Zoo

Software Requirements Specification

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Contents

1 Introduction

1.1 Purpose

The development of a zoo administration tool to manage business procedures. This document is intended for any stakeholders actively taking part in the development of the tool. It is to be a basis for further development efforts and shall serve as a development guideline.

1.2 Scope

The software will be composed of several components to enable various management and reporting features with centralised access from different clients.

1.3 Definitions, Acronyms, Abbreviations

In the following, "the system" is defined to be the the system this document is dedicated to.

1.4 References

- Statements from Zoo Director, Zookeeper, Secretary (Sheet 3)
- Letter from Susan Tapir (Sheet 2)

1.5 Overview

This document is made up of three chapters. This first chapter describes the scope and purpose of this document, used definitions, acronyms and abbrevians. It follows a list of references. In the second chapter, a rough overview of the system to be developed is given. The third chapter lists the requirements in a rigorous manner according to the IEEE Standard. Use-case and sequence diagrams are used to illustrate relationships.

2 Description

2.1 Product Perspective

There is no comparable system currently in place at the site. The system is meant to interface with exisiting messaging systems and hardware.

2.2 Product Function

The system shall become a centralised means to manage business processes that are central to the zoo's daily business. It shall work on top of and interface with the already present hard- and software infrastructure. The is no such system currently in use.

2.3 User Characteristics

The users of the software will adhere to one of the following archetypes:

Zookeepers The employees who work on tasks that are not administrative. These persons can be assumed to have average level computer skills. However, since their main place of work is around the zoo and with the animals, they might not enjoy indulging in long and complicated interactions with a stationary digital system.

Executive Managers The people who handle major ecological and ideological decisions. These people are assumed to have average to above-average computer skills, as well as some preference to abstract thinking.

Business Administration People who manage day-to-day business processes. These people are assumed to be used to regular work with computers, however their proficiency might still be basic.

2.4 Constraints

The system shall adhere to known standards and built systems and be strictly on budget (as per request). The system shall always enforce the wealth of the animal

beings.

2.5 Assumptions and Dependencies

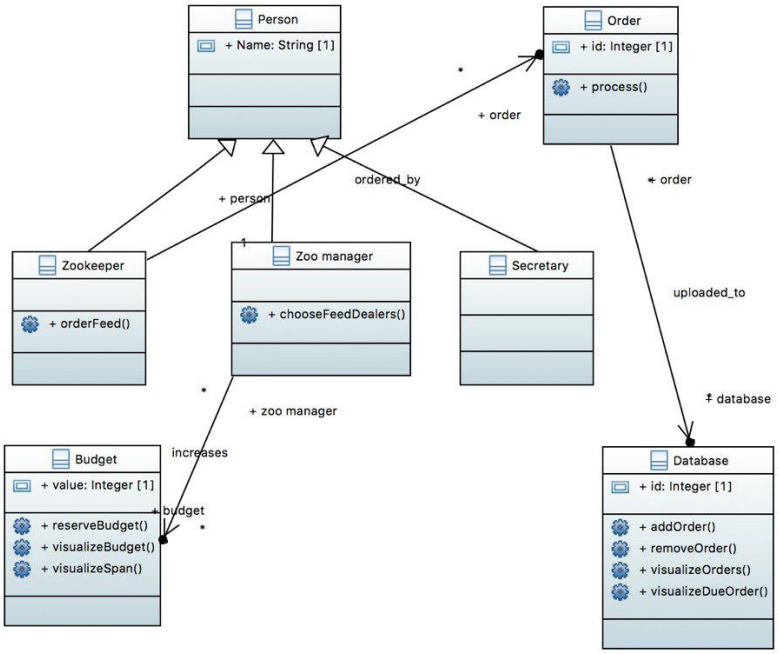
The following systems are assumed to be present and able to interface with the new management software.

- There is a messaging system already in place that can be used to send text messages and data reports to one or more employees.
- Basic hard- and software infrastructure is present. The newly developed system will run as applications on that infrastructure.
- A whitelist of feed vendors is provided by the zoo administration.

3 Specific Requirements

3.1 External Interfaces

3.1.1 Class Diagram

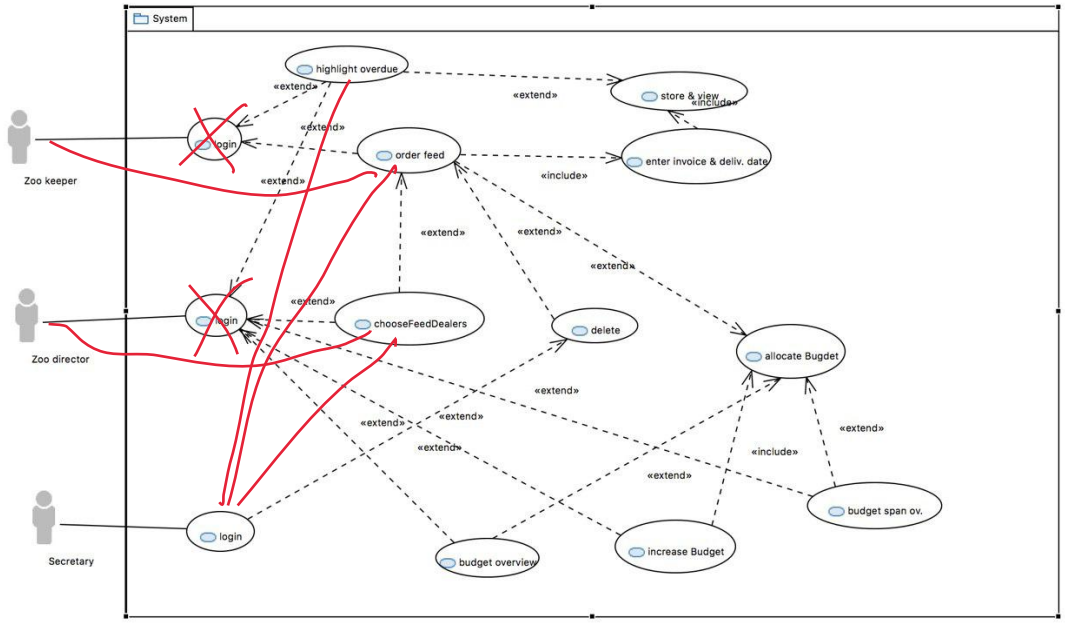


Zookeeper can order feed and gets budget which can be increased by the zoo manager. The zoo manager can choose the feed dealers and increase the budget. A order is made by the zoo keeper. A database of orders can create and add an order, remove and visualize them.

Ein bisschen dürftig. Was soll dieses Diagramm genau darstellen? Das wurde nicht wirklich erklärt.

Login nur einmal verwenden. Am besten die Reihenfolge wechseln. "etwas" hat dann "include" auf "login". Dadurch ist immer noch eine Trennung nach Nutzergruppen möglich.

3.1.2 Use Case Diagram



All persons has to login. After that it is optional to do something so all actions are extended. Ordering feed is started by the zoo keeper, then he has to enter the invoice and this has to be stored. During the order process the manager can optionally choose feed dealers or the zoo keeper or the secretary can delete the order. The zoo manager is also able to increase the budget. Then the system has to allocate the budget. Additional views for the budget are an extension and can only be viewed by the manager.

3.1.3 Sequence Diagram of feed order processing

The Sequence Diagram (Figure 1) describes the process of ordering new feed.

The initial authentification as per requirements (R10), (R11), (R12) is described at the top and is typical for other interactions.

Before an order can be made, the user is prompted for identification and authentification. The system validates the provided info and, if correct, enables the user for further interactions with the system.

When the user initiates the order process, a list of whitelisted feed providers and their current prices is assembled and presented to the user to pick one.

Upon the user's choice, the order is processed. Feedback is shown to the user about the success of the order.

Finally, the order is saved for future reference.

All exchanges must be strictly synchroneous since neither can happen before the other has not finished successfully.

Allgemeine Info: Nicht vergessen, dass ihr auch andere Pfeiltypen habt. asynchron existiert noch.

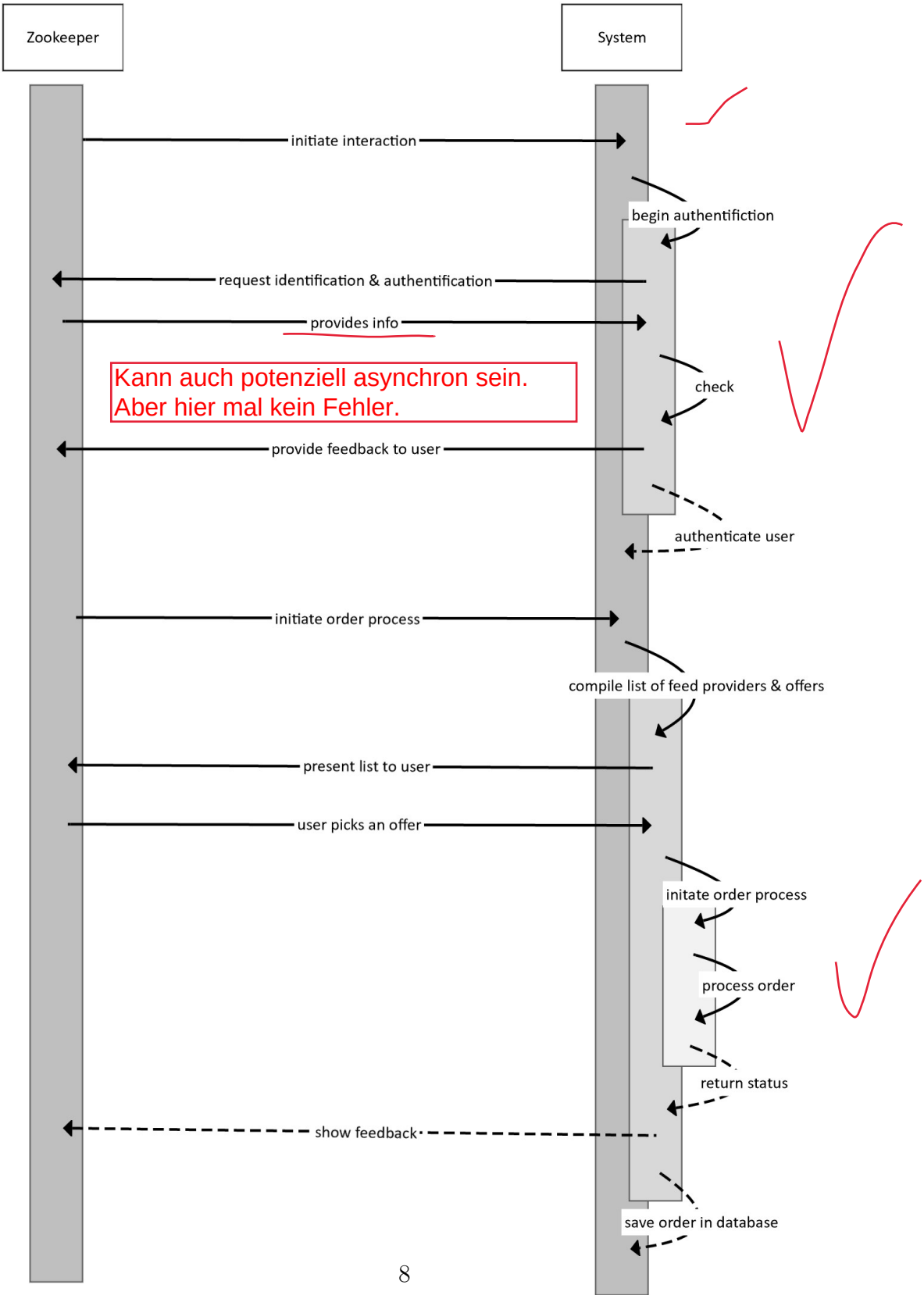


Figure 1: Use Case Diagram for feed order processing

3.2 Functions

(R1) **Ordering new feed**

Function: The system shall be able to order new feed from the chosen dealer if necessary.

Description: If there is no feed, the zookeepers shall be able to order new feed.

Source: Description of the zoo keeper

Dependency: -

(R2) **Choosing the feed dealer**

Function: The system shall be able to show the dealers and their offer.

Description: If the zookeepers want to order new feed, they shall be able to choose a dealer and see their prices to order the cheapest feed.

Source: Description of the zoo keeper

Dependency: (R1)

(R3) **Entering the invoice of an order**

Function: The system shall offer an option to upload a invoice total and the expected delivery.

Description: A zookeeper shall be able to upload a invoice total and a expected delivery date into the sytem after ordering feed.

Source: Description of the zoo keeper Dependency: (R1)

(R4) **Removing an order**

Function: The system shall give the secretary and the responsible zookeeper the opportunity to delete an order.

Description: The secretary shall be able to delete any orders of a zookeeper. A zookeeper shall be able to delete his own order.

Source: Description of the zoo keeper

Dependency: (R1)

(R5) **Highlighted order**

Function: The system shall highlight overdue orders.

Description: If the order does not arrive on time, the system shall be able to highlight this order and mark it as 'overdue'.

Source: Description of the zoo keeper

Dependency: (R1)

(R6) **Managing budget**

Function: The system shall reserve budget for any zookeeper

Description: To prevent zoo keepers from spending to much, the system shall reserve budget from the total budget.

Source: Description of the zoo director

Dependency: -

(R7) **Budget overview**

Function: The system shall give an graphical representation of the monthly budget for the zoo directors.

Description: The system shall show an graphical overview, where the zoodirector is able to see the total budget, how much money was already spent, reserved sub-budget and leftover money.

Source: Description of the zoo director

Dependency: -

(R8) **Budget span overview**

Function: The system shall give an overview of the budget spanning the last 6 months.

Description: The system shall give an overview including money spent for every month, average money spent, number of budget increase requests, granted and denied requests and links to the statements.

Source: Description of the zoo director

Dependency: -

(R9) **Enter budget increase by zoo director**

Function: The system shall offer an option to enter the increase of the budget by the zoo director

Description: If the zoo director grants an increase, he shall be able to enter this increase.

Source: Description of the zoo director

Dependency: -

(R10) **Data security**

Function: The system shall be able to protect its data from unauthorised people.

Description: The system has to provide adequate access restrictions on collected data.

Source: Description of the zoo director

Dependency: -

(R11) **User Authentification**

Function: The system shall provide means to authenticate users interfacing with the system.

Description: User authentication is a necessary prerequisite to any administrative work done on business data.

Dependency: (R10)

(R12) **Access Restriction**

Function: The system shall provide nuanced access privileges to different groups of users.

Description: Different groups of users represent different responsiblities, abilities, and liabilities. These enable or disable specific users to/from performing specific tasks.

Dependency: (R10), (R11)