**This answer is one of many possible solutions to the practice exam!**

**Part A: Problem Statement**

|  |  |
| --- | --- |
| The Problem of | Records destroyed in a fire |
| Affects | Owner, Staff and Customers |
| The impact of which | Owner and Staff - extra work to recreate important documents, potentially dissatisfied customers leading to a loss of income |
| A successful solution would | Provide an integrated bookkeeping including General Ledger, budgets and paying bills along with a lessons and customer request scheduling system that is easy to use and easy to install. New system would facilitate backup to the cloud and simple system recoveries. |

**Part B: Key Stakeholder and User Needs**

|  |  |  |
| --- | --- | --- |
| **Key Stakeholder** | **Need** | **Feature** |
| Owner | Replace manual general ledgers | Maintain General Ledger |
|  | Build yearly budgets | Maintain Budgets |
|  | Pay bills | Pay Bills |
| Stable Staff | See List of Customer requests | Maintain Customer Requests (View and Reply) |
| Customers/Students | Request Lessons | Maintain Customer Requests |
|  | View Lesson Schedule | Maintain Lesson Schedule (view) |
|  | Book Services | Maintain Customer Requests |
|  | Request Appointments | Maintain Customer Requests |

**Part C: System Use Case Diagram**

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**Part D: Casual Use Case Specification**

**Use Case Specification for:** \_\_Maintain Lesson Schedule\_\_

**Use case name**

**Brief Description:** This use case enables the Equestrian Coaches to schedule lessons for students, as well as change lessons, reschedule when necessary, and cancel plans by student request.

**Section 1: Business Rules:**

BR 55: The same horse cannot be booked for more than one lesson in a time slot

BR 56: The same set of Tack (equipment) cannot be booked for more than one lesson in a time slot.

BR 57: All lessons are 1 hour in length.

**Section 2: All Scenarios**

**Scenario 1:** Add lessons for a family of students – without error

**Preconditions:**

The coach is logged into the system and the main menu is displayed

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Actor (** Coach **)** | **System** | **Data Used** |
| 1 | Selects Manage Lesson Schedule option | Displays a weekly calendar for the arena and outside riding ring. Prompts to add a family of students | scheduledLessonList  ridingAreaSet  dateSet  startTimeSet  studentSet |
| 2 | Selects to add a Family of students | Displays a list of families by Surname and prompts for selection | familyList  surname |
| 3 | Selects a family | Displays a list of students belonging to the family and prompts for selection | studentList  firstname |
| 4 | Selects a student | Displays a choice of riding area: indoor or outdoor | ridingAreaList |
| 5 | Selects a riding area | Based on the selected riding area, show a calendar of available dates and lesson start times | ridingArea  dateList  startTimeList |
| 6 | Selects date/timeslot from the appropriate calendar | Validates that the chosen date/timeslot  Adds the student to the date/timeslot. Displays a list of available horses and tack (equipment) | firstName  date  startTime  horseList  equipmentList |
| 7 | Selects a horse and set of tack | Validates that the chosen horse and set of tack is available.  Adds the horse and tack to the date/timeslot | horseName  equipmentName |
| 8 | Repeat from step 4 until all students have been added to the schedule | Displays the completed Lesson Details including the family, students and each one’s selected location, time, date, and their horses and tack. Prompts for confirmation. |  |
| 7 | Chooses to confirm | Lessons are saved.  Displays a weekly calendar for the arena and outside riding ring. |  |

**Successful Post conditions:**

Lessons for the family of students have been added to the schedule.

Horses and Tack assigned to the lesson.

Weekly calendar is displayed

**Part E: Classes and Data Used**

ScheduledLesson

ridingArea: RidingArea

date

startTime

student: Student

horse: Horse

equipment: Equipment

Family

surname

Student

family: Family

firstname

Horse

horseName

Equipment

equipmentName

RidingArea