

ADD CONSULTING INC.

# SOFTWARE REQUIREMENT DOCUMENT

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ONLINE WORK ORDER REQUEST SYSTEM

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Requirement Document v2

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# REQUIREMENT DOCUMENT

## ONLINE WORK ORDER REQUEST SYSTEM

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### VISION AND SCOPE DOCUMENT

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#### 1. Business Requirements

##### 1.1 Background, Business Opportunity, and Customer

Overseeing an environment with five residential halls and several thousand residents is a very challenging and demanding task. Those who are in charge of such an environment must be equipped with the most efficient and productive tools to handle situations when they arise. One particular situation that arises regularly in a residential environment is the need for work, such as replacing light fixtures, repairing technology lines, etc. The task of managing hundreds and hundreds of incoming work requests is time consuming and resource intensive. The system currently in use by Pace University's Campus Housing Operations to handling incoming work orders is able to 'get the job done' but it is not up to date with current technologies and it involves a great deal of redundant procedures. For example, if a resident wishes to submit a work order request, he/she must first submit the request to the residential hall's Residential Advisor (RA). The RA will then submit the request via email to Campus Housing Operations (CHO). CHO then routes the email to the appropriate destination. One issue with this model is that once the request is submitted, the resident is not kept up to date about the status of the request.

For residents in the residential halls, it's important that submitted requests be processed in a timely manner since the work requested to be done affects their living environment. It is also important to the residents that they are kept up to date about the status of their requests. For the CHO staff members, it is important that they have a reliable and effectively means of accepting and manage incoming requests from residents. The proposed system will seek to address the needs of both residents and CHO staff members. By utilizing current web technologies, residents will be able to submit request online via a special web application. The residents will also be kept up to date about the progress of their request. For the CHO staff members, accepting and routing request will be a simple task since all request will be stored in a centralized repository (a database). The staff members can also easily update the status of work orders and contact the residents about any concerning issues.

##### 1.2 Business Objective and Success Criteria

- BO-1: Meeting the high demands for work orders with the most effective and reliable procedure.
- BO-2: Effectively manage the high number of incoming work orders with accuracy and simplicity.

- SC-1: Have all incoming work order request be submitted via the new online system at least by Fall 2004.
- SC-2: Eliminate the many unnecessary and redundant procedures associated with filling and managing work order requests.

### 1.3 Business Risk

- RI-1: If the system is implemented during a mid-year period, the RA and Resident Hall Coordinator (RHC) will have to abide to a new contract with their new roles pertaining to the new system.
- RI-2: Some residents may not want to use the online system and might resort to contacting the CHO staff members directly. This will affect the overall purpose of the system and produce even more redundant and ineffective resource management.
- RI-3: Residents will have to abide with the new rules of the OLWOR System. These rules should be added to the contract residents will sign upon deciding to live on campus.

## 2. Vision of the Solution

### 2.1 Vision Statement

Residents living in the residential halls will be able to submit work order request online through the Online Work Order Request System (O.L.W.O.R System). Once the request is submitted via the online system, the request will be saved in the system's data repository. The work order request will then be forwarded to CHO staff member for processing. The CHO staff members will have the ability to change status of work orders and notify residents about the request's status.

### 2.2 Major Features

The O.L.W.O.R. will be designed with 3 types of users: Residents, CHO Staff Members and the Director of Housing (DOH). The features outlined below are associated with these three types of users.

Note: DOH can perform all the operations of the CHO Staff Member and acts as the overall administrator of the new system.

- FE-1: Resident creates an online profile
- FE-2: Resident updates online profile (password, living location, telephone number, classification)
- FE-3: Resident submits a work order request online
- FE-4: Resident checks the status of a submitted work order request online

- FE-4: Resident checks the status of a submitted work order request online
- FE-5: DOH creates a new CHO Staff Member profile
- FE-6: DOH deletes CHO Staff Member profile
- FE-7: CHO Staff views submitted work orders
- FE-8: CHO Staff changes the status submitted work order request to 'In Progress', 'Completed', 'Rejected'.
- FE-9: CHO Staff views resident profile
- FE-10: CHO Staff adds a new residential hall.
- FE-11: CHO Staff updates residential hall profile
- FE-12: CHO Staff add residential hall's RA
- FE-13: CHO Staff updates residential hall RA's profile
- FE-14: CHO Staff add residential hall's RHC
- FE-15: CHO Staff updates residential hall RHC'S profile
- FE-16: CHO Staff email resident from online system
- FE-17: CHO Staff submit work order requests online
- FE-18: CHO Staff add comments to submitted work order requests

### 2.3 Assumptions and Dependencies

- AS-1 Resident is currently living on campus
- AS-2 CHO staff member logged into the system is an active employee of Campus Housing

## 3. Scope and Limitations

### 3.1 Scope of Initial and Subsequent Releases

Feature	Release 1	Release 2	Release 3
FE-1	Fully implemented	Fully implemented	Fully implemented
FE-2	Fully implemented	Fully implemented	Fully implemented

FE-2	Fully implemented	Fully implemented	Fully implemented
FE-3	Fully implemented	Fully implemented	Fully implemented
FE-4	Fully implemented	Fully implemented	Fully implemented
FE-5	Fully implemented	Fully implemented	Fully implemented
FE-6	Fully implemented	Fully implemented	Fully implemented
FE-7	Fully implemented	Fully implemented	Fully implemented
FE-8	Full implementation	Fully implemented	Fully implemented
FE-9	Fully implemented	Fully implemented	Fully implemented
FE-10	Fully implemented	Fully implemented	Fully implemented
FE-11	Not implemented	Implemented	Fully implemented
FE-12	Implemented	Implemented	Fully implemented
FE-13	Not implemented	Implemented	Fully implemented
FE-14	Implemented	Implemented	Fully implemented
FE-15	Not implemented	Implemented	Fully implemented
FE-16	Fully implemented	Fully implemented	Fully implemented
FE-17	Fully implemented	Fully implemented	Fully implemented
FE-18	Fully implemented	Fully implemented	Fully implemented

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### 3.2 Limitations and Exclusions

- LI-1 The system will be unavailable to residents after 5pm Monday to Friday and on the weekends because the Campus Housing Operation office is closed. Resident will be provided with a list of telephone numbers incase of emergence assistance during off-hours.
- LI-2 Work orders can only be placed by active residents living in the Pace NYC residential halls. No work order will be accepted from other campuses.

## 4. Business Context

#### 4.1 Stakeholders Profile

Stakeholder	Major Value	Attitudes	Major Interest	Constraints
DOH	Improve productivity; effective use of resources; management of requests	Strong commitment and support through all releases	Gain better tracking of work order request	The new system must be able to accommodate new and future additions
CHO Staff	Manage incoming work order requests.	Strong enthusiasm about the new system. System will help the process of accepting and managing work order request	Simplicity of use; changing work order status; ability to add additional information to submitted request; view resident's profile; update residential hall profiles	
Resident	Easier method of submitting and tracking work order requests	System should be easy to use.	Submitted work order request should be dealt with promptly and efficiently	Internet access is required. Resident must have access to a Pace email issued email address

#### 4.2 Project Priorities

Dimension	Driver	Constraint	Degree of Freedom
Schedule	Release 1.0 to be available on 5/5/04	CHO Staff ability to update residential halls profile will be limited. No reporting capabilities implemented	
Feature	FE-1 to FE-15 will be available by 5/5		
Quality	All system features scheduled for		

	implementation in release 1.0 should compile and execute		
Staff		maximum team size is 3 developers + 1 testers	
Cost			Cost should be minimal. Only financial needs will be securing a web server to hold the application

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### USE CASES

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Primary Actor	Use Cases
Resident	<ol style="list-style-type: none"> <li>1. Create resident online profile</li> <li>2. Update resident online profile</li> <li>3. Submit a work order request online</li> </ol>
DOH	<ol style="list-style-type: none"> <li>4. Create new profile for CHO Staff (granting access)</li> </ol>
CHO Staff	<ol style="list-style-type: none"> <li>5. Edit work order request status</li> <li>6. Add comment to submitted work order request</li> <li>7. Add a new residential hall</li> <li>8. Add new RA to an existing residential hall</li> <li>9. Add new RCH to an existing residential hall</li> </ol>

Note:

The DOH has full, unrestricted access to all the system's features. The DOH can also perform all the actions of the CHO Staff.

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**Use Case ID:** UC-1

**Use Case Name:** Create resident profile

**Created By:** Damian Shameer

**Date Created:** 3/16/04

- g. Residential hall Room number
  - h. Residential hall room telephone extension
  - i. Cellular telephone number
4. Once all the above information is submitted, the resident then submits the form to the system and the data is saved.
  5. The resident is sent an email conformation with the submitted information printed in the email.

Alternative Flows: None

Exceptions: 1.0.E.1 Non-Pace email submitted when creating profile

1. System blocks user from creating a profile when a none pace.edu email is recognized
2. System blocks user from creating a profile is all the required information is not entered in the online form.

Includes None

Priority: High

Frequency of Use: Frequently used

Business Rules:

Special Requirements: none

- Assumptions:
1. Resident tries to register within operating business hours of Monday to Friday 9am to 5pm
  2. Resident has a valid pace email address

Notes and Issues: None

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**Use Case ID:** UC-2

**Use Case Name:** Edit profile

**Created By:** Damian Shameer

**Date Created:** 3/16/04

**Actors:** Resident

**Description:** A resident can update his/her online profile as needed. For example, if a resident changes residential hall, he/she can change his/her profile information to reflect his/her most current living location. A resident can also change his/her password, and contact information

**Preconditions:** Resident has a profile saved in the online system. The resident is also logged into the system.

**Postconditions:** The resident's profile is updated as needed.

**Normal Flow:** 2.0 Edit profile

- telephone number only)
5. Resident then submits the update profile to the database
  6. The updated information is saved.

Alternative Flows: None

Exceptions: 2.0.E.1 Missing Information

1. The system will block the resident from submitting his/her updated profile if all the needed information is not provided.

2.0.E.2 Cannot update First name, Last name

1. Once the profile is created, the name of the profile cannot be changed

2.0.E.3 Resident cannot update Student ID (SS#)

1. The Student ID # cannot be changed once the profile is created.

Includes Logging into the system with Login ID and password

Priority: High

Frequency of Use: Approximately 100 hits per month

Business Rules:

Special Requirements: None

- Assumptions:
1. Resident has a profile on the system
  2. Resident is logged in with his/her user id and password

Notes and Issues: None

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**Use Case ID:** UC-3

**Use Case Name:** Work order request

**Created By:** Damian Shameer

**Date Created:** 3/16/04

**Actors:** Patron

**Description:** Residents living in Pace NYC Residential Halls can submit a work order request online. The new request is stored in the system's

**Preconditions:** Resident has a profile saved in the online system. The resident is also logged into the system.

**Postconditions:** A new work order request is submitted and stored in the system.

Postconditions: A new work order request is submitted and stored in the system.

Normal Flow: 3.0 Resident submits a work order request online

1. Resident then clicks on a link to submit a new work order request
2. Resident completes the online form with all the needed information pertaining to the work order
3. Resident submits the online form
4. The new request is saved in the system
5. The request is then forwarded to CHO
6. The new request is also forwarded to the resident

Alternative Flows: none

Exceptions: 3.0.E.1 Missing information

1. The Resident is required to submit a work order request with all the needed information. A full description of the work order must be provided

Includes Resident has a profile stored in the system.

Resident is logged into the system with Login ID and password

Priority: High

Frequency of Use: Frequently used

Business Rules:

Special Requirements:

Assumptions: Resident is logged into the system.

Notes and Issues: All new work order request will be forwarded to CHO.

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**Use Case ID:** UC-4

**Use Case Name:** Create new profile for CHO Staff

**Created By:** Damian Shameer

**Date Created:** 3/16/04

**Actors:** DOH

**Description:** Access to the OLWOR System is restricted to only authorize users.  
The Director of Housing has the ability to create new access profile

**Preconditions:** DOH is logged into the system.

Preconditions: DOH is logged into the system.

Postconditions: A new CHO staff member profile is created and new Staff member is granted access to the system

Normal Flow: 4.0 Grant access to new CHO staff member

1. CHO Manager request the form for creating a new CHO staff profile
2. CHO Manager complete form with all the required information
  - a. Staff member's First and Last Name
  - b. Email address
  - c. Password
3. The form is submitted
4. The new CHO staff member is sent an email conforming his/her access to the system
5. A new Staff member profile is created and granted access to the system

Alternative Flows: none

Exceptions:

Includes

Priority: High

Frequency of Use: Medium

Business Rules:

Special Requirements: Only a CHO Manager can grant (create) access to online system

Assumptions: 2. New staff member has a valid email so they can receive confirmation that the profile has been created. They will also receive their password in this email.

Notes and Issues: None

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**Use Case ID:** UC-5

**Use Case Name:** Edit work order request status

**Created By:** Damian Shameer

Description: Once a work order request is submitted to the system, a staff member can edit the status of the work order request. This function is an integral part of the new system. An email is sent to the resident notifying about the status of the work order request..

Preconditions: 1. Staff member logs into system  
2. A work order request was submitted to the system  
3. Staff member has the Work Order ID of the submitted request they wish to update

Postconditions: The status of a work order request is changed

Normal Flow: 5.0 Edit work order request status

1. Staff member logs into system
2. Staff member searches for a specific work order request via the Work Order ID number
3. Staff member then changes current status of a submitted request and then saves the changes to the system
4. The new status is saved in the system
5. The resident is sent an email regarding the change

Alternative Flows: None

Exceptions: None

Includes: None

Priority: High

Frequency of Use: High

Business Rules:

Special Requirements: Only Staff member and DOH will have the ability to change a work order request status

Assumptions: 1. A work order request was submitted and the Work Order ID is known

Notes and Issues: None

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Use Case ID: UC-6

Use Case Name: Add comment to work order

Created By: Damian Shameer

Created By: Damian Shameer

Date Created: 3/16/04

Actors: CHO Staff Member

Description: When a resident files a request and it is reviewed, the staff member may need to add additional comments to the request.

Preconditions: A request was submitted.

Postconditions: A comment was added to a work order request

Normal Flow: 6.0 Add comment to work order

1. Staff member searches for a specific work order request via the Work Order ID
2. Staff member then adds a comment to the existing work order request
3. Staff member saves the request with the new comment
4. The new comment is now attached to the work order request

Alternative Flows: None

Exceptions: None

Includes: None

Priority: High

Frequency of Use: Medium

Business Rules:

Special Requirements: Only Staff member and the DOH have ability to add comments to existing work orders

Assumptions: 1. a work order request was submitted

Notes and Issues: None

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**Use Case ID:** UC-7

Use Case Name: Add a new residential hall

Created By: Damian Shameer

Created By: Damian Shameer

Date Created: 3/16/04

Actors: CHO Staff Member

Description: There are currently 5 residential halls. This feature allows CHO Staff members to add new residential halls to the system.

Preconditions: Staff member is logged into the system

Postconditions: A new Residential Hall is added to the system

Normal Flow: 7.0 Add a new residential hall

1. Staff member request the request the form to create a new residential hall
2. Staff member enters all the required information
  - a. Building Official Name
  - b. Building short name
  - c. Location
3. Staff submits form to the system  
A new residential hall is added to the system

Alternative Flows: none

Exceptions: 7.0.E.1 Missing information

All the required data must be entered. The system will block the user from submitting an incomplete form.

Includes None

Priority: High

Frequency of Use: Low

Business Rules:

Special Requirements: None

Assumptions: None

Notes and Issues: None

**Use Case ID:** UC-8

**Use Case Name:** Add new RA to an existing residential hall

**Created By:** Damian Shameer

**Date Created:** 3/16/04

**Actors:** CHO Staff Member

**Description:** Each residential hall is assigned an RA to oversee the hall's activities. This feature will allow a Staff member to add a new RA to an exiting residential hall

**Preconditions:** Staff member logs into system. Residential Hall record already exist.

**Postconditions:** A new RA and or RHC is added to a building

**Normal Flow:** 8.0 Edit RA and RHC assigned to a building

1. Staff looks up the profile to a specific residential hall
2. Staff then add or edits the hall's RA
3. Staff saves data in the system
4. The residential hall's profile is updated
5. The residential hall's RA is added

**Alternative Flows:** None

**Exceptions:** 8.0.E.1 Missing information

1. All the required data must be entered. The system will block the user from submitting an incomplete form.

**Includes:** None

**Priority:** Medium

**Frequency of Use:** Medium

**Business Rules:**

**Special Requirements:** None

**Assumptions:** RA must be a current resident

**Notes and Issues:** None

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**Use Case ID:** UC-9

**Use Case Name:** Add new RHC to an existing residential hall

**Created By:** Damian Shameer

**Date Created:** 3/16/04

**Actors:** CHO Staff Member

**Description:** Each residential hall is assigned an RCH to oversee the hall's activities. This feature will allow a Staff member to add a new RCH to an exiting residential hall

**Preconditions:** 1. Staff member logs into system

**Postconditions:** A new RCH is added to a building

**Normal Flow:** 9.0 Add new RCH to an existing residential hall

1. Staff member logs into the system
2. Staff looks up the profile to a specific residential hall
3. Staff then add or edits the hall's RCH
4. Staff saves data in the system
5. The residential hall's profile is updated
6. The residential hall's RCH is added

**Alternative Flows:** None

**Exceptions:** 9.0.E.1 Missing information

1. All the required data must be entered. The system will block the user from submitting an incomplete form.

**Includes:** None

**Priority:** Medium

**Frequency of Use:** Medium

**Business Rules:**

**Special Requirements:** None

**Assumptions:**

Notes and Issues: None

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# SOFTWARE REQUIREMENTS SPECIFICATION

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## 1. Introduction

### 1.1 Purpose

This software requirement specification describes software functional and nonfunctional requirements for release 1.0 of the Online Work Order Request System for Pace University's Campus Housing. This document is intended to be used by the members of the project team that will implement and verify the correct functioning of the System. Unless otherwise noted, all requirements specified here are high priority and committed for release 1.0

### 1.2 Project Scope and Product Feature

The O.L.W.O.R System will allow residents living in Pace NYC residential halls to place work order request via an online application. A detailed project is available in the OLWOR System Vision and Scope Documentation. This section in the document titled "Scope of Initial and Subsequent Release" list the features that are scheduled for the full or partial implementation in this release.

### 1.3 References

1. Wieger, Karl. Cafeteria Ordering System

<http://processimpact.com/goodies.shtml>

## 2. Overall Description

### 2.1 Product Perspective

The Online Work Order Request System (O.L.W.O.R) is a new system that replaces the current manual and time consuming process for requesting work orders within Pace University's Residential halls. The context diagram in Figure D-1 illustrates the external entities and system interfaces for release 1.0. The system is expect to evolve over three releases, ultimately interconnecting residents and campus housing staff to an online interface for sending and receiving work order requests. Work order status will be updated within the O.L.W.O.R database and residents who requested a work order shall be notified promptly via the new system.

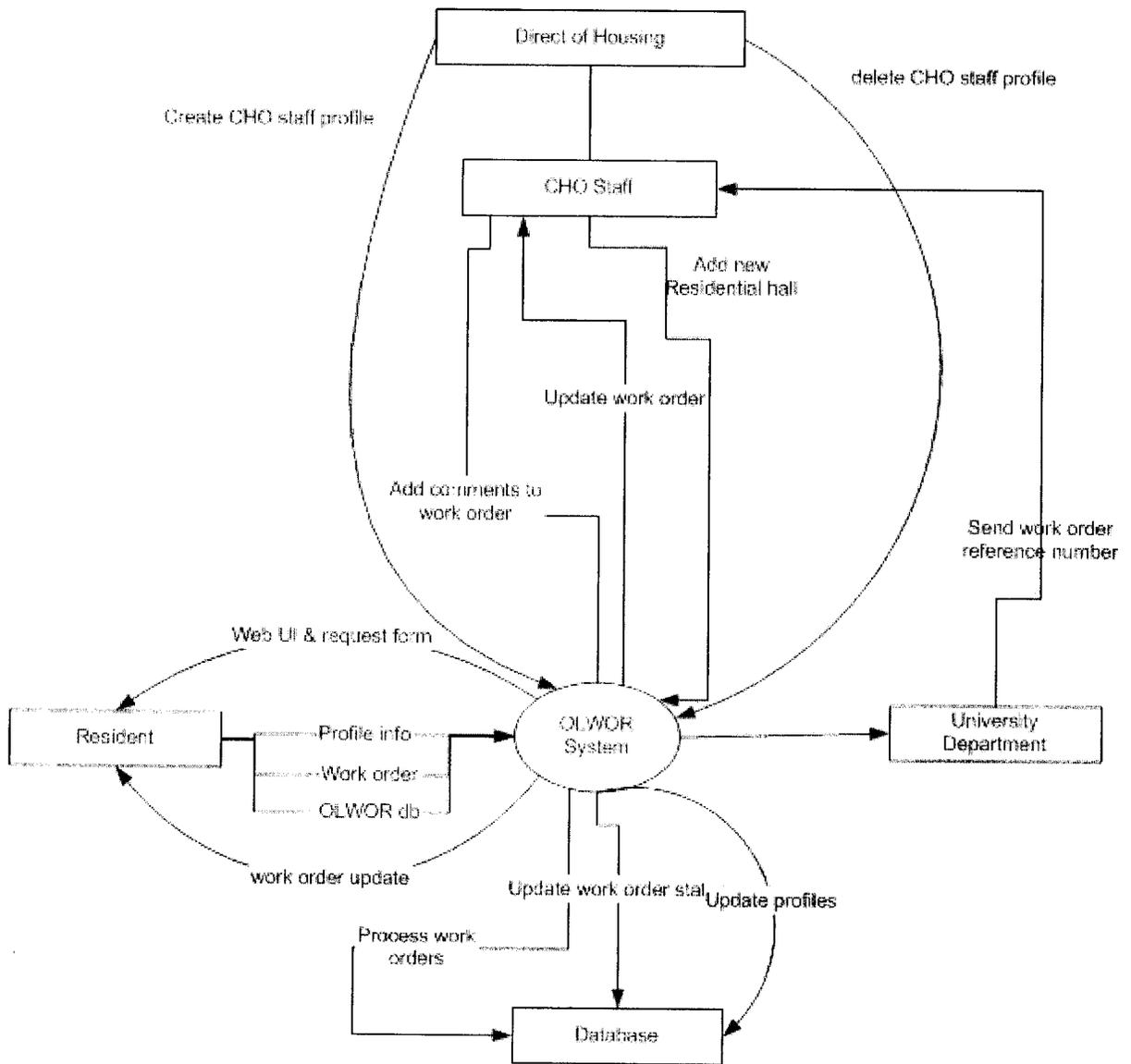


Figure D-1 Context diagram for release 1.0 for the O.L.W.O.R System

## 2.2 User Classes and Characters

User Class	Description
Resident	<p>The Online Work Order System only accepts requests from Pace University's residents living in Maria's Towers, Fulton Hall, Dutch Hall, New School Hall, and St. George Hotel. These residential halls reflect the Pace campus in NYC. There are an estimated 1,100 residents in the NYC area campus, and work orders can reach into the hundreds per month. Resident will sometimes request multiple work orders for the same or different problems; However, he or she will not be given a maximum amount of orders requested per length of time. All residents have internet access from their residential halls, and residents will be required to register an account with a profile stored in the O.L.W.O.R database. Residents can modify their profile to change passwords, residential hall locations, classifications, and contact information. They will not be allowed to modify their name, identification number assigned upon registration and email address. Residents cannot login during off-hours. Business hours are Mondays through Fridays 9:00 am to 5:00 pm. Campus Housing Operations is closed after 5pm and thus will not accept work request</p>
Campus Housing Staff Members and Director of Housing	<p>CHO Staff and Director of Housing represent the second class of user. CHO Staff Members and Director of Housing are very similar in operations which they can perform.</p> <p>CHO Staff Members will be the ones in charge of reviewing incoming work order requests. Once a CHO Staff Member reviews a submitted request, he/she will then send the request to the appropriate destination. The CHO Staff Member is responsible for updating the status of a submitted request and contacting the resident about any issues concerning the request. The CHO Staff Member can also file request, like a resident. CHO Staff Members cannot create access accounts for other staff members. That operation is restricted to the CHO Manager</p> <p>The Director of Housing will have the ability create new accounts for Staff Members. The Director of Housing can also edit staff member profiles and delete access to the system by removing a staff member account.</p> <p>The Director of Housing will have all the access privileges as the CHO</p>

Staff Member and Resident.

### **2.3 Operating Environment**

- OE-1 The Online Work Order Request System shall operate with the following Web browsers: Microsoft Internet Explorer versions 5.0+, Netscape Navigator 6+, Mozilla 1.6+ and Firefox .8+
- OE-2: The Online Work Order Request System shall run on either Windows, Linux , or UNIX based server. The server shall have all the necessary technologies installed, such as Apache Tomcat web server, MySQL database, and Java Development kit
- OE-3: The Online Work Order Request System shall permit residents access from Pace University Intranet and from the external internet

### **2.4 Design and Implementation Constraints**

- CO-1: The system's design, code, and maintenance documentation shall conform to the software engineering principal of the 'Water Fall Model' of development.
- CO-2: The system shall not be subjected to whether or not Pace University has the resources to implement the system.
- CO-3: All HTML code shall confirm to the HTML 4.0 standard.
- CO-4: The application will be written in Java JSP, Servlets, JavaScript and HTML.

### **2.5 User Documentation**

- UD-1: The system shall provide F.A.Q help document that describes all system functions , business rules and necessary procedures
- UD-2: The system shall provide a tutorial for the basic process of submitting an online request order. This will available for the release 1.0.

UD-2: The system shall provide a tutorial for the basic process of submitting an online request order. This will be available for the release 1.0.

## **2.6 Assumptions and Dependencies**

- AS-1: The Online Work Order Request System shall be opened Mondays through Fridays from 9:00 a.m to 5:00 p.m.
- DE-1: The operation of O.L.W.O.R depends on changes being made to the status of work orders, as well as resident profile updates and staff updates.
- DE-2: Work order completion status depends on the University's various Departments and their communication with CHO staff members
- DE-3: Residents are notified via email of completion of work orders when CHO staff members update the work order status via the application
- DE-4: Resident confirmation depends on whether or not they have received Completion status
- DE-5: Residents will have the ability to send feedback on the work order to CHO Manager. This feature will most likely be available in release 2.0.

## **3. System Features**

### **3.1 Work Orders**

#### **3.1.1 Description and Priority**

A resident whose identity has been verified may place a work order request for their residential hall. However, if they choose to modify the request, they must contact CHO staff members. Priority = High.

#### **3.1.2 Stimulus/Response Sequences**

- Stimulus: Resident wants to requests a work order for one or more problems.
- Response: System prompt the resident for an identification (Pace email address), and password to enter the system.
- Stimulus: Resident is logged in and fills out an online work order form.
- Response: The request is stored in the system database, and emails are sent to CHO staff members and a copy of the request is sent to the resident.
- Stimulus: Resident wishes to change his/her profile information.
- Response: The resident completes a form to update their information. All subsequent work orders from that resident will be affected.
- Stimulus: CHO staff member wants to update the status for a request.
- Response: CHO must log into the system and find the specific request they want to change. The changes will be stored in the system. An email will be sent to the resident reflecting the new status of the work order

### 3.1.3 Functional Requirements

Resident.Enters:	The system shall prompt the resident for a user ID (Pace Email) and password..
Resident.Entesr.Register:	The system shall verify if resident is a currently living in the dorms
Resident.Enters.Cutoff.Notify:	The system shall notify the resident of appropriate contact information if an emergency during off-hours.
Resident.Profile:	The Resident shall modify existing profile for request to go through

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WorkOrder.SubmitRequest:	The system shall let a resident who is logged in to place a work order.
WorkOrder. SubmitRequest.Form:	The system shall display an online request form similar to the paper form that already exists.
WorkOrder. SubmitRequest.Form.Verify:	The system shall check for data in required fields of the Online request form.

WorkOrder.  
SubmitRequest.Form.Verify: The system shall check for data in required fields of the Online request form.

WorkOrder.  
SubmitRequest.Confirm: The system shall notify the user that the work order has been successfully placed

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WorkOrder.StoredRequest: The system shall store work order request and is associated with the particular resident account

WorkOrder.DeliverRequest.Location: The system shall correctly route work order request to CHO staff

WorkOrder. DeliverRequest.Forward: The system shall enable CHO staff to forward work order requests to appropriate University departments.

WorkOrder .DeliverRequest.  
DeliverRequest.Time: The system shall display the date and time of the work order.

WorkOrder.Deliver.Vandalism: The CHO manager will be able to notify residents of vandalism and the cost for repairs incurred by the resident.

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Order.Data.Admin: The system shall display request pending from residents. CHO staff will be able to update the status of each work order.

Order.Data.Sort: The CHO staff will be able to sort all request by date and residents.

Order.Data.Multiple: The system shall allow the resident to file multiple requests without a maximum amount per length of time.

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Admin.Data.Add: The system shall allow the CHO staff to add requests to the system.

Admin.Data.Remove:	The system shall allow the CHO staff to remove requests to the database.
Admin.Data.Staff:	The system shall allow the CHO Manager to modify staff information.
Admin.Data.Staff.Add:	The system shall allow the DOH to add a new Staff member.
Admin.Data.Staff.Remove:	The system shall allow the DOH to remove staff members.

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User.Data.Notify:	The system shall notify the resident when work order is complete.
User.Data.Confirm:	The resident will email their confirmation saying they have received the completed notification to CHO staff.
User.Data.Previous:	The system shall permit the resident to view any requests made in the past. (Priority=Low)

### 3.2 Create, View, Modify, and Delete Request

- CVMD-1: Residents may not modify or delete existing work order they have requested.
- CVMD-2: Residents may view and create work order requests.
- CVMD-3: CHO staff and Manager may create, view, modify, and delete work order requests.

### 3.3 Work Order Request Delivery

- WORD-1: The system shall send a notification of completion of work order when CHO staff have updated the status.

WORD-2: Residents are required to send back a confirmation to CHO managers stating they have received the completion confirmation. This feature will be available in a later release.

CVMD-3: CHO staff and Manager may create, view, modify, and delete work order requests.

## **4. External Interface Requirements**

### **4.1 User Interfaces**

UI-1: The Online Work Order Request System display shall conform to the design layout suggested by Diane White (see appendix). This design is upon her explicit request.

UI-2: The system shall provide a F.A.Q on the main page when the resident or CHO staff or Manager logs on.

### **4.2 Hardware Interfaces**

No hardware interfaces have been identified.

## **5. Other Non-Functional Requirements**

### **5.1 Performance Requirements**

PR-1: All Web pages generated by the system shall be presented to the end user in a respective amount of time – for both broadband and dialup users.

PR-2: Response time to queries should be short

PR-3: The system shall display confirmation messages after the user submits information to the system.

### **5.2 Safety Requirements**

SR-1: The system shall only be accessed by authorized users. A Resident must be a student who is living on campus in order to use this system. CHO Staff member profiles will be managed by the DOH. The DOH shall have the ability to grant and revoke access to the system.

### **5.3 Security Requirements**

- SCR-1: Users shall be required to log into the Online Work Order Request System for all operations
- SCR-2: The system shall not permit residents to view other work orders requested by submitted by other residents.
- SCR-3: Residents can not modify there user identification, but can change passwords.
- SCR-4 The system shall prevent false request by only allowing residents with a valid pace email to register to the system. This is done in 2 stage process: 1) Residents can only register if they have a pace email. 2) When a resident registers, the system shall generate a password for the resident. This generated password will be emailed to the resident's email account. Of the resident entered an invalid email address, they will not receive the generated default password and thus cannot access the site

#### 5.4 Software Quality Attributes

- Availability-1 The Online Work Order Request System shall be available to users on the Pace intranet and internet between 9:00 A.M. and 5:00 P.M eastern time.
- Robustness-1: If the connection between the user and the system is broken prior to placing a request or updating status, the O.L.W.O.R system may or may not recover an incomplete request or update session.
- Robustness-2: The Online Work Order Request System shall provide a quick and efficient way for residents to have work done to their residential halls and get feedback in a timely manner.
- Robustness-3: The Online Work Order Request System shall provide the maintainability, ease of use, reliability, and reusability to CHO staff, Manager and residents.
- Robustness-4: The Online Work Order Request System shall have an intuitive Interface which will require the user a minimal time spent reading F.A.Qs.

## BUSINESS RULES

ID	Rule Definition	Type of Rule	Static or Dynamic	Source
BR-1	Residents must contact the RA on duty if a work order emergency has occurred after 5pm, Monday – Friday, or on the weekend	Constraint	Static	Director of Housing
BR-2	Residents must submit work orders via the O.L.W.O.R. System.	Fact	Static	Director of Housing
BR-3	CHO Staff must submit all work orders on the day they are received or on the next business day if the work order was received after standard business hours.	Fact	Static	Director of Housing
BR-4	CHO staff must contact the appropriate maintenance department (i.e. DOIT, B&G, S&S) if a work order has not been completed in a timely manner or if a work order inappropriately received a “closed status.”	Fact	Static	Director of Housing
BR-5	CHO staff must communicate with the resident regarding work order status (i.e. completion, rejection, etc.).	Fact	Static	Director of Housing
BR-6	CHO staff must contact the resident if a work order request is not specific or unclear.	Fact	Static	Director of Housing
BR-7	CHO staff must print work order reports every two weeks for managerial review.	Fact	Static	Director of Housing
BR-8	CHO staff must notify the student if he/she incurs costs for damages.	Fact	Static	Director of Housing
BR-9	CHO staff must notify the Administrative Manager of any vandalism charges that must be applied to a student (for billing purposes).	Fact	Static	Director of Housing
BR-10	CHO staff must record all work order requests and reference numbers provided by the maintenance departments into the	Fact	Static	Director of Housing

O.L.W.O.R. System database for tracking purposes.

BR-11	CHO staff must immediately contact the maintenance department if a work order request is no longer needed by the resident or if a request was placed containing inaccurate information.	Fact	Static	Director of Housing
BR-12	All work order requests must include the resident's name, contact phone, room extension, building and room #, and the specific problem.	Fact	Static	Director of Housing