ShopHouse Transformation
appraisal of the pre-war shophouse and its contemporary application
Part 1: Introduction-
- Studio Setting
- Design Concept & Project Theme

Part 2: Research & Analysis-
- District Delineation
- Value Assessment
- Choice of Site

Part 3: Urban Level-
- Concept of Urban Transformation
- Master plan of Rosepark
- Site Cross Section Arrangement

Part 4: Building Level-
- Principle of Building Transformation
- Housing Strategy
- Principle of Layout & Façade Arrangement

Part 5: Material & Detail Level-
- Principle of Material and Detail Arrangement

Part 6: Evaluation & Conclusion
- Affect of Design
- Application in Future
RMIT graduation studio, Housing Neighborhoods

to gain an insight and overview of origin, history, past of interventions actual situation and the future possibilities of existing housing stocks
What is ShopHouse?
Part 1: Introduction - Design Concept & Project Theme

Housing Typology - ShopHouse

- Vernacular Building represents an old social culture
- Close relationship b/t living and working space
- Cultivated by the small-scale economy
- Slow organic growth of residential neighbourhood
Quick Urbanization after WII,

- New planning facilitated by function differentiation
- Cities were split up into mono-functional areas
This brings benefits as well as harm,

+ • To fulfill serging demand for housings at that period
+ • Resolved imminent social problems at that period
- • Minimized social coherence
- • Deteriorated neighbourhood connections
From the ShopHouse example,

- Duality of program within the same enclosure
- “Mixed program” blurred the zoning
we found that,

- Richness in social context could be achieved by creating elements that carry dual nature
- Duality of these elements act as a catalyst for the interaction b/t function
- Provide flexibility in programming of public space
In my thesis,
I tried to testify these concept into real life urban context
National plan about the urban renewal project in Rotterdam
Complex region where is associated with social housing built in the pre-war and post-war periods
Followed the quick urbanization, influence of the division-of-functions is obvious

What should be planned for the future to improve the neigbourhood of Feijenoord?
Research & Analysis in urban scale...
Disconnected and Small Communities Circles
Vanishing of Street Activities
Green Structure without Coherent
Part 2: Research & Analysis - Mind Map of Value Assessment

**Pros**
- Strong “small communities”
- Residential area became quiet
- Large green structures found

**Cons**
- Less exchange among different communities
- Traffic structure divided the area
- Streets became silent and in a sense of danger
- Green structure do not form a coherent network
to improve social cohesion is **REQUIRED**

- To strengthen the connections among subdivisions
- Increase the sense of belonging of the area among residents
to improve the social cohesion by “ShopHouse concept”...

Providing a public space with “mixed programs” to encourage interaction among social groups
Where ?
Part 2: Research & Analysis - Choice of Site

Oranjeboomstraat & Rosepark
Part 2: Research & Analysis - Choice of Site

Oranjeboomstraat (ShopHouse no.137-207)

++ POSITIVE VALUE:

- Symbol of the district
- Traditional shopping and community centre
- ShopHouse are the main typology of shops
- Support the social-economy to the nearby community area, especially the eastern part of Feijenoord
Part 2: Research & Analysis - Choice of Site

-- NEGATIVE VALUE:

- Degrading of values due to demolition
- Big competitiveness from other zones
Part 2: Research & Analysis - Choice of Site

Rosepark

++ POSITIVE VALUE:
- One of the big green structures
- Located at the edge of the eastern part
- Potential to be a focus leisure place

-- NEGATIVE VALUE:
- No linkage to the district
- No specific functions and always empty
Part 2: Research & Analysis - Choice of Site

Oranjeboomstraat & Rosepark

++ Opportunities:

- a new tramline constructed in the coming years
- a chance may even radiate out to the other areas
Oranjeboomstraat & Rosepark is the **BEST LOCATION** to relink the districts by **TRANSFORMATION**
Part 2: Research & Analysis - Choice of Site

Oranjeboomstraat & Rosepark

-- Problems to be solved:

- No proper public access
- Continue wall separation
- Level different due to underground train
How?
Urban Transformation ...

Transformation Diagram 1: Current Situation

Transformation Diagram 2: Dissolve the Boundary
Transformation Diagram 5 : Form New Circulations
Transformation Diagram 6: Form Different Zonings
Master Plan of Rosepark
Part 3: Urban Level - Site Section Arrangement

Existing Site Section

Level Different and a wall separate the public and private portion in the area
Part 3: Urban Level - Site Section Arrangement

Existing Site Section

Existing ShopHouse

Existing Communal Back Garden

Level Different and a wall separate the public and private portion in the area

Existing Rosepark

Existing Train Tunnels

New Site Section

Transformed ShopHouse

New Rosepark

New Extension

New Building

Existing Train Tunnels

New Building

Rosestraat

Existing ShopHouse

Oranjeboomstraat

Oranjeboomstraat

New Building

Rosestraat
Facade Facing Oranjeboomstraat
1900s

1980s

Transformation from “Identical Individual” to “One”

- Merging facade into one horizontal building
- Merging of plans into one horizontal usage
- Plot buildings changed into “one building”
Building Transformation ...

Existing

- Brick Party Wall in grids
- Typical Bay: 12.2m(L) x 4.5m(W)

New

- Existing Grid is Retained
- Modification on existing Front Facade
- New Extension on existing Back Facade

Plan
Part 4: Building Level - Principle of Building Transformation

- Timber Floor Systems

- Concrete Columns and Beams Systems
- Existing Foundations are retained
- New Foundations for New Extensions
Part 4: Building Level - Principle of Building Transformation

Transformed Building

New Extension

Sectional Perspective View of Site
Housing Strategy
Part 4: Building Level - Housing Strategy

Night Time vs. Day Time

- Work
- School
Re-thinking “Living” plus “Working” Spaces and Its Social Implications

- experiment of a single space that serves both production and consumption functions
ShopHouse with Small-scale economy

Physically:
• provide **living** space and **working** space

Economically
• strengthen the **economy structure** of the district
• allows people to start their business in **budget**
• create their **own businesses** and the **economic independence**

Socially:
• improvement on **employment**
• to **strengthen community circle** in the area
• provide opportunities for people to become **integrated and emancipated**
1. Small-shops
Target end-users: Families, couples or who want to start their first/small businesses

a. Retails: Sale of physical goods or merchandise from a fixed location

b. Services: Providing immediate service inside a fixed location

c. Food & Beverage: Providing with seatings
2. Studio (individual and independent)
Target end-users: Arties/Workers (Families, couples)

d. Ateliers and Office

3. Workshops Campus (sharing and educating)
Target end-users: Students, Youth, Singles people who have handcraft skills

e. Large workspace with tools storage for Learning, Practicing, Businesses
Concept of Layout Arrangement - Small Shop

Type of ShopHouse: 5-rooms (3-bedroom dwelling)
Shop Area: 100 sq.m
Dwelling Area: 185 sq.m

Partial Ground Floor Plan

Partial First Floor Plan

Typical Section Diagram
Concept of Layout Arrangement - Studio

Type of ShopHouse: 5-rooms (3-bedroom dwelling)
Shop Area: 83 sq.m
Dwelling Area: 120 sq.m
Range of Unit Combinations For Different Families Size
Plan Arrangement - Upper Floors

Third Floor Layout Plan

Second Floor Layout Plan
Facade
Facade Facing Oranjeboomstraat

Existing Facade

New Facade

Partial Existing Elevation of East Facade

Partial New Elevation of East Facade
Facade Facing Rosepark

 Colour Chart for Facade Pattern

Shop area/Galleries

Type I

Type II

Type III
Facade Facing Rosepark

Colour Chart for Facade Pattern

Living room/ Bedroom

Living room/ Bedroom

Walk way

Typical Facade for Living Unit
Facade Facing Rosestraat
Material & Detail
Existing roof system to be retained

300mm/500mm reinforced concrete beam

22mm Douglas fir deck

50mm/50mm aluminum structure support

3mm roofing membrane

120mm reinforced concrete slab

500mm / 600mm spotlight

3mm roofing membrane

200mm rigid-foam thermal insulation with vapor barrier membrane

150mm LenoTec Wall with acoustic layer

80mm LenoTec Wall

Lightweight concrete planter pot

PU Floor

35mm cement-sand floor screed

115mm LenoTec Floor

PU Floor

35mm cement-sand floor screed

150mm reinforced concrete floor slap

Steel support balustrade with welded wire mesh

acoustic false ceiling system

roller blind

radiator

wall-mounted light

parking

storage room

bedroom

entrance

bedroom

bathroom

living room

closet

stair hall

shop area

studio area

work area

sun terrace

pedestrian walkway

aluminum Flashing

EPDM membrane Flashing

120mm / 70mm wood blocking, continue

mirror

underlay

bed

25mm wall finishes with plaster and paint

double glazed sliding balcony door: 250mm / 75mm solid oak window frame

6mm float glass + 20mm cavity + 6mm float glass

floor cement-sand screed

2730mm / 150mm / 275mm reinforced concrete slab

40mm stone slab on paving system

50mm XPS thermal insulation

3mm roofing membrane

12mm waterproof screed to fall to gully

120mm reinforced concrete slab

20mm timber top

Cabinet

cabinet

curtain track

curtain

25mm wall finishes with plaster and paint

0.1mm vapor barrier membrane

100mm wood framing, expanding foam insulation

20mm cement board

0.1mm vapor barrier membrane

100mm LenoTec wall

wall paint finishing

13mm epoxy core wood veneer paneling

50mm air space with vertical wood furring

19mm vertical cedar boards

0.1mm vapor barrier membrane

100mm LenoTec wall

50mm air space with vertical wood furring

20mm LenoTec wall

0.1mm vapor barrier membrane

100mm LenoTec wall

sliding partitions

double glazed window: 6mm float glass + 20mm cavity + 6mm float glass

bed

bath tub

recess lightin

fixture and acoustic flase celing system
68

20mm plaster and paint finishes

95mm Durasteel suspended ceiling fire-proofing system

50mm wood framing insulation

existing brick wall

wall paint finishes

timber skirting

PU Floor cement-sand floor screed existing wooden floor structural system

3200mm/300mm/390mm profiled reinforced precast-concrete lintel, white color

18mm fixed laminated glass barrier

500mm/100mm profiled aluminum hollow section, coated in white color

20mm plaster and paint finishes

95mm Durasteel suspended ceiling fire-proofing system

50mm wood framing insulation

existing wooden floor structural system
20mm plaster and paint finishes
95mm Durasteel suspended ceiling fire-proofing system
50mm wood framing insulation

3200mm/300mm/390mm profiled reinforced precast-concrete lintel, white color

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500mm/100mm profiled aluminum hollow section, coated in white color

wall paint finishes

existing brick wall

timber skirting

PU Floor cement-sand floor screed
existing wooden floor structural system

- Reinforced concrete beam
- 2mm stainless plate profiled canopy
- False ceiling system
- Wall paint finishes
- Timber skirting behind
- PU floor finishes on 35mm cement-sand floor screed
- Reinforced concrete beam
- Double glazed fixed window: 6mm float glass + 20mm cavity + 6mm float glass
- 10mm glued laminated timber
exterior

interior

2mm stainless plate profiled canopy

reinforced concrete beam

double glazed fixed window: 6mm float glass + 20mm cavity + 6mm float glass

false ceiling system

wall paint finishes

timber skirting behind

PU floor finishes on 35mm cement-sand floor screed

10mm glued laminated timber

reinforced concrete beam
Evaluation & Conclusion
Main Problem

facing with social problems of deteriorating sense of community and a disjointed society due to Modern city paradigms
• Expand existing ShopHouse, stressing the fusion of different space in the area
• Use those “renewed” ShopHouse, ambiguous urban element, to blur out the existing zoning boundary
The coexistence of different but compatible activities,

- Encourage the interaction among social groups
- Enriching urban “life-scape”

The resultant urban platform is in fact a “Magnified ShopHouse” on the Urban Scale
Affect to Adjacent Districts

New platform to link up the eastern part and western districts in Feijenoord
ShopHouse concept is meaning more than a physical building.
It is the way of living - “Living” plus “Working” and Its effect to the Society.
This idea of “Magnified ShopHouse” can be applied to link up the districts where,
- is a modern city with social-connection deteriorating
- physically splited by transport structure
- mixing with different social background neighborhoods
ShopHouse Transformation

- does not mean the complete restoration of the old system
- new typology that reflects the traditional system in an innovative way
To emphasis of human interaction interface at the ‘intersection’ of functional zones and the idea of a spatial setting, that can accommodate both working and living activities
• mixing old and new buildings through injection of new communication platforms
• encourage communication among people from different cultures and backgrounds
The emphasis of **INTEGRATION AND COALESCENCE** might counter-balance the ‘side effects’ of the Modern city planning and way of living

More well-balanced society is a new model for the future