

"When I am looking out the window, and the sky is grey as I am feeleing inside; It is as the world is carrying some of my burden."

# Nour El Refai





How can we meet the needs of the users in the best way?



What do we want to give to city with this building?

Fannie Runneberger

Jonatan Svensson





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Fannie Runneberger

Jonatan Svensson





Fannie Runneberger

Jonatan Svensson





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privacy interaction other people vertical flow horisontal flow size of spaces accessibility security Fannie Runneberger

Jonatan Svensson





#### context





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**Sena Akcicek** 

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#### site 's dynamics



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#### the theme: weather



weather generated movement



weather generated movement



wind reveals on a water surface as ripples and water drops wind reveals on a water surface as ripples and water drops

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#### design process



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# adding elevator shafts for vertical circulation

#### design process



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# design process



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#### program and flows



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Sena Akcicek

LEGEND



age

length of stay

security



wards

administravite

greenery

ambulance hall

circulation & technical

### ground floor



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0 5 10



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0 5 10

FLOOR 4

WARD 24 PLAN VIEW

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FLOOR 4

WARD 24 PLAN VIEW

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FLOOR 4

0 5 10



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FLOOR 4

WARD 24 PLAN VIEW

0 5 10



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#### Fannie Runneberger

Jonatan Svensson











Offices



Examination Consultation







Kitchen zone



Activity room



Circulation areas



/isiting rooms

#### inpatient ward





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#### outpatient



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floor 2 ABC & BUP

plan view

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#### forensic with court





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# use of gardens in forensic wards



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# elevation



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# view from ground level



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# structure



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# patient room





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# patient room



all elements are specially designed to avoid accidents

views in two different directions

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public/private zones



wheelchair accessibility



asy access from bed to bethrooms



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# future - zoom in to public space





attractive green vehicle storage

kiosks all over the park

use of weather theme in public space

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Jonatan Svensson



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zoom-in



## context



Västervik is located on the east coast of Sweden and belongs to Kalmar county. It has around 20,000 inhabitants. It is closely tied to Kalmar and Växjö, consequently Västervik Sjukhus does not only serve to city of Västervik but also to the towns and cities close-by.



LOCATION OF URBAN SITE IN VÄSTERVIK

The urban site, which is located in a central position of the hospital premises, was chosen. Often patients with psychiatric diseases also have somatic problems, therefore it can provide proximity to other health facilities. Placing the psychiatric care at the same place as somatic care also reduces the stigma around mental illnesses.





Dissimilarities and fragmentation of the hospital premises and flows of the site

## CONTEXT OF THE VÄSTERVIK SJUKHUS

Västerviks Sjukhus is located in the city center of Västervik. It is surrounded by many public functions such as restaurants, cafés, shops, schools, hotels, markets, theaters and religious facilities. To the south it is cut by train rails and further it is mostly residential areas.

One can see the hospital site brings in the green with the artificial pond and gardens in the heart of the hospital, never the less the rest of the greenery is mostly some grass and row of trees surrounding the parking lots. Stadsparken and the cemetary are two big plots of green in close proximity.

The visitors of the hospital can reach to the hospital with their cars or by public transportation. There are bus and train stops surrounding the hospital. While train provides an easy access for many patients coming from further locations (Kalmar County) it also becomes a boundary/obstacle.

There are many parking lots spread all over the hospital site. Nevertheless they are very unattractive and takes a big amount of the area that hospital owns. On the other hand the spread positioning of the parking lots allows fast and easy access to the building both for the patients and staff.

### CONTEXT IN HEALTHCARE

In the past, the focus was primarily on the medicines and the machines, and other external attributes. Nevertheless perspectives are changing nowadays. We believe in the holistic movement in healthcare, with focus on the patients and their relatives.

The current psychiatric facility at the hospital does not support this perspective on healthcare. The unites are old and to small. Currently three patients are sharing the same room.

## vision



### WHY?

## How?

## WHAT?

The aim of this project is to create a space that is welcoming, accessible, inspiring and motivating. By providing well-thought spaces, it aims to make the lives of the staff easier and in this way it can attract/retain more health workers with lower turn-over ratios.

## FOR WHO?

The building design will be focused to fit the needs of three groups of people: patients, staff and the public. The different groups have different needs and wants in privacy, interactions, flows, size of spaces, accessibility and security. Identified people affected by the design of the building:

1. Patient visiting outpati 2. Patient in inpatient wo 3. Patient in forensic car 4. Employee of staff eq. 5. Patient consultant

The old psychiatric facility of Västervik neither provides the needs of the city nor the patients. What have changed since the time it was built? T he society we are facing today is completely different then the needs of the 20th century. Health facilities as strict institutions are not appealing, does not feel good to be in let alone being healing. The design of the old hospital environments lack the qualities that are indicated to be importent by research informed design. Also they do not promote/nudge towards healthier habits.

Nowadays we also completely overlook health's importance in our life styles. Not just our physical health but also the mental health. The society does not accept how common the mental illnesses are, does not have awareness on this topic and eventually stigmatizes all mental related-conditions.

Stigmas are needed to be broken by creating environments to spread knowledge on these unspoken topics. Providing spaces that fosters interactions, conversations and discussions will expand the knowledge of the society. By using RID (Researched Informed Design) the new psychiatric facility can be a well-designed healing environment. It can be designed for achieving a homelike feeling to spread the idea of normality and nudge people to make healthier decisions such as taking the stairs instead of elevators.

Therefore architecture of the new hospital plays a crucial role to achieve all these aims at once. It can provide comfortable healing space for users and it can be a great tool to fight off the stigmas psychiatric diseases have while spreading normality through knowledge exchange.

ent ward	6. Maintenace staff member
ard	7. Public visitor to cafeterias etc
е	8. Relatives to patients
physician	9. Neighbours to hospital area

## themes & strategy

## WEATHER AS STRATEGY

Weather is an aspect of nature that was chosen for this project to uplift the well-being of patients. Additionnaly it brings normality to inpatient wards, where the patients do not have access to outdoors. Weather, is also understanding. It can build empathy. When a patient feel upset, a cloudy sky addresses to the feelings better than a bright day. Or snowfall might reduce the anxiety of a person by its slow and smooth movement. The common areas of the hospital is designed to bring weather related feelings to users to be achieved through installations or architectural features.



weather generated movement, motion of plants shadows hinting the wind outside



weather generated movement, existence of shadow and light



wind reveals on a water surface as ripples and water drops

## HEALTH PROMOTION

In our project we have a broad perspective on health promotion, to promote health on many stages. This building, with its big volume, will be seen from a far distance. It will be a landmark that strengthens the awareness of mental illness which is still stigmatized. By placing the building in the center of the hospital area, and in an urban location, the building shows that mental illness is a disease just like any other.

In our opinion, a psychiatric hospital must have a presence spreading health awareness to its surrounding. Therefore we have tried to think from the user perspective in each step. First of all, our aim with this building is to break the stigmas that psychiatric diseases have, spread normality and do these through research informed design. To promote mental health, we present this building as a spot of exchange of knowledge on mental health related issues. Every point of the building is designed to create interactions, consequently knowledge transfer and normalization of mental health related issues.

The ground floor is a welcoming public space for the citizens, with café, library and an auditorium. This is a place for knowledge exchange in two directions to build a relation between the professionals and the public. We are making incentives for spontaneous meetings by creating a welcoming lobby and open office space.

Mental illness is often connected with somatic diseases. We strongly believe that the health of the body and the mind are interdependent. An environment that invites to outdoor activities, physical activities as well as relaxation, is a key factor for mental health. An important part of this project is the accessible, safe and generous outdoor areas. Moving our bodies instead of depending on the technical elements, such as elevators, is the first step for a healthy body. Therefore the building is equipped with interesting weather related interactive elements to create 'curiosity' and nudge to wonder around. This feature does not only address to its main users but also to the general public. Therefore also has a greater chance of spreading knowledge.

The vertical circulation elements are designed to make people want to take the stairs/staircases instead of elevators. For example the main vertical staircases have atmospheric conditions such as foggy weather and rainbow. We intend to nudge once again, by adding the staircase space between two office floors to aim the motion of staff. Finally, there's a running track on the rooftop that gives possibility of continuous running in open air without obstacles.

The hospital also provides many meditative spaces in different points of the building to be able to relief the tension of everyday-life but also the stress that patients might have before visiting the doctors.

### **RESEARCH INFORMED DESIGN**

To consider research in the design process gives a lot of potential when it comes to improving the quality of the design.

Research indicates strong connections between the physical environment and well-being of patients in all kinds of hospital facilities. Research is showing that higher exposure to daylight reduces the risk of being depressed and improving the quality of sleep for patients. The patient rooms are placed towards the outside of the building and facing mainly to the south. This gives a high amount of daylight inside the room but also provides good privacy for the patients. Research informed design also shows that there are a lot of benefits from having single patient rooms instead of patients sharing the same room, for example improving the quality of sleep.

### FUTURE PROOFING

It is important to prepare for the unpredictable, which of course is a contradiction in itself. How would a preparation for something unknown even work? In this project, there is some extra height between the slabs to be prepared for other uses, like somatic healthcare, for example.

water surfaces reflecting the wind generated waves on the ceiling of the room

## forming the volume



the maximum usable space in the chosen area would be a cube, but following

the flows, a smoother volume is needed for easier accesibility.

## Step 2

Step 5

ideal circulation can be achieved with circular volume throughout the ward







adding vertical circulation volumes

carving out weather related spaces and providing green to all floors



Step 3 adding courtyard for daylight



Step 6

adding lamellas to add fluidity to the facade and provide privacy for patient rooms and consultation rooms

## analysis















January 16.00

July 16.00



October 9.00



October 12.0C



October 16.00

### SOLAR ANALYSIS

The daylight was considered during the design process, most of the carvein area are located on the south side of the building.





The so called weather rooms are located throughout the building to provide different atmospheres to patients where they can choose the mood to be in. There are also other architectural elements where the weather theme was implied such as the main vertical staircases have atmospheric conditions such as foggy weather and rainbow. The beautifully designed staircase floats in the full height volume while the glazings reflect on the white walls creating depth and visual effects of fog/rainbow. Additionally the 'Tornado staircase' located in the inner courtyard showcases another atmospheric experience to the public.

### **GREENERY IN THE BUILDING**

Green outdoor areas are provided in many points of the building to make sure all types of user takes advantage of the green areas.

### WEATHER IN THE BUILDING



## understanding the building





>> Reference, Copenhagen National Bank by Arne Jacobsen

The main vertical staircases have themes of atmospheric conditions such as foggy weather and rainbows. The beautifully designed staircase floats in the full height volume while the glazings reflect on the white walls creating depth and visual effects of fog and rainbow.

### LEGEND



length of stay

age





wards

administrative

greenery

ambulance hall

circulation & technical

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26

**7** 

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Main entrance

Reception

Cafeteria

Kitchen

Tornado

Outdo

Emergency Entrance

aircase

Waiting Area

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Legend

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Library

10 Staff Wardrobe & Shortcu

12 Stairs Elevator Shaft

*Technical* Room

17

## ground floor

The center of the building is equipped with a shallow pond to visualize the two strongest effects of 'weather.' The pond stages the physical effects of the rain drops and the wind by visualizing it on its body through the water ripple effects. During not-rainy days, the waterfall could be turned on which has and effect of calming down the patients waiting/ for their consultations.

**GROUND FLOOR** PLAN VIEW

0 5 10 20 50



## floorplan ward 24



### LESS SPACE FOR CIRCULATION, MORE FOR INTERACTION

Corridors are architectural elements solely used for circulation. In this design, the idea of 'corridors' are avoided, instead spaces with multiple functions were implemented to serve both as day rooms, activity rooms and communication areas.

## CREATING NEIGHBORHOODS

Ward of 24 rooms being divided into four neighborhoods each including five private rooms, one social room, one activity room or kitchen and one weather room. In this way the strategically located two team stations have great overview of the wards.

## **VV**

Form of glazed activity rooms are creating areas relatively more private for patient rooms

**PRIVACY OUTSIDE PATIENT ROOMS** 



### MOVEMENT IN PLAN

To solve the previously stated issues, activity & nurse rooms has developed a special form to support the movement from the outer circle (more private) towards the inner circle (more public) as well as creating diagonal shortcuts.



### WEATHER ROOMS VISIBILITY

To increase the visibility of weather rooms through the ward, the form is curved out

## inpatient ward



## outpatient ward



## forensic ward





The corridor creates closed connection between the ward and the office area

Court area is designed to provide two separate entrances for authorities and the patient.

Häkte area has a discrete access and also a weather related room that can be used as a day room.

diagram of functions



1/ 500 model

The forensic ward patient rooms have the view towards the residential context which is low-rise to maximaze the privacy of the patients

8 Medicine Room

10 Waiting Room

Disinfection Room

Sample Taking Room
 WC
 Waiting Room

14 Court Šeperate Entrance

9

### Patient Rooms

- Day Area
   Activity Rooms
- 3 Activity Room4 Dining Area
- 5 Weather Related Meditation Room
- 6 Weather Related Outdoor Area
- 7 Team Station

aim to bring nature in to the building and provide spaces for different atmosphere where patients choose. This room's location facing west allow patients to appreciate the light/shadow play during sunny days.

15 Court Room

17 Stairs Common

18 Technical Room

20 Outdoor Garden

21 Indoor Garden

19 Stairs/Elevator Shaft

16 Quick Access to Ward

The weather rooms

Waiting room for court officials



Sunset room



Legend



## other wards



0 5 10 20

50

diagram of functions - forensic ward 22

## administrative area





G12:

## rooftop



Rooftop provides a safe outdoor environment were a variety of different activities can take place. The place can be used by inpatients with the supervision of staff. And on the other times where inpatients are not allowed to use the rooftop, with a system of timetable, the rooftop can be opened up to the public.

proposed timetable for rooftop access

10:00-11:00	Ward 24	
11:00-12:00	Ward 21	0
12:00-15:00	Public	121
15:00-16:00	Staff	
16:00-17:00	Ward 24	O

The rooftop is partially public limited by the timetable. When the patients are brought to the rooftop with supervision, the public is not allowed. But during the public hours anyone can go up to this level. in this way building gives back to the city. There's a weather related meditation room on the rooftop which can be used by staff or patients.

## north facade







## materials & structure

### MATERIAL ZOOM-IN







Colored and Frosted Glass

Use: Elevator Shafts with 'rainbow' or 'foggy sky theme'

Colors are great way to give an identity to a space, while a colorful glazing may resonate with patients and have a therapeutic effect.

### Clear Glass

Use: Exterior Glazing and Activity/Weather Rooms

Sun has benefits such as mood-lifting, ability to focus better and be calmer.(Nall, R; 2018) Therefore clear glass was used to maximize the sunlight indoors

### Graphic Concrete

Use: Exterior Walls

Each element in this hospital building's design tells a story. The exterior walls partially hidden behind the lamella's will have the patterns that resemble natural formations.





Bright wood, Ash/Birch/Treated Oak Use: Indoor

Creating a light atmosphere when used for the wall-mounted furniture in the patient rooms, gives a home like feeling

### Weathered steel Use: Facade lamellas

Thin lamellas for sun protection. Weathered steel is a living material changed by the weather therefore contributes to the idea of buildings interplay with the weather

### STRUCTURAL DETAILS AND TECHNICAL ELEMENTS



Structure is composed of columns and floor slabs. Primary beams are marked in yellow, secondary around the elevator shafts are in pink.







## patient room



## patient room



Patient rooms are designed to provide a home-like environment to patients. To be able to ensure both the privacy and the security of the room's owner, public/private zoning strategy is used. The patient can be checked quickly by the staff through the small glazed door even while it is closed. In this way the patient isn't disturbed when they are spotted safe in the day areas(so called public) of the room. In case the staff is worried the patient is not safe, they can open the doors and check out the room quickly without entering.

The rooms are modular therefore all patients are treated equally. At the same time all rooms designed to be accessible to patients with wheelchair. In this way, it also provides future-proving if the hospital is converted to the somatic diseases care.

Due to the form of the building, rooms are in pentagonal shape which allows each patient views towards two directions.





public/private zones



wheelchair accessibility



easy access from bed to bathroom, reduces the risk of patient injuries<sup>11</sup>



Rooms are connected in groups of 5-6 to avoid the corridor-like feeling. The repetition is broken with different objects/functions according to the ward. Two patients rooms are sharing the technical shaft for the bathroom. The doors being closer to the next room strengthens the sense of "neighbors"



## future vision

## VISION FOR THE FUTURE

We suggest a concept for the urban development of the hospital site in 50 years, where the slow mobility is the main transportation in the site. Therefore a green, pedestrian- and bike-friendly park stretches throughout the site and acts as a backbone structure for the flows. Public functions such as playgrounds, cafés & kiosks can be located in this slow mobility area to attract many people, regardless if they are patients or not. In this way, the hospital can give back space to the rest of the city. Vehicles including ambulances and private cars have access only to the peripheries of the site. All the emergency departments are located by the peripheries to provide direct access to the ambulances. An attractive looking multi storey car-parking structure is located on the west end of the park, where all the cars are parked together. Patients and their families coming with the car, can continue their journey to any hospital building by enjoying the park, which aims to reduce the stress and calm down before the consultation with the doctors. As it can be seen, the new Psychiatric Facility becomes the center of the hospital site. This is to show the importance of our mental health and can be interpreted as our overall health depends on our mental health. Other buildings added later on always respects the form of the Psychiatric Facility and acts context-sensibly.





attractive green vehicle storage



kiosks all over the park

use of weather theme in public space

zoom-in

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## process: weather theme

### WEATHER BRAINSTORMING



## **IDEAS**



tornado-like chaotic staircase reaching to a light and calm environment







tornado-like chaotic staircase reaching to a light and calm environment

tornado-like chaotic staircase reaching to a light and calm environment





experience of rain & collection of water to be used in gardens of the building

the perfect two spots to

watch sunset and sunrise

Cosy environments with

pollens flying around or

A room with fog, creating

rainbows by the natural light

aurora.

weather simulations - snow,

in the building

### WAITING ROOM WITH WATERFALLS



### with this strategy:

- nature in the core .
- water becomes interactive
- provide shortcuts
- bring exterior to interior .
- waterfall effect is calming
- ward 21 gets outdoor garden with privacy because of plants
- pond in the middle can reflect the . weather effects
- (wind and rain can be visible by the ripple effects on the shallow pond)



GEEEEG

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Elevator shaft can be completely glazed, and the glazing can be inclined to witness the water sliding through the facade of the building

Outer façades may be composed of colored elements that can react to wind and other atmospheric conditions

### TELLING A STORY WITH THE FACADE



Application of weather in the vertical circulation shafts



Feeling of a sunny day

with rainbow effects





The colored glasses will reflect on the walls and create a festive feeling, at the same time giving a depth to the place

## process: ward layout



Rooftop Design



## process: patient room evolution



models of ward room



workshop personas

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### user journey map









## process: concept & massing

### SPIT MODELS















#4



MASSING STUDIES











Version 3





Version 4

















Version 5

Version 1

Version 6

Version 2

Version 7

Version 8











