added to as contributors. Trello and google docs will also be used to manage code content. Deployment will be to a web server and database server. Any standard pc workstation. Supported by network IT. Security will be provided using microsoft identity system form users will be in separate system, in order to allow the payment systems to pull data.

## 

## **Executive Summary**

Millennial Resorts is a full service resort that focuses on giving their guests a great experience during their stays. Last Resort Software Company, Inc. (LRSC,inc.) feels that the resort experience can be enhanced by upgrading its operation and information systems software with our application. LRSC believes this would make it easier for Millennial associates to serve their guests. Modern streamlined systems will put the focus of resort associates where it should be, on the guests, and not the everyday tasks of running the resort. Also, guests need the ability to interact with the resort’s services and should be able to do such things as sign up for scheduled events and make appointments. By giving the guest more control and information their resort experience will be more enjoyable. The documentation explains the Event Builder; a way for an event planner to build all the necessary elements of an event in one location. It will let the planner know at each step of the process if the resources are available to accommodate the event. This will streamline event planning. These efficiencies will encourage use of more of what the resort has to offer. The activity diagrams detailed below show the various guest interactions and their progression within the resort such as purchasing goods and services, reserving rooms, and utilizing amenities. Some activity diagrams detail the progressive steps of managing the resort inventory, processing orders, creating and managing items, and vendor management. Millennia Resorts Software Application is a community blend of locally sourced activities for guests, kids, and pets. The User Stories documentation shows a detailed look at the gathered activities that each user needs to accomplish and what they need the software to do to accomplish that goal. In addition the Use Case Narratives are created from User Stories to describe how the system will accomplish what is described in the user story. There is a food supplier network. The resort also makes its own hot-sauce.These types of activities are supported through the automated features, like creating weekly work schedules based upon scheduled entries done by supervisors and the expected need. The application will be developed in Visual Studio 2017 version 4.61. Framework libraries will be deployed for window 7 development using wpf. MsSql server will be used for data back end data management.We will have 4 three week sprints, with in between weeks for recovery and discovery of backlog item to be finished in order to move forward on the next sprint. The ultimate goal is to provide Millennial Resorts with a great management and information system. The first step toward that goal was to analyze the current situation. Last Resort Software uses Scrum as our agile methodology to incrementally implement solutions. We used that methodology to analyze the current situation using modern design tools. This report is a compilation of that work. Because of this extensive analysis of the business needs of Millennia Resorts we are confident that we will be able to deliver a final product that suits the needs of the resort’s guests, employees and investors. The next step is to build and implement the solution based upon our analysis.

**ACTORS**

**Generic**

Admin (Has access to Everything. They can CRUD things nobody else can)

Manager (Has Access to Every Role and Department Function)

Supervisor (Has Access to Scheduling for their Department + all Employee things)

Worker (Has Access to Generic Worker stuff along with their Roles and Department)

Guest (Has Access to everything related to their account)

Dependant (Is either a Child or a Pet. This is here for reference. They have no User Stories )

Public User (Has access to what is available on our website)

**Specific Role**

Food Preparer (Includes Bartenders, Cooks, Chefs)

Server (Includes Hosts)

Valet

Receptionist (Includes Front Desk and Sales Clerk)

Doctor (Includes Vet)

Talent

Shuttle Driver

Groomer (Includes Massage Therapists, Barbers, and any skilled laborer by Appointment)

**Specific Department**

Inventory (Generic)

Events (Food Preparer, Talent, Generic)

Sanitation (Generic)

Resort Ops (Valet, Receptionist, Doctor, Shuttle Driver, Security, Generic)

Child Care (Generic)

Pet Care (Generic)

Maintenance (Generic)

Food (Server, Food Preparer, Generic)

Marketing (Generic)

Primary Actors can be as specific or generic as needed. We can say every Worker can do something or only Marketing Managers can do something.

The catch is that EVERY person defined as a Primary Actor has to be able to do the Use Case.

For example who can Delete an Event? A Food Manager cannot. A Event Supervisor and an Event Worker cannot Delete an Event either so there is one Primary Actor. Event Manager can Delete an Event.