SUPINFO Academic Management

SUPINFO International University

INSTITUTE OF INFORMATION TECHNOLOGY

Academic Project

B2 – Web Development

Project presentation

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1. Project Overview

1.1. Introduction

The Golden Wings flying club has been founded in 1930 by three flying enthusiasts to reach their goal: Share their passion for planes and flying with everyone.

Since these days, the organization has grown to reach 500 flying members in 2011. Along with the flying school, the main activity of a flying club is to make planes available to is members at the lowest possible price. Golden Wings actually owns and maintains 10 planes.

At the moment, all administrative tasks are done "by hand" using templated sheets, pens and scissors. The number of lost documents has followed the club's grow. The board has come to the conclusion that the actual processes are not sustainable.

The club wants a web-based management solution to fit its needs, described in the following functional expression.

2. Functional Expression

2.1. Members management

The club needs to keep track of its members and their annual adhesion fees. Your solution should provide a complete member management system that can store members information such as:

- Identity (Name, last name, gender, …)
- Address
- Contact information (telephone, email, …)

To use any of the club's planes, a member must have a positive account balance. Currently, members directly give money to a desk clerk that manually increases the member account balance by the amount of given money. Your solution must provide a way for the desk clerk to manage member's accounts.

Providing a way for users to directly credit their pilot account with Paypal would be a nice extra feature.

Members must also pay annual adhesion fees to cover the club expenses that are not directly related to flying planes. Your solution must provide a way to keep track of who has paid his fees and who didn't.

Along with the club staff, regular members will be the main users of the web solution. They should be able to login using their name or any item you find more appropriate. Your solution must provide all common user management features such as password changing, password recovery, etc.

Staff members also are members. They just have more permissions on the application than regular members. Your solution must provide at least two privileges levels:

- Regular members
- Staff

Regular members will be granted common requests operations as described in this document whereas the "Staff" privileges users will have the power to do tasks described as actually done by the desk clerk.

2.2. Electronic logbooks

Pilots have to record and keep track of each flight in their so-called logbook. For each flight, a pilot must fill:

- Date
- Aircraft type/model

- Aircraft Identification
- Departure airfield (4-letters code)
- Departure time
- Arrival airfield (4-letters code)
- Arrival time
- Name of the PIC (Pilot in Command)
- FI Number
- Dual time received
- Flight time as PIC
- Total flight duration

If the pilot as a valid pilot license, he is the pilot in command and don't need to fill the FI Number and dual time received columns. He also record its flight time as "Flight time as PIC" However, if the flight is an instruction flight with a Flight Instructor (FI), the pilot in command is the instructor, and the flight time must be recorded in "Dual time received". The instructor must also put his FI Number in his student pilot log.

In all cases, the flight duration must also put in the "Total flight duration" column. You're not supposed to handle in-flight role change cases. The "Total flight duration" will also be equal to "Dual time received" for learning flights or to "Flight time as PIC" for all other flights.

Your solution must provide such a feature for the club members. Each member should be able to manage his own logbook.

2.3. Plane rental

The club currently owns 10 planes:

- 3 DR400 (F-BDQA, F-BHJK, F-BIOP)
- 2 DR315 (F-BNWS, F-QQZA)
- 2 Rallye MS 885 (F-BTYU,F-BQVV)
- 2 Piper J3 (F-BUUE, F-BQSE)
- 1 Jodel D140 (F-BHJU)

Each plane has a Journey Log that keeps track of each flight. For each flight, the following items must be filled-in:

- Departure Airfield (4-letters code)
- Arrival Airfield (4-letters code)
- Departure time
- Arrival time
- Flight duration

Each plane can be rented according the following hour rates:

Plane	Hour rate (all incl.)
DR400	130 EUR
DR315	120 EUR
Rallye MS 885	140 EUR
Piper J3	100 EUR
Jodel D140	80 EUR

The rate is applied on the engine hour meter basis. The pilot keeps track (on a special sheet) of the hour meter value (in 1/100 hour) before starting the engine and after the flight. He also always notes the departure time. The difference between those two values is the flight time. The plane rate is applied to the flight time and removed from the pilot account.

Before renting a plane, a pilot has to reserve it. The desk clerk currently maintains a calendar with each plane availability status.

Your solution must provide a calendar system that:

- Show planes availability to club members
- All club members to make a plane reservation (Day/time/duration)

Your solution should also provide a way for pilots to directly type-in hour meter values (before and after flight) when they return the plane, and have:

- The correct amount of money removed from the pilot account
- The flight recorded in the plane Journey Log (You can use LFZZ as departure/arrival)
- The flight recorded in the pilot logbook

2.4. Flight school

The flight school is the second major activity of the club. New club members can take flight lessons with the club flight instructors.

At the moment the desk clerk maintains a list of available instructors with the same information as regular members (Instructors are club members too) plus their FI number. The desk clerk also keeps track of instructor's availability and manages flight lessons and planes availability.

The desk clerk must be able to create and manage new instructors and to "upgrade" existing members into instructors.

Your solution must provide a way for the club student pilots members to see instructors availability and ask for an flight lesson. Student pilots must also select an available plane for their lessons.

Instructors should be notified of the request and validate it.

Just like for licensed pilots, your solution must update the plane Journey Log, and charge the student pilot account for the flight duration, plus a 20 EUR extra per hour. It should also update the student pilot log with appropriate values.