Hönnunarskýrsla
Verklegt námskeið 1
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Introduction

Nan air, founded by Chuck Norris, is a air travel company that travels to six destinations which are Reykjavík in Iceland, Nuuk and Kulusuk in Greenland, Thorshöfn in the Faroese islands, Tingwall in Shetland islands and Longyearbyen in Svalbard. Chuck has decided to expand his business so our objective is to create a program that registers employees, properties for our locations, and be able to make and save work orders and maintenance reports.

Design

Notkunartilvik (e. Use cases).

User Groups and background

Here are examples of what user groups would use the progam for a better understanding of who the program was made for.

Core Users:

- Supervisor and Employee, as they drive the system's primary functionality.

Support Users:

- Administrative Staff and External Contractors, ensuring data flow and task execution.

Supervisor | Yfirmenn

	maintenance supervisor:
WHO	age: 25 - 50
	gender: any
	education: experience or education in this field
	abilities/disabilities: unknown?
	general computer knowledge: above average
	number of users: amk 6 (einn fyrir hvern áfangastað)
WHY	Recording all maintenance and operational expences. They register information about new properties and new employees
WHAT	they will have access to the system through a computer
WHERE	Users will use the system at work
WHEN	how often: all workdays (5-7)
	how long each time: all workday (8hrs)
	user skills groups: experts
HOW	most important

Main User Goals: Monitor and approve tasks, view reports, and manage staff and properties.

- Age range: 30–50 years.
- Gender: Likely mixed but primarily industry-driven.
- Education: Likely a bachelor's degree in operations, logistics, or related fields.

- Abilities: Strong organizational and analytical skills; proficient in using software for reporting.

Employee | Starfsmenn

	Maintenance staff
WHO	age: 25 - 50
	gender: any
	education: any
	abilities/disabilities: unknown?
	general computer knowledge: average or above
	number of users: at least 6 (one for each destination)
WHY	Register a maintenance report for an open work order and flag a report as ready for closing by a supervisor
WHAT	they will have access to the system through a computer
WHERE	Employes will use the system at work
WHEN	how often: all workdays (5-7)
	how long each time: 2-5 hrs
	user skills groups: intermediate - experts
HOW	most important

Main User Goals: Update maintenance statuses, log work details, and access task lists.

- Age range: 25–60 years.
- Gender: Likely varied.
- Education: Skilled trades or certifications in maintenance; basic computer literacy.
- Abilities: Hands-on experience with tools and equipment; able to use simple digital interfaces.

External Contractors | Verktakar

Main User Goals: Receive and complete specific job assignments.

- Age range: 25–40 years.
- Gender: Likely more balanced or female-skewed.
- Education: Likely higher education in business administration or IT.
- Abilities: Skilled in data entry, reporting, and cross-department coordination.

Administrative Staff | Admin IT, Kerfisstjórar ?

Main User Goals: Manage data entry, generate reports, and coordinate between groups.

- Age range: 25–40 years.
- Gender: Likely more balanced or female-skewed.

- Education: Likely higher education in business administration or IT.
- Abilities: Skilled in data entry, reporting, and cross-department coordination.

User Stories

Here are examples of user stories, pretend scenarios of the needs of our users. What they will be able to do and want.

Supervisor | Yfirmaður:

(A Requirements) High priority tasks

Employee Management:

1. As a supervisor, I want to be able to list all employees.
2. As a supervisor, I want to be able to view the work plan.
3. As a supervisor, I want to be able to update employee information.
4. As a supervisor, I want to be able to register a new employee.

Search and Listings:

5. As a supervisor, I want to be able to list all employees and properties by location.
6. As a supervisor, I want to be able to search employees by SSN.
7. As a supervisor, I want to be able to search for a property using its property ID.
8. As a supervisor, I want to be able to search for work orders by their ID.
9. As a supervisor, I want to be able to search maintenance reports by property.
10. As a supervisor, I want to be able to search work orders by employee.
11. As a supervisor, I want to be able to search maintenance reports by employees.
12. As a supervisor, I want to be able to get the work plan.

Property Management:

13. As a supervisor, I want to be able to list all properties.
14. As a supervisor, I want to be able to add new property.
15. As a supervisor, I want to be able to update property information.

Work Report Management:

16. As a supervisor, I want to be able to list all work orders.
17. As a supervisor, I want to be able to mark work orders as finished.
18. As a supervisor, I want to be able to submit a new work order.
19. As a supervisor, I want to be able to update work order information.
20. As a supervisor, I want to be able to close a work order.
21. As a supervisor, I want to be able to reopen a work order.

B Requirements) Medium Priority tasks

Task Prioritization:

22. As a supervisor, I want to be able to assign priority levels to work orders (e.g., High, Medium, Low).

Contractor Management:

23. As a supervisor, I want to be able to list all contractors.
24. As a supervisor, I want to be able to add new contractors.
25. As a supervisor, I want to be able to update contractor information.

Employee

A Requirements)
Maintenance reports:

26. As an employee, I want to be able to list all maintenance reports.
27. As an employee, I want to be able to submit a new maintenance report.
28. As an employee, I want to be able to update maintenance report information.
29. As an employee, I want to be able to mark maintenance reports as finished.

Search:

30. As an employee, I want to be able to list all employees and properties by location.
31. As an employee, I want to be able to search for employees by SSN.
32. As an employee, I want to be able to search properties by ID.
33. As an employee, I want to be able to search a work order by ID.
34. As an employee, I want to be able to search maintenance reports by property.
35. As an employee, I want to be able to search work orders by employee.
36. As an employee, I want to be able to search maintenance reports by an employee.
37. As an employee, I want to be able to view the work plan.

B Requirements)
Task Prioritization:

38. As an employee, I want to be able to view the priority levels of tasks and work on them according to their importance (e.g., high, medium, low).

Requirement list

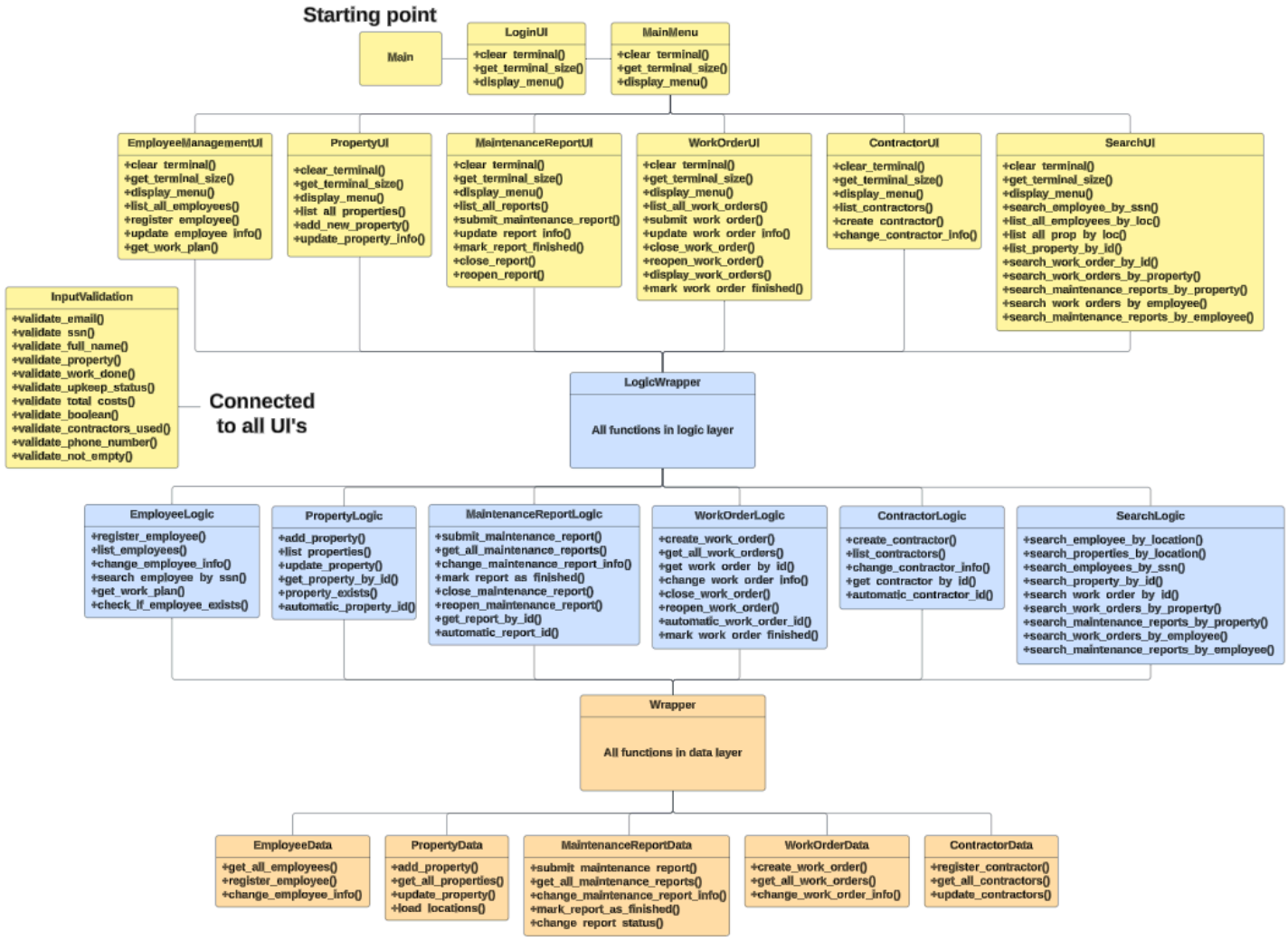
Here is a list of requirements, stating what the program needs to be able to do.
Each requirement has a user in mind, priority rating and description.

Task #	User	PRIO	Task Description	Requirement
1	supervisor	A	As a supervisor, I can register a new employee.	**Create/Register** new employee
2	supervisor	A	As a supervisor, I can edit an existing employee, except for their ID number or similar identifiers.	**Edit** existing employee data, except unique identifiers like SSN (Id number) or similar
3	supervisor	A	As a supervisor, I can search for an employee using their ID number or similar identifiers.	**Search** for employee using unique identifier like SSN or similar
4	supervisor	A	As a supervisor, I can view a list of employees and properties by location.	**Search** list of employees and properties by location
5	supervisor	A	As a supervisor, I can search for a property using its property number.	**Search** property by property number
6	supervisor	A	As a supervisor, I can find all work orders and reports for a specific property or employee.	**Search** work order reports by property or employee
7	supervisor	A	As a supervisor, I can register a new property.	**Create/Register** new property
8	supervisor	A	As a supervisor, I can edit details for an existing property.	**Edit** details for existing property
9	supervisor	A	As a supervisor, I can create a new work order.	**Create** new work order
10	supervisor	A	As a supervisor, I can edit work orders for my properties.	**Edit** work reports on my property. (Edit property should only be available for supervisors within their property domain?)
11	supervisor	A	As a supervisor, I can approve completed work reports, thus closing the work orders.	**Update / Close** work reports that are completed.
12	supervisor	A	As a supervisor, I can reopen approved reports if changes are necessary and re-approve them afterward.	**Update/ Re-open** work reports that have been closed. If changes are necessary, re-approve the changes.
13	supervisor	B	As a supervisor, I can assign priority levels to work orders (e.g., urgent, immediate, as convenient).	**Update** existing work orders - with priority levels. Only supervisors should have this write access

14	supervisor	B	As a supervisor, I can register new contractors for maintenance work on properties.	**Create/ Register** register new contractors for maintenance work
15	supervisor	B	As a supervisor, I can generate an overview of all maintenance work/ reports.	**Create** overview of maintenance reports
16	supervisor	B	As a supervisor, I can generate an overview of the tasks completed by a specific employee or contractor.	**Create** overview of tasks completed by specific employee or contractor
17	Employee	A	As an employee, I can log a maintenance report for an open work order.	**Create** work report for an open work order
18	Employee	A	As an employee, I can mark a work order as ready for closure by the supervisor.	**Update** work order as ready for closure Supervisor needs to approve to close the work order.
19	Employee	A	As an employee, I can view a list of all my open work orders.	**Search** list of open work orders / reports
20	Employee	B	As an employee, I can view the priority levels of tasks and work on them according to their importance (e.g., high, medium, low)	**Search / Filter** employee can view priority levels of task on work This function needs to be able to order the tasks by high, medium, low

Diagrams

Class diagram:



This is the class diagram representing our program. It follows a 3-layer setup where UI, Logic and Data are independent of each other. The starting point is the main.py file, where you run the program.

UI Layer - The UI layer is where all the menus are shown, everything is printed and inputs are handled.

LoginUI - This is the starting screen after running Main, here you choose if you are an employee or supervisor. The other menus then give extra options if you picked “supervisor” while those options are hidden if you picked “employee”.

MainMenu - The main menu is where you access all sub menus.

SearchUI - The search menu is where all the search functions are. Anything that requires you to give an input that then displays an object or list of objects.

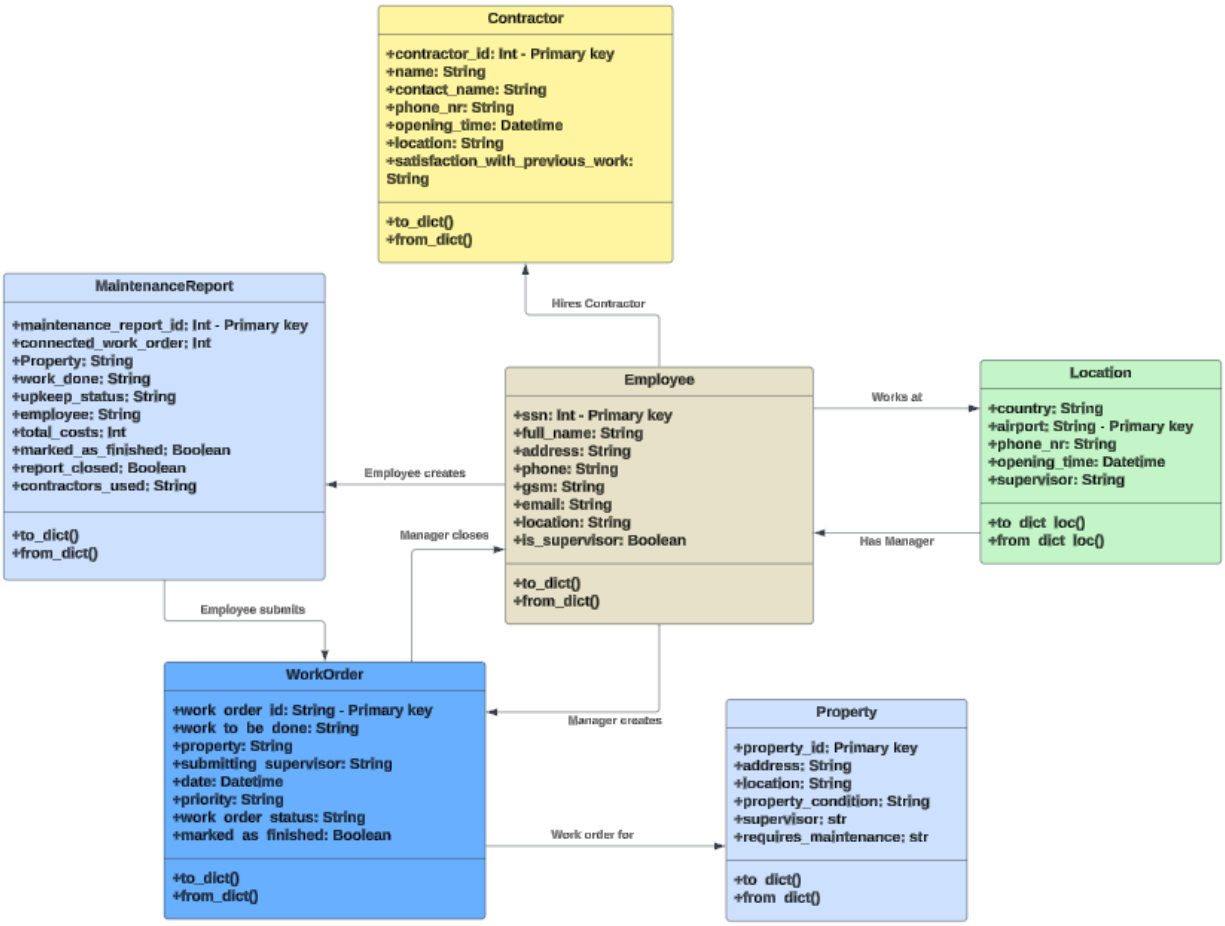
InputValidation - Here are all input validators, for checking if inputs are how they are supposed to be, returning True or False for the UI to interpret and print what should have been written. The other menus call input validation functions from here.

EmployeeManagementUI, PropertyUI, MaintenanceReportUI, WorkOrderUI and ContractorUI - All these menus are quite similar, each one displays the option of adding an object to their respective CSV, editing specific fields of an object in their CSV and displaying a list of all object in their CSV. Some have unique options like closing, marking as finished or reopening things but they are all quite similar in nature. EmployeeManagementUI has a unique option of displaying a work plan for employees, it shows all open work orders in the order of priority (High, medium, low).

Logic Layer - The logic layer is where most checks are made. Making sure something doesn't already exist, filtering lists, checking if an input from the UI layer should be allowed down to the data layer etc.
EmployeeLogic, PropertyLogic, MaintenanceReportLogic, WorkOrderLogic and ContractorLogic - Most of these logic classes work very similar. When adding an object they check if that object already exists if there are unique attributes, they check if certain inputs gotten from the UI layer should be allowed down to the Data Layer and most also have a function that creates an automatic ID where needed.
SearchLogic - This is where lists gotten from the data layer are filtered with inputs from the UI layer. Each function filters a specific list with given input from UI.
LogicWrapper - This is where all functions from the logic layer go. The UI layer calls the logic wrapper for a function, which then calls the correct Logic layer class for that function.

Data layer - The data layer handles all adding and editing of CSV files. Here is also where lists of everything in a CSV file are gotten from.
EmployeeData, PropertyData, MaintenanceReportData, WorkOrderData and ContractorData - These are all very similar. Each one has a function that adds an object to their respective CSV file, can edit the field of a given object with new values and create lists of all objects in their CSV file.

Model diagram:



Here is the model diagram, representing the models the program contains. Each model contains attributes for that object. Below you can see the relationships between the models and each of their attributes.

Descriptions of model diagram:

Employee

Relationships:

- Works at a location (using the is_supervisor boolean flag to distinguish roles)
- Employees can create work orders.
- Creates work orders and submits maintenance reports.

Attributes:

- ssn (Primary Key): Unique identifier for the employee.
- full_name: The full name of the employee.
- address: The employee's address.
- phone: Home phone number of the employee.
- gsm: Mobile phone number.
- email: Email address.
- location: The location/office where the employee is based.

- is_supervisor (Boolean): Indicates if the employee is a supervisor.

Location

Relationships:

- Acts as a base for employees.
- Associated with properties.
- Has a supervisor

Attributes:

- Includes details such as Country, Airport, Phone number, opening times and current supervisor.

Contractor

Relationships:

- Hired for maintenance tasks.

Attributes:

- Includes details such as ContractorID, Name (individual or company), Contact name, Phone number, Opening time, Location and satisfaction with previous work (If they have done work with them before).

MaintenanceReport

Relationships:

- Connected to a work order.
- Submitted by an employee.
- Can involve contractors.
- Approved by supervisors.

Attributes:

- Includes details such as MaintenanceReportID, Property, WorkDone, UpkeepStatus (if work done was regular upkeep or emergency repairs), Employee (who wrote it), TotalPrice, MarkedAsFinished (If work is marked as finished or not by an employee), ReportStatus (whether report is open or closed) and ContractorsUsed.

WorkOrder

Relationships:

- Created by a supervisor.
- Associated with a specific property.
- Can be marked as finished.

Attributes:

- Includes details such as WorkOrderID, WorkToBeDone (what work the manager wants finished), Property, SubmittingManager, Date (when work order was submitted), Priority (states if work should be done right away or has a later deadline) , WorkOrderStatus (states whether work order is closed or open) and MarkedAsFinished (True of finished and False if not).

Property

Relationships:

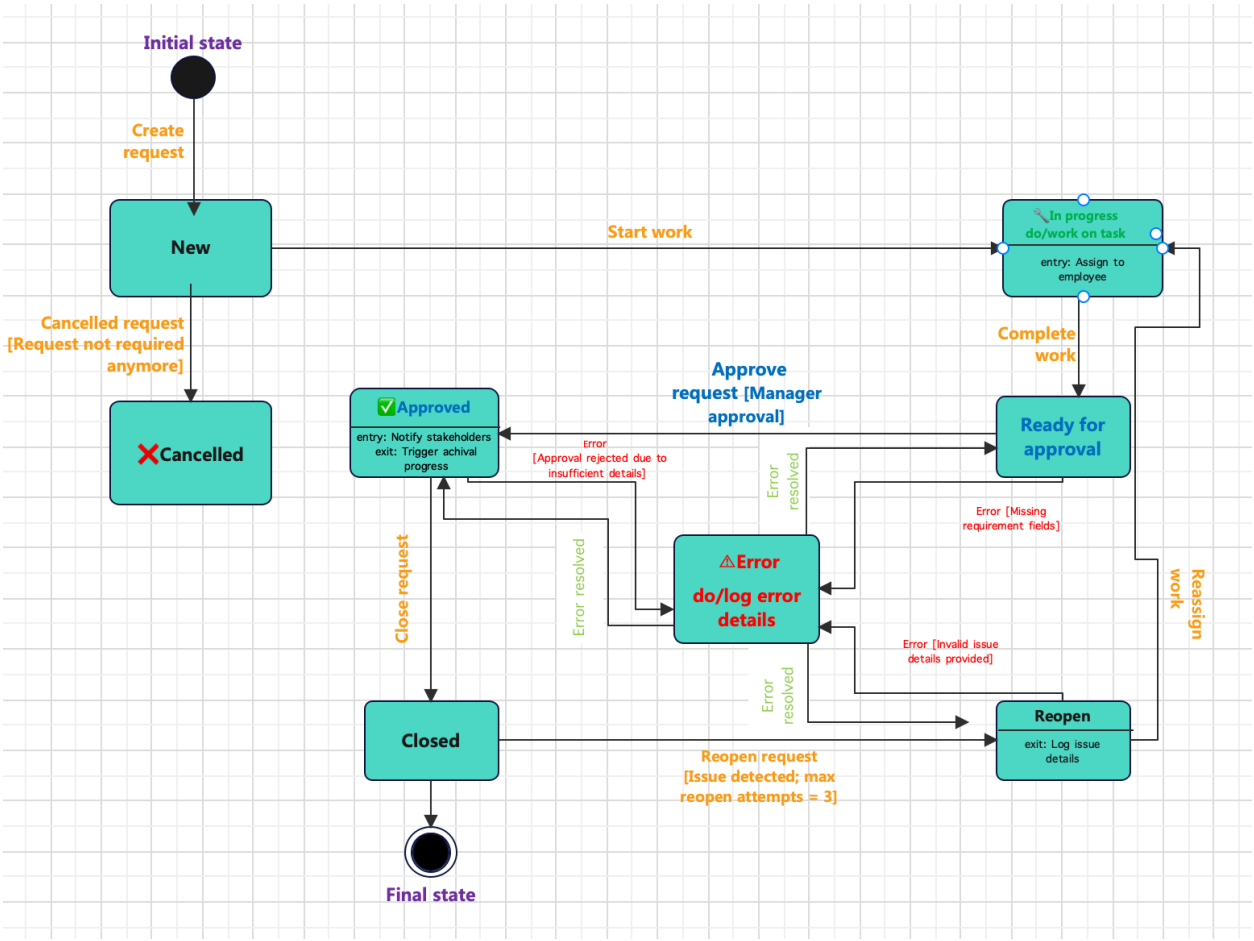
- Associated with work orders and maintenance reports.
- Managed by a supervisor.

Attributes:

- Includes details such as PropertyID, Address, location, Property Condition, supervisor and what requires maintenance.

State diagram

Here it shows how the states of the program work.



Description of the State Diagram

1. Initial state
    - Description: Starting point of the system, representing the first action that must be performed.
    - In this case: Represents the creation of a new system.
2. New
    - Description: The request has been created but no action has been taken yet.
    - In this case: A request is awaiting further action such as being assigned to an employee or canceled.

3. Cancelled
    - Description: The request is no longer needed and therefore canceled before any work begins.
    - In this case: Triggered when a manager or employee decides a task is no longer required.
4. In progress
    - Description: The work is currently in progress by an employee.
    - In this case: The system transitions to this state when work begins, and the employee is completing assigned tasks.
5. Ready for approval
    - Description: The employee has finished his task and is now waiting for approval by his manager.
    - In this case: Represents the point where work is complete but cannot be finalized until approved by a supervisor.
6. Approved
    - Description: The request has now been reviewed and approved by the manager.
    - In this case: Approval signals the completion and readiness to close the request.
7. Closed
    - Description: The request is now finalized and therefore no other action can be taken.
    - In this case: This represents the end of the process, and the system transitions to the final state.
8. Error
    - Description: There has been an error occurred, such as missing or invalid details, which prevents the request from proceeding.
    - In this case: The system logs the error and waits for it to be resolved before continuing.
9. Reopen
    - Description: A closed request is reopened due to identified issues or additional work needed.
    - In this case: A manager or an employee reopens the request, transitioning it back to "In Progress" or another state.

Final state

- Description: Final point of the system, no further transition can occur.
- In this case: The request is officially completed.

Use cases

Here is a detailed list of use cases, showing basic flow for functions of the program, alternative flows and more.

Number, name	1. **Create/Register** new employee
Basic flow	1. Supervisor opens the program and logs in as supervisor. 2. Supervisor selects “Employee Management“ 3. Supervisor selects “Register New Employee” 4. Supervisor fills out necessary information about employee 5. Once info is filled out Program sends a success message.
Alternative flow	1. Employee with same identifier like SSN already in the system Program prompts an **Error** - Employee with {SSN} already exists 2. Supervisor doesn’t enter a valid SSN Program sends an Error message. 3. Supervisor doesn’t fill in valid information Program sends an Error message.
Preconditions	None
Postconditions	Employee successfully registered in the system
Author(s)	Supervisor

Number, name	2. **Edit** existing employee data, except unique identifiers like SSN (Id number) or similar
Basic flow	1. Supervisor opens the program and logs in as supervisor. 2. Supervisor selects “Employee Management“ 3. Supervisor selects “Update Employee Information” .

	4. He gets a list of all the employees. 5. Supervisor enters the SSN of the employee to update. 6. Program displays all the fields to update. 7. Supervisor selects field to update 8. Supervisor enters the new value for that field 9. Program shows the info once updated
Alternative flow	1. Supervisor enters wrong SSN - Error message: “no employee with that SSN” 2. Incorrect field chosen - Error message: “Invalid choice. Please try again”
Preconditions	1. Employee has to exist in the system DB 2. Only a supervisor can make these changes.
Postconditions	Changes from supervisor to Employee data fields are changed and updated in the system
Author(s)	Supervisor

Number, name	3. **Search / Filter** for employee using unique identifier like SSN or similar
Basic flow	1. Supervisor opens the program and selects the search function. 2. Program prompts what to search for like name, ssn, phoneNumber, location etc. 3. Supervisor selects which field he/she wants to search for 4. Supervisor types in what he is searching 5. Program displays the correct employee on screen.
Alternative flow	1. Supervisor searches for example for an employee that does not exist in the program then takes him back to choose what he wants to search for.
Preconditions	Employee has to exist in the system
Postconditions	Employee search for is displayed on screen
Author(s)	Supervisor

Name, number	4. **Search / filter** list of employees and properties by location
Basic flow	1. Supervisor opens the program and selects the search function. 2. Supervisor selects “List all employees and properties by location. 3. Then the supervisor chooses if he wants to list all employees by location or if he wants to list all properties by location. 4. a) If the supervisor chooses to list employees by location he needs to input the location he wants to. b) If the supervisor chooses to list all properties by location he needs to input the location he wants to.
Alternative flow	None
Preconditions	Location has to exist in system DB Only authorized user can use this function (supervisor)
Postconditions	When supervisor selects a Location to filter out it displays the necessary data
Author(s)	Supervisor

Name, number	5. **Search** property by property number
Basic flow	1. Supervisor selects “Search”. 2. Supervisor selects “Search Property by ID” 3. Supervisor enters property ID. 4. Program displays data regarding that property
Alternative flow	1. Property ID doesn't exist - Program shows the menu again
Preconditions	Only Supervisor can use this function
Postconditions	Program displays the correct data from what the user (supervisor) selects.
Author(s)	Supervisor

Name, number	6. **Search** work order reports by property or employee
Basic flow	1. Supervisor opens the program and selects the search function.

	2. Program ask's supervisor what property name to look for. 3. Program displays necessary data from supervisor selection.
Alternative flow	1. Supervisor search input not found in system DB. "Error msg: no work orders for this property"
Preconditions	Only Authorized user is allowed to use this function
Postconditions	Program displays the correct data from what the user (supervisor) selects.
Author(s)	Supervisor

Name, number	7. **Create/Register** new property
Basic flow	1. Supervisor selects "Property Management" 2. Supervisor selects "Add New Property" 3. Supervisor fill out information about the property 4. New property gets saved
Alternative flow	1. Information fields about new property are missing "Error msg: {field} cannot be empty
Preconditions	Supervisor is logged in. Only Authorized users are allowed to use this function (supervisor).
Postconditions	New Property is saved in the program
Author(s)	Supervisor

Name, number	8. **Edit** details for existing property
Basic flow	1. Supervisor opens the program an selects the "Property Management" function 2. Supervisor selects "update property information" 3. Program asks the supervisor the property ID in which he wants to edit. 4. The program asks the supervisor what field he wants to edit.

	5. Program asks supervisor what to edit 6. Supervisor confirms changes 7. Supervisor submits changes 8. Changes are updated in system db once submitted
Alternative flow	1. Only Authorized user is allowed to use this function 2. Supervisor inputs a number of fields that don't exist, f.x. Number 6 and then an error msg occurs: “You must choose a number between 1-5, try again.”
Preconditions	Only Authorized user is allowed to use this function
Postconditions	Property changes from supervisor are updated in system DB
Author(s)	Supervisor

Name, number	9. **Create** new work order
Basic flow	1. Supervisor opens the program and selects the “Work order management”. 2. Supervisor selects “create new work order”. 3. Supervisor fills out necessary information for the work order. 4. Program prompts the supervisor to confirm the work order 5. Supervisor confirms and submits the work order 6. Work order er created/registered in system db
Alternative flow	None
Preconditions	Only Authorized user is allowed to use this function
Postconditions	System creates/registers work order with data given from Supervisor
Author(s)	Supervisor

Name, number	10. **Update / Close** work orders that are completed.

Basic flow	1. Supervisor opens the program and selects the work order function. 2. Supervisor select “Update work order information” or “Close work order”. 3. Then he chooses the work order ID. 4. Supervisor selects update work order.
Alternative flow	1. Work report does not exist Error msg: “work order not found”
Preconditions	Work order must be complete
Postconditions	Work order is closed for changes
Author(s)	Supervisor

Name, number	11. **Re-open** work reports that have been closed. If changes are necessary, re-approve the changes.
Basic flow	1. Supervisor opens the program and selects the work order function. 2. Supervisor selects “Reopen work order”. 3. Then he chooses the work order ID. 4. Supervisor selects update work order.
Alternative flow	2. Work report does not exist Error msg: “work order not found”
Preconditions	Only Authorized user is allowed to use this function
Postconditions	Work report is re-opened Work report is open for changes if changes are made the work reports needs to be re-approved by supervisor
Author(s)	Supervisor

Name, number	12. **Update** existing work orders - with priority levels.
Basic flow	1. Supervisor selects “Work Order Management”. 2. Supervisor selects “Update Work Order Information” 3. Supervisor enters in the work order ID to update. 4. Supervisor updates fields. 5. Work order is updated

Alternative flow	1. Work order does not exist Error msg: Work Order not found
Preconditions	1. Work order needs to exist in DB 2. Only Authorized user is allowed to use this function
Postconditions	Work order is updated in system DB given the data from the supervisor.
Author(s)	supervisor

Name, number	13. **Create/ Register** register new contractors for maintenance work
Basic flow	1. Supervisor opens the program and selects “Contractor management”. 2. Supervisor selects “add new contractor”. 3. Supervisor fills out all info about contractor and selects confirm 4. Program has registered contractor for the maintenance work
Alternative flow	1. Supervisor doesn’t fill out some information, f.x. Company name. Then an error msg occurs: Company name cannot be empty.
Preconditions	Authorized supervisor fills out the information.
Postconditions	Contractor is registered in the system DB
Author(s)	Supervisor

Name, number	14. **Update** work orders Can add comments when closing a work order from contractors
Basic flow	1. Supervisor opens the program and selects the “Work order management” function. 2. Supervisor selects “Update work order information” 3. Supervisor chooses the ID of the work order. 4. Supervisor can add to the description and update the report.
Alternative flow	1. Supervisor inputs a wrong work order ID.

	An error msg occurs: Work order not found.
Preconditions	The order/report has been completed by the contractors
Postconditions	Supervisor doesn't change anything about the work order.
Author(s)	Supervisor

Name, number	15. **List** all maintenance reports
Basic flow	1. Supervisor opens the program and selects "Maintenance report management". 2. Supervisor selects "List all maintenance reports" 3. Program displays all maintenance reports in that period
Alternative flow	1. No reports in that period Error msg: No reports in this period
Preconditions	Only Authorized user is allowed to use this function
Postconditions	Program displays a list of maintenance reports for the selected period
Author(s)	Supervisor

Name, number	16. **Create** overview of work orders completed by specific employee
Basic flow	1. Supervisor selects "search" 2. Supervisor selects "search work orders by employee" 3. Supervisor enters the employees SSN 4. Program provides a list of all work orders completed by the employee.
Alternative flow	1. No tasks completed by employee or contractor Error msg: No work orders for this employee
Preconditions	Employee or contractor has to exist in the system DB
Postconditions	Program displays the work orders completed by the employee.

Author(s)	Supervisor

Name, number	17. **Create** maintenance report
Basic flow	1. Employee selects “Maintenance Report Management” 2. Employee selects “Submit New Maintenance Report” 3. Employee fills out all the information. 4. Program creates work report
Alternative flow	1. Not all the necessary information has been filled out Error msg: Invalid. Please try again.
Preconditions	Employee is logged in
Postconditions	Program has created the work report
Author(s)	Employee

Name, number	18. **Mark** work order as finished Supervisor needs to approve to close the work order.
Basic flow	1. User selects “Work order Management” 2. User selects “Mark Work Order as finished”. And enters the ID of the work order. 3. The work order is marked as finished
Alternative flow	1. Incorrect ID - Error msg: No work order with this id
Preconditions	The work order exists
Postconditions	Work order is marked as finished
Author(s)	Employee and supervisor

Name, number	19. **Search** list of maintenance reports
Basic flow	1. User selects “Maintenance Report Management” 2. User selects “List All Maintenance Reports” 3. Program displays a list of all maintenance reports.

Alternative flow	1.There are no open reports - Error msg: No reports
Preconditions	The report has to exist in the database
Postconditions	all ,maintenance reports are displayed
Author(s)	All personnel

Name, number	20. **Search** specific view for information about contractors registered for a maintenance report
Basic flow	1. User select “maintenance report management” 2. User selects “ list all maintenance reports” 3. Program displays all information about all reports as well as contractors who are registered for the project
Alternative flow	1. No work orders - Error msg: No work orders
Preconditions	user logged in
Postconditions	Program displays the info for the maintenance report and the contractor/s registered.
Author(s)	All personnel

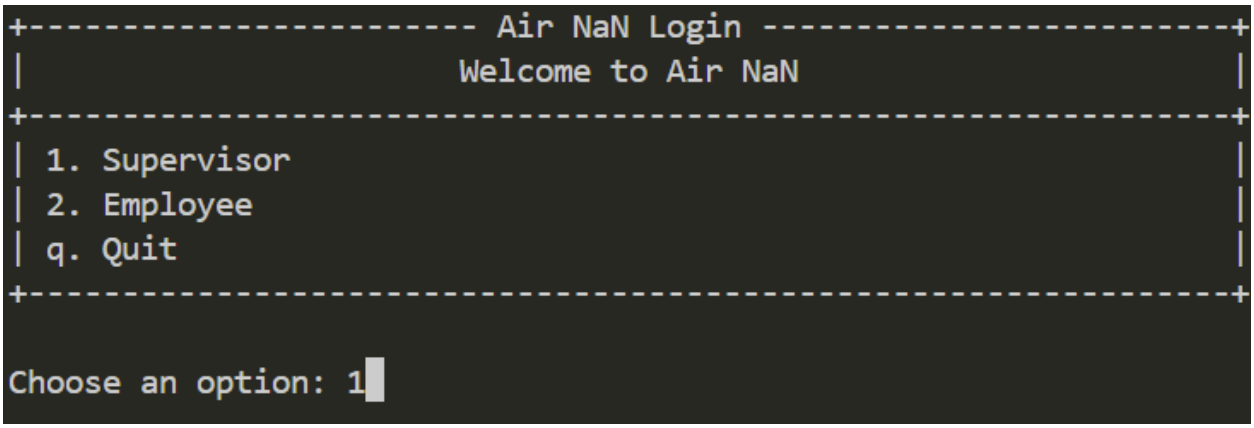
Name, number	21. **List** the work plan by priority
Basic flow	1. User selects “Employee Management” 2. User selects “Show work plan” 3. Program displays a list of work needed to be completed and sorts by priority
Alternative flow	1. There is no matching information to the search. Error msg: “No work orders found for the selected criteria” 2. Employee or supervisor enters invalid or incomplete input. Error msg: “please input both location and time period to search.
Preconditions	Work orders must exist in the program database.
Postconditions	The system displays a filtered list of work orders that match the entered location and date/time criteria.

Author(s)	Employee and supervisor

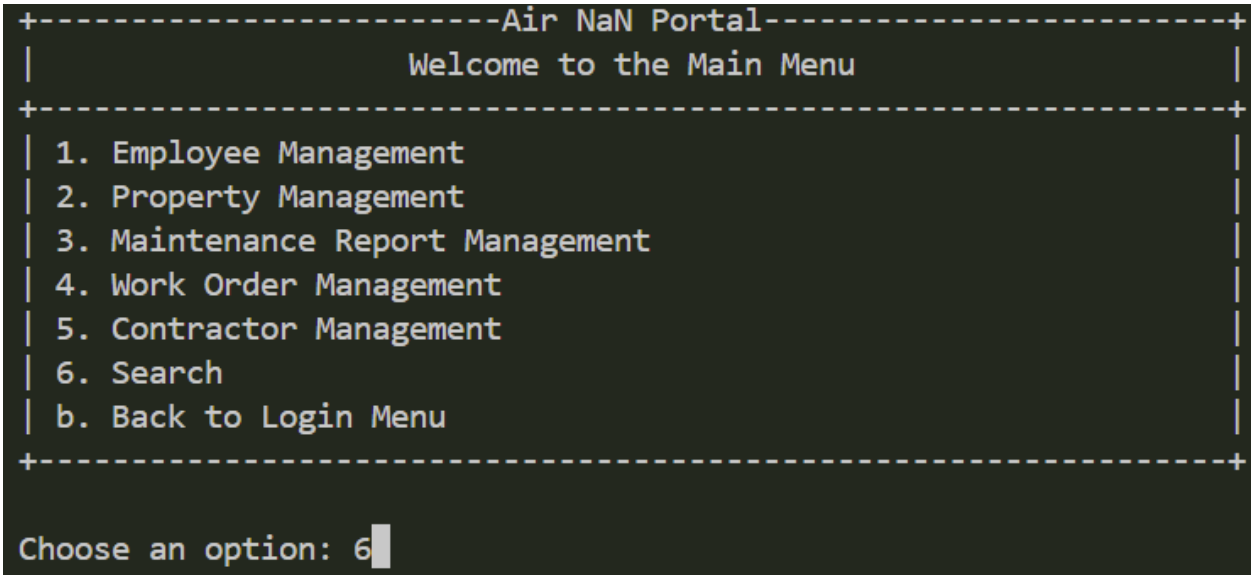
Happy path setup as wireframe

Here is an example of a happy path, a flow where everything works as intended. In this example the user (a supervisor) wants to search all employees by location.

Main Window :



Supervisor Main Window



Search Window

```
+--------------------Air NaN Employee Portal----------------------+
|                   Welcome to the Search Menu                     |
+------------------------------------------------------------------+
| 1. List All Employees and Properties by Location                 |
| 2. Search Employee by SSN                                        |
| 3. Search Property by ID                                         |
| 4. Search Workorder by ID                                        |
| 5. Search Workorder by Property                                  |
| 6. Search maintenance reports by property                        |
| 7. Search Workorders by employee                                 |
| 8. Search maintenance reports by employee                        |
| b. Exit                                                          |
+------------------------------------------------------------------+

Choose an option: 1
```

List all Employees and properties by Location Glugginn

```
+--------------------Air NaN Employee Portal----------------------+
|                   Welcome to the Search Menu                     |
+------------------------------------------------------------------+
| 1. List All Employees by Location                                |
| 2. List All Properties by location                               |
+------------------------------------------------------------------+

Enter what list you want to see: 1

 Enter Location: Reykjavík
```

Lists all employees by the location

```
+-------------------------------------------------------------------------------------------------------------------------------------------------------+
|                                                                List All Employees by Location                                                         |
+-------------------------------------------------------------------------------------------------------------------------------------------------------+
ssn         | full_name                | address           | phone   | gsm      | email                | location   | is_supervisor
--------------------------------------------------------------------------------------------------------------------------------------------------------
2507932379  | John Smith               | 10 Downing St     | 6661222 | 555-1234 | john.smith@example.com | Reykjavík  | True
1312933459  | Gunnar Örvar             | Áshamar 44        | 8667373 | 8667373  | gunnaro@nan.is       | Reykjavík  | True
1111962219  | Páll Elvar Kristinnsson  | Sóleyjarhlíð 17   | 7904422 | 7904422  | pallelvar@nan.is     | Reykjavík  | True
1111002390  | Tómas Örn                | Tryggvagata 2     | 8884455 | 8884455  | tomasorn@nan.is      | Reykjavík  | True
2307992359  | Dísa Sól                 | Langholt 4A       | 7871212 | 7871212  | disas@nan.is         | Reykjavík  | True
0404042200  | Hildur Sif Björgvinsdóttir | Lágmúli 8       | 8881234 | 8881234  | hildursif@nan.is     | Reykjavík  | True
2409992219  | Daniel Magnús Þorsteinsson | Skipholt 4B     | 7871122 | 7871122  | danielmagnus@nan.is  | Reykjavík  | True
1111002000  | Snorri Snorrasson        | Torfufell 12      | 8980011 | 8980011  | snorris@nan.is       | Reykjavík  | False
1909942959  | Guðmundur Jón jónsson    |                   | 7791212 | 7791212  | arndis@nan.is        | Reykjavík  | False
1908995959  | Lárus Þorri Guðnasson    | Leifsgata 8       | 8981919 | 8981919  | larusth@nan.is       | Reykjavík  | False
2406941359  | Aníta Rut Ólafdóttir     | Ásbergsbrekka 55  | 8889090 | 8889090  | anitarut@nan.is      | Reykjavík  | False
2511945959  | Anna Lísa Guðjónsdóttir  | Austurberg 5      | 7773434 | 7773434  | annalisaa@nan.is     | Reykjavík  | False
1711732218  | Auðbergur Þórarins       | Arnartangi 22     | 8881212 | 8881212  | aubbi@nan.is         | Reykjavík  | False

Press Enter to return to the menu.
```

Conclusion

The project went well, everybody worked well together and we were able to complete all the A-requirements and all B-requirements except for one because of time restraints. In general we are very happy with how it went and how the program turned out and all the functions that we wanted to use are fully functional.

Easter Egg for Gylfis eyes only