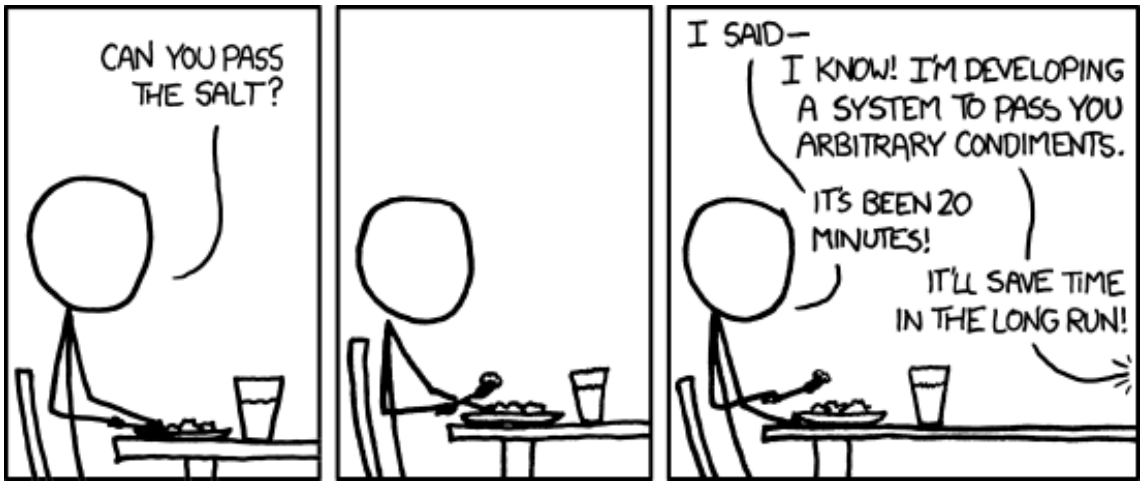
Swimming Pool Automated Checking System

CITS4401 Software Requirements and Design - Practical Assignment

Mitchell Pomery (21130887)

April 24, 2015



Contents

1 Introduction

CITS4401 Software Requirements and Design - Practical Assignment. CITS4401 Software Requirements and Design - Practical Assignment. CITS4401 Software Requirements and Design - Practical Assignment. CITS4401 Software Requirements and Design - Practical Assignment. CITS4401 Software Requirements and Design - Practical Assignment. CITS4401 Software Requirements and Design - Practical Assignment.

2 Design Constraints

CITS4401 Software Requirements and Design - Practical Assignment. CITS4401 Software Requirements and Design - Practical Assignment. CITS4401 Software Requirements and Design - Practical Assignment. CITS4401 Software Requirements and Design - Practical Assignment. CITS4401 Software Requirements and Design - Practical Assignment. CITS4401 Software Requirements and Design - Practical Assignment.

3 Design Pattern

CITS4401 Software Requirements and Design - Practical Assignment. CITS4401 Software Requirements and Design - Practical Assignment. CITS4401 Software Requirements and Design - Practical Assignment. CITS4401 Software Requirements and Design - Practical Assignment. CITS4401 Software Requirements and Design - Practical Assignment. CITS4401 Software Requirements and Design - Practical Assignment.

4 Use Case Diagram

Name	regularUpdate
Actors	PoolTestingUnit
Goal	store collected information from the PTU in the system
Preconditions	PoolTestingUnit is authenticated
Basic Flow	1. Use case starts when ptu sends data 2. validate data 3. store it so that it can be used later 4. The use case ends
Alternative Flow	1. Data is malformed (a) Recieved data is logged for analysis 2. Issue storing data (a) Fall back to logging data and alert the administrator
Postconditions	1. Success: Data has been stored 2. Failure: Data has been stored in a log for analysis by admin

Name	urgentUpdate
Actors	PoolTestingUnit, PoolShopAdministrator, PoolOwner
Goal	store collected information from the PTU in the system and alert the pool owner and pool shop that there is a problem
Preconditions	PoolTestingUnit is authenticated
Basic Flow	- use case starts when ptu sends data with alerts - validate data - store it so that it can be used later - email is sent to the PoolShopOwner and PoolOwner - the use case ends
Alternative Flow	- Data is malformed - Recieved data is logged for analysis - Issue storing data - Fall back to logging data and alert the administrator - Email fails - Email gets retried and event is logged
Postconditions	Success: Data has been stored, email has been sent to PoolShopOwner and PoolOwner Failure: Data has been stored in a log for analysis by admin

Name	generateReport
Actors	PoolOwner, PoolShopAdministrator
Goal	provide latest data to
Preconditions	First week of the PTU or a month since the last report
Basic Flow	- use case starts at the same time every day - gets a list of pools that need reports - for each pool - gets the information that should be on the report - generates the report as a pdf - emails it off
Alternative Flow	
Postconditions	Success: Report generated and emailed to pool owner and pool shop Failure: Any errors logged for admin to look over

Name	addPoolShop
Actors	Administrator
Goal	To add a pool shop to the system.
Preconditions	
Basic Flow	- Administrative user enters information about the pool shop
Alternative Flow	- Invalid Information - Error displayed and user is able to re-enter
Postconditions	Success: Data is stored and can be retieved later Failure: User is given achance to modify data

Name	editPoolShop
Actors	Administrator
Goal	To edit a pool shop in the system.
Preconditions	
Basic Flow	- Administrative user enters updated information about the pool shop
Alternative Flow	- Invalid Information - Error displayed and user is able to re-enter
Postconditions	Success: Data is stored and can be retieved later Failure: User is given achance to modify data

Name	removePoolShop
Actors	Administrator
Goal	To remove a pool shop from the system.
Preconditions	
Basic Flow	- Administrative selects the pool shop - Confirms that the pool shop should be disabled
Alternative Flow	- Cancelled - No change is made
Postconditions	Data is no longer accessible. User no longer able to log in

No change

Name	addPool
Actors	PoolShopAdministrator
Goal	To add a pool to the system.
Preconditions	
Basic Flow	
Alternative Flow	
Postconditions	

Name	editPool
Actors	PoolShopAdministrator
Goal	To edit a pool in the system.
Preconditions	
Basic Flow	
Alternative Flow	
Postconditions	

Name	removePool
Actors	PoolShopAdministrator
Goal	To remove a pool from the system.
Preconditions	
Basic Flow	
Alternative Flow	
Postconditions	

5 Object Models

CITS4401 Software Requirements and Design - Practical Assignment. CITS4401 Software Requirements and Design - Practical Assignment. CITS4401 Software Requirements and Design - Practical Assignment. CITS4401 Software Requirements and Design - Practical Assignment. CITS4401 Software Requirements and Design - Practical Assignment. CITS4401 Software Requirements and Design - Practical Assignment.

6 Dynamic Models

CITS4401 Software Requirements and Design - Practical Assignment. CITS4401 Software Requirements and Design - Practical Assignment. CITS4401 Software Requirements and Design - Practical Assignment. CITS4401 Software Requirements and Design - Practical Assignment. CITS4401 Software Requirements and Design - Practical Assignment. CITS4401 Software Requirements and Design - Practical Assignment.

Bibliography

[1] Info