

<<Procurement system for construction industry>>

Group Number: CSSE_WE_16

Batch: (WE)

| | Student Registration Number | Student Name |
|----------|------------------------------------|---------------------------------|
| 1 | IT16178700 | D.I.K. Rajapakshe |
| 2 | IT17018760 | M.P. Pulasthi Shamil |
| 3 | IT17056212 | P.M.C.P. Paththinisekara |
| 4 | IT17152938 | S.K. Liyanage |

Individual Contribution

| Name | ID Number | Contribution |
|------------|-----------------------------|--|
| IT16178700 | D.I.K. Rajapakshe | <ul style="list-style-type: none"> • Designed initial usecase diagram. • Designed a low fidelity wireframe for Make payment function. • Modified class diagram. • Designed a sequence diagram for Make Order function. |
| IT17018760 | M.P. Pulasthi Shamil | <ul style="list-style-type: none"> • Modified usecase diagram. • Designed a high-fidelity wireframe for Approve order function. • Wrote a usecase scenario for Approve order function. • Designed a sequence diagram for Approve Order function. |
| IT17056212 | P.M.C.P. Paththinisekara | <ul style="list-style-type: none"> • Modified usecase diagram. • Designed a high-fidelity wireframe for Delivery log function. • Wrote a usecase |

Assignment

SE3070 – Case Studies in Software Engineering

Year 3, Semester II, 2019

| | | |
|------------|---------------|---|
| | | <p>scenario for log function.</p> <ul style="list-style-type: none"> • Designed initial class diagram. |
| IT17152938 | S.K. Liyanage | <ul style="list-style-type: none"> • Modified usecase diagram. • Designed a high-fidelity wireframe for Make order function. • Wrote a usecase scenario for Make order function. • Designed a sequence diagram for Delivery log function. |

Introduction

Constructing procurement system involves process of acquiring services and products for the project activities starting from investigation up to the completion. In our case study following requirement mansion: The management of procurement within the industry has a number of issues because of the nature of the industry's environment.

These include:

- Most materials are heavy so handling/moving them is expensive.
- Generally, materials are bulky and require substantial areas to store them.
- Materials for the internal finishing of a building are usually expensive and/or perishable so can only be delivered when secure storage is available.
- The dynamic nature of a building site means that there is often no purpose made storage facilities.
- Space for the storage of materials is often very limited.

For our case study there are type of users in our system, they are site manager, procurement staff, accounting staff and manager. Site manager creating purchase orders and logging deliveries using mobile application. Procurement staff and accounting staff are the source of the pricing and product information for the application and need to have access to details of the raised purchase orders and delivery advice information. Manager approve purchase order more than limit of 100, 000. These stakeholders are less obvious than the others.

Use case scenarios

Make Order

| | | |
|------------------------|---|---|
| Number | 1 | |
| Use case name | Make an order | |
| Summary | When the site manager wants to purchase an order they view orders and add quantity of the items using mobile phone. | |
| Priority | 5 | |
| Preconditions | User has selected the order to purchase. | |
| Post conditions | <ul style="list-style-type: none"> • User add quantity. • User select available suppliers. | |
| Primary Actors | Site Manager | |
| Trigger | User has chosen order for purchase by online. | |
| Main scenario | Step | Action |
| | 1 | User logging to the system. |
| | 2 | User check notification to get orders. |
| | 3 | User search particular order to purchase. |
| | 4 | User add quantity to order. |
| | 5 | User select available supplier to purchase order. |
| | 6 | User select calculate price button. |
| | 7 | System calculate total price of order. |
| | 8 | System display price of purchase order. |
| | 9 | User select to Get approve button. |
| | 10 | System check order details. |
| | 11 | System confirm order details. |
| | 12 | System shows successfully purchase order Approved message. |
| | 13 | User will come to Approved order list page. |
| Extensions | 1a | If incorrect logging details, system will show error message. |
| | 5a | If there are no available suppliers site manager not approve the order. |

| | | |
|-------------|-----|--|
| | 10a | If total price of order more than 100000 system display does you want to get approve from manager to this order. |
| | 10b | If user confirm message approve request send to the manger. |
| Open issues | 1 | Should the system ask if the user want to purchase order? |

Approve Order

| | | |
|------------------------|---|---|
| Number | 2 | |
| Use case name | Approve Order | |
| Summary | Manager indicates that they want to approve orders that site manager have ordered. | |
| Priority | 4 | |
| Preconditions | User has selected the order to be approve. | |
| Post conditions | <ul style="list-style-type: none"> • Use check order details. • User approve order. | |
| Primary Actors | Manager | |
| Trigger | User has chosen to approve order. | |
| Main scenario | Step | Action |
| | 1 | User logging to the system. |
| | 2 | User check notification to approve orders. |
| | 3 | User select order to approve. |
| | 4 | User check order details. |
| | 5 | User check supplier details. |
| | 6 | User check payment details. |
| | 7 | User confirm the order details. |
| | 8 | User select approve request button. |
| | 9 | System check details. |
| | 10 | System confirms the details. |
| | 11 | System display order successfully approved message. |
| | 12 | System send approved message to site manager |
| | 13 | System will display home page |
| Extensions | 4a | If user want change order details, they can change |

| | | |
|--------------------|------------|---|
| | | quantity. |
| | 5a | If user want change supplier details, they can change supplier. |
| | 10a | User can cancel the order. |
| | 10b | System display order cancel message. |
| | 10c | System send canceled order message to site manager. |
| Open issues | 1 | Should the system ask if the user want to approve order? |

Delivery Logging

| | | |
|------------------------|--|--|
| Number | 3 | |
| Use case name | Delivery logging | |
| Summary | When the Supplier sent the delivery order site manager enter the order id and compare the delivery with the initial order and add the delivery to the log. | |
| Priority | 3 | |
| Preconditions | User login to the system | |
| Post conditions | | |
| Primary Actors | Site Manager | |
| Trigger | User receive invoice | |
| Main scenario | Step | Action |
| | 1 | User logging to the system. |
| | 2 | User select delivery logging option. |
| | 3 | User enter the order id to the system. |
| | 4 | System display initial order details. |
| | 5 | User check delivered products with the order. |
| | 6 | User enter delivered product quantities to the system. |
| | 7 | System compare delivered quantity with the initial order. |
| | 8 | User click log button. |
| | 9 | System asks for confirmation to log completion of delivery. |
| . | 10 | User click Ok button. |
| | 11 | System add the delivery log. |

Assignment**SE3070 – Case Studies in Software Engineering****Year 3, Semester II, 2019**

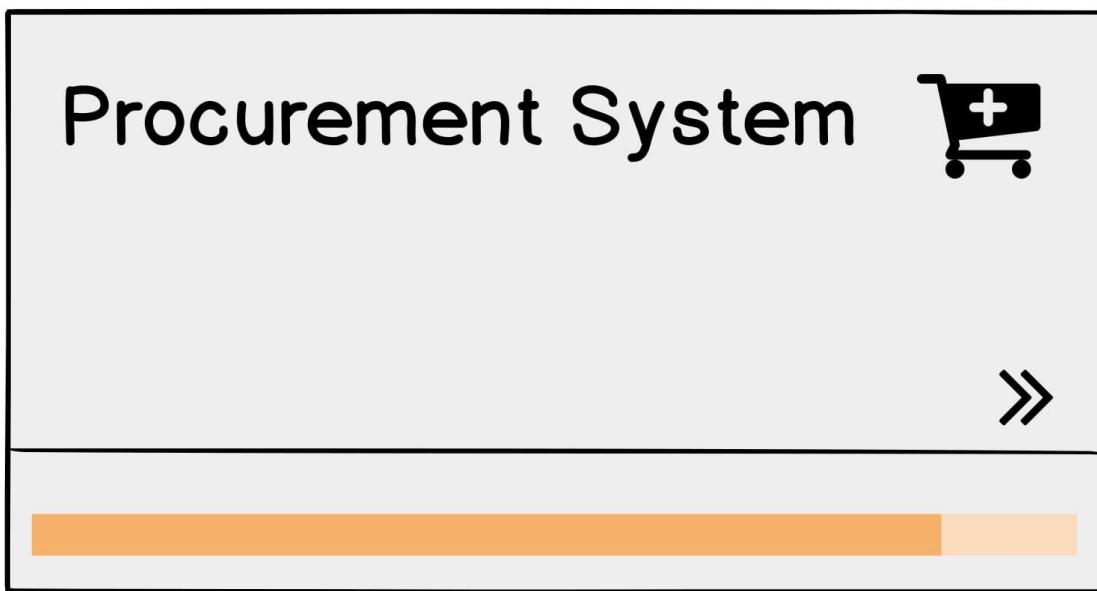
| | | |
|------------|-----|---|
| Extensions | 1a | If incorrect logging details, system will show error message. |
| | 9a | If the full delivered quantity is lower than the ordered quantity system doesn't asks for confirmation to log completion of delivery. |
| | 10a | If the user clicks No system delete the delivery log. |

Usecase Diagram



Wireframes (high fidelity)

Order Approval



Login X

Username

Password

Procurement System

Home | Order Approvals | View Accepted Orders | View Rejected Orders | Logout

Summary

| Seller Name (job title) | Quantity | Supplier | Order Received |
|-------------------------------------|----------|----------|-------------------------------------|
| Giacomo Guilizzoni Founder & CEO | 40 | Peldi | <input type="radio"/> |
| Marco Botton Tuttofare | 38 | | <input checked="" type="checkbox"/> |
| Mariah MacLachlan Better Half | 41 | Patata | <input type="checkbox"/> |

Order Approvals (6)

View Accepted Orders

View Rejected Orders

User Management

Monthly Sales

Make Notes

July 2019

Procurement System

Home | Order Approvals | View Accepted Orders | View Rejected Orders | Logout

Order Approvals 

| | |
|--------------------|--------------|
| Supplier Name | ABC Suplier |
| Ordered Date | 21/07/2019 |
| Ordered Item Code | C10 |
| Ordered Net Amount | Rs.100000.00 |

View Order

| | |
|--------------------|--------------|
| Supplier Name | ABC Suplier |
| Ordered Date | 21/07/2019 |
| Ordered Item Code | C10 |
| Ordered Net Amount | Rs.100000.00 |

Monthly Sales

Make Notes

July 2019

Procurement System

[Home](#) | [Order Approvals](#) | [View Accepted Orders](#) | [View Rejected Orders](#) [Logout](#)

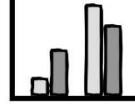
Order Approvals

| | |
|--------------------|---------------------|
| Supplier Name | ABC Suplier |
| Ordered Date | 21/07/2019 |
| Ordered Item Code | C10 |
| Ordered Item Name | Item Name |
| Unit Price | Rs.25000.00 |
| Quantity | 06 |
| Ordered Net Amount | Rs.150000.00 |

JULY 2019

| | | | | | | |
|----|----|----|----|----|----|----|
| S | M | T | W | T | F | S |
| 1 | 2 | 3 | 4 | 5 | 6 | |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 | 30 | 31 | | | |

Monthly Sales



Make Notes

Procurement System

[Home](#) | [Order Approvals](#) | [View Accepted Orders](#) | [View Rejected Orders](#) [Logout](#)

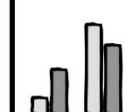
Order Approvals

| | | |
|---------------|------------------------------------|-----|
| Supplier Name | ABC Suplier | |
| Ordered Date | 21/07/2019 | |
| Ordered I | Alert | |
| Ordered I | Do you want to approve this order? | |
| Unit Price | | |
| Quantity | | |
| Ordered N | No | Yes |

JULY 2019

| | | | | | | |
|----|----|----|----|----|----|----|
| S | M | T | W | T | F | S |
| 1 | 2 | 3 | 4 | 5 | 6 | |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
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| 28 | 29 | 30 | 31 | | | |

Monthly Sales



Make Notes

Procurement System

[Home](#) | [Order Approvals](#) | [View Accepted Orders](#) | [View Rejected Orders](#) | [Logout](#)

Order Approvals 

| | |
|--------------------|---|
| Supplier Name | ABC Suplier |
| Ordered Date | 21/07/2019 |
| Ordered Item | Successful Order approved Successfully |
| Unit Price | |
| Quantity | |
| Ordered Net Amount | Rs.100000.00 |

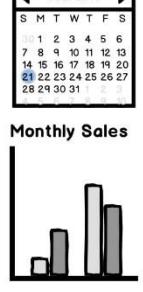
Ok

Approve **Reject**

JULY 2019

| S | M | T | W | T | F | S |
|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 | 30 | 31 | | | |

Monthly Sales



Make Notes

Procurement System

[Home](#) | [Order Approvals](#) | [View Accepted Orders](#) | [View Rejected Orders](#) | [Logout](#)

View Accepted Orders 

[View Rejected Orders](#)

| | |
|--------------------|--------------|
| Supplier Name | ABC Suplier |
| Accepted Date | 21/07/2019 |
| Ordered Item Code | C10 |
| Ordered Net Amount | Rs.150000.00 |

View Accepted Order

| | |
|--------------------|--------------|
| Supplier Name | ABC Suplier |
| Accepted Date | 21/07/2019 |
| Ordered Item Code | C10 |
| Ordered Net Amount | Rs.175000.00 |

JULY 2019

| S | M | T | W | T | F | S |
|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
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Monthly Sales



Make Notes

Procurement System

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View Accepted Orders 

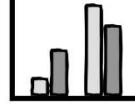
| | |
|--------------------|---------------------|
| Supplier Name | ABC Suplier |
| Ordered Date | 21/07/2019 |
| Ordered Item Code | C10 |
| Ordered Item Name | Item Name |
| Unit Price | Rs.25000.00 |
| Quantity | 06 |
| Ordered Net Amount | Rs.150000.00 |
| Approved Date | 27/07/2019 |

[Re-Approval](#)

JULY 2019

| | | | | | | |
|----|----|----|----|----|----|----|
| S | M | T | W | T | F | S |
| 1 | 2 | 3 | 4 | 5 | 6 | |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
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Monthly Sales



Make Notes

Procurement System

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View Accepted Orders 

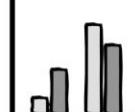
| | |
|--------------------|--------------------------------|
| Supplier Name | ABC Suplier |
| Ordered Date | 21/07/2019 |
| Ordered Item Code | C10 |
| Ordered Item Name | Successful |
| Unit Price | Order Re-approved Successfully |
| Quantity | Ok |
| Ordered Net Amount | Rs.150000.00 |
| Approved Date | 27/07/2019 |

[Re-Approval](#)

JULY 2019

| | | | | | | |
|----|----|----|----|----|----|----|
| S | M | T | W | T | F | S |
| 1 | 2 | 3 | 4 | 5 | 6 | |
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Monthly Sales

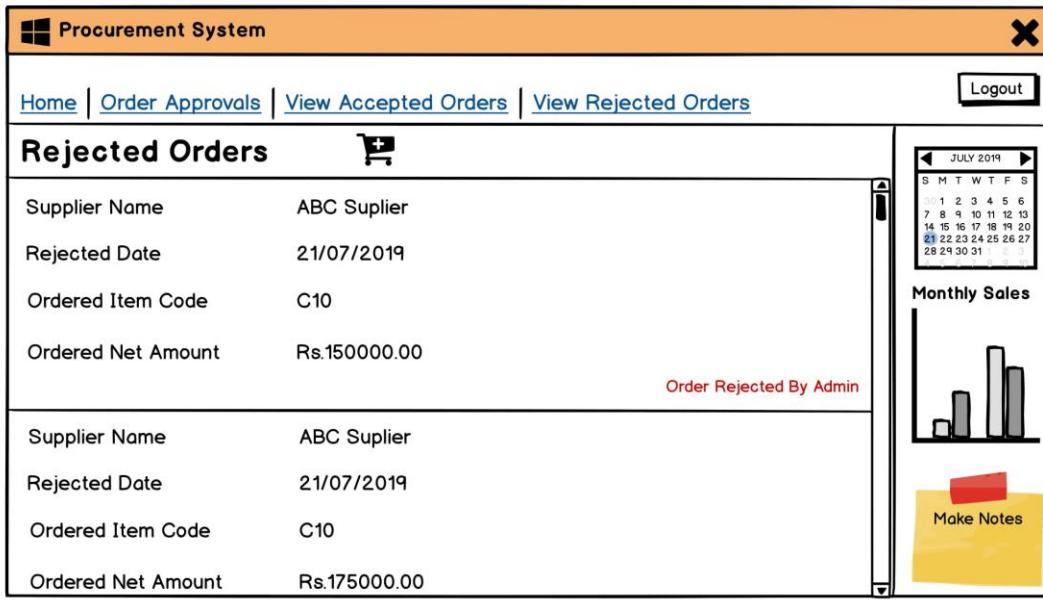


Make Notes

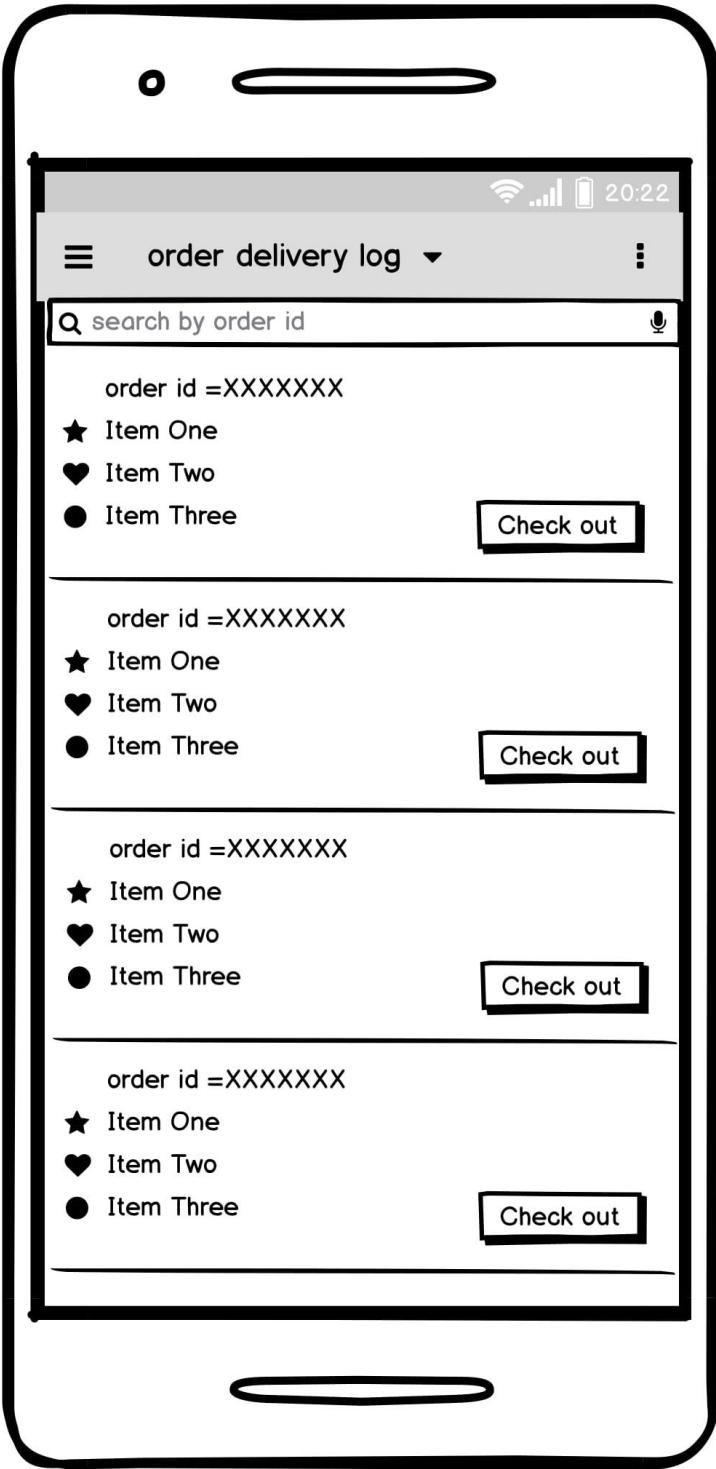
Assignment

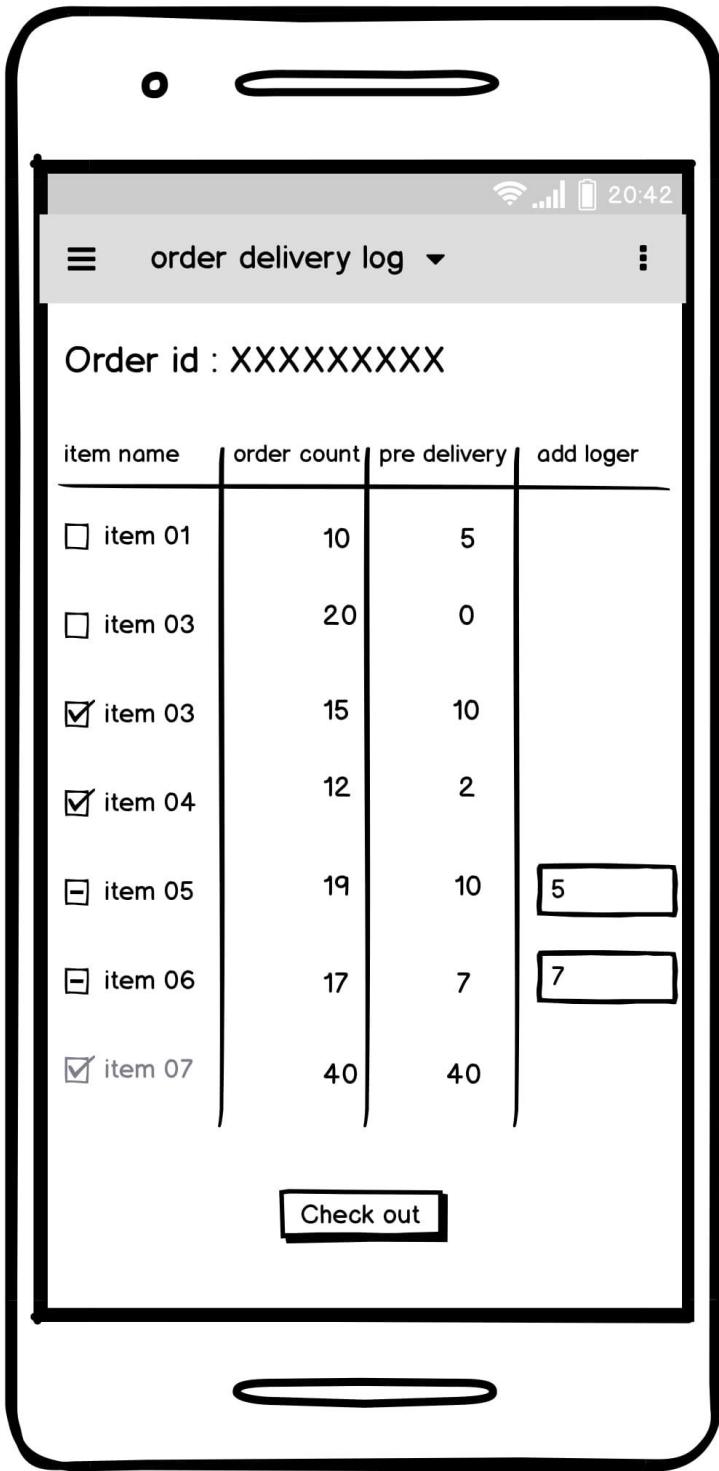
SE3070 – Case Studies in Software Engineering

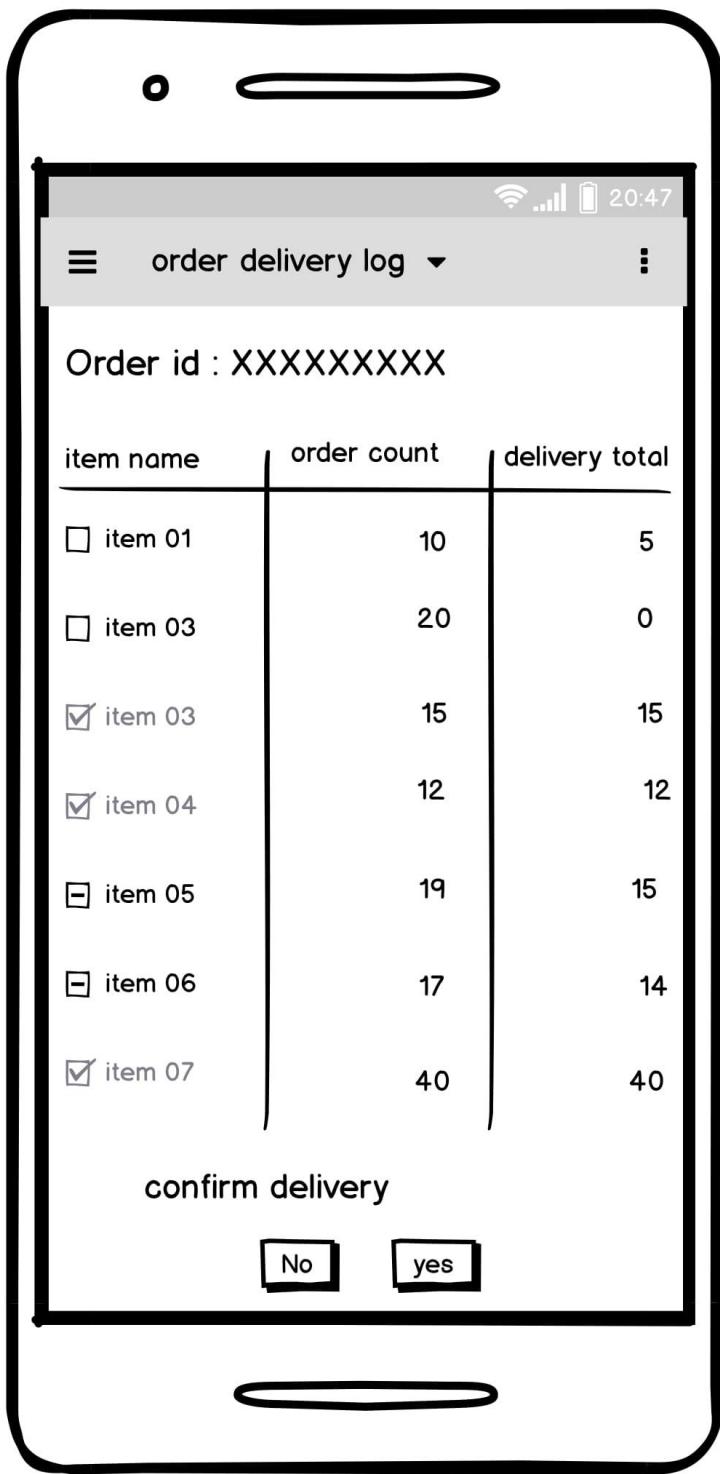
Year 3, Semester II, 2019

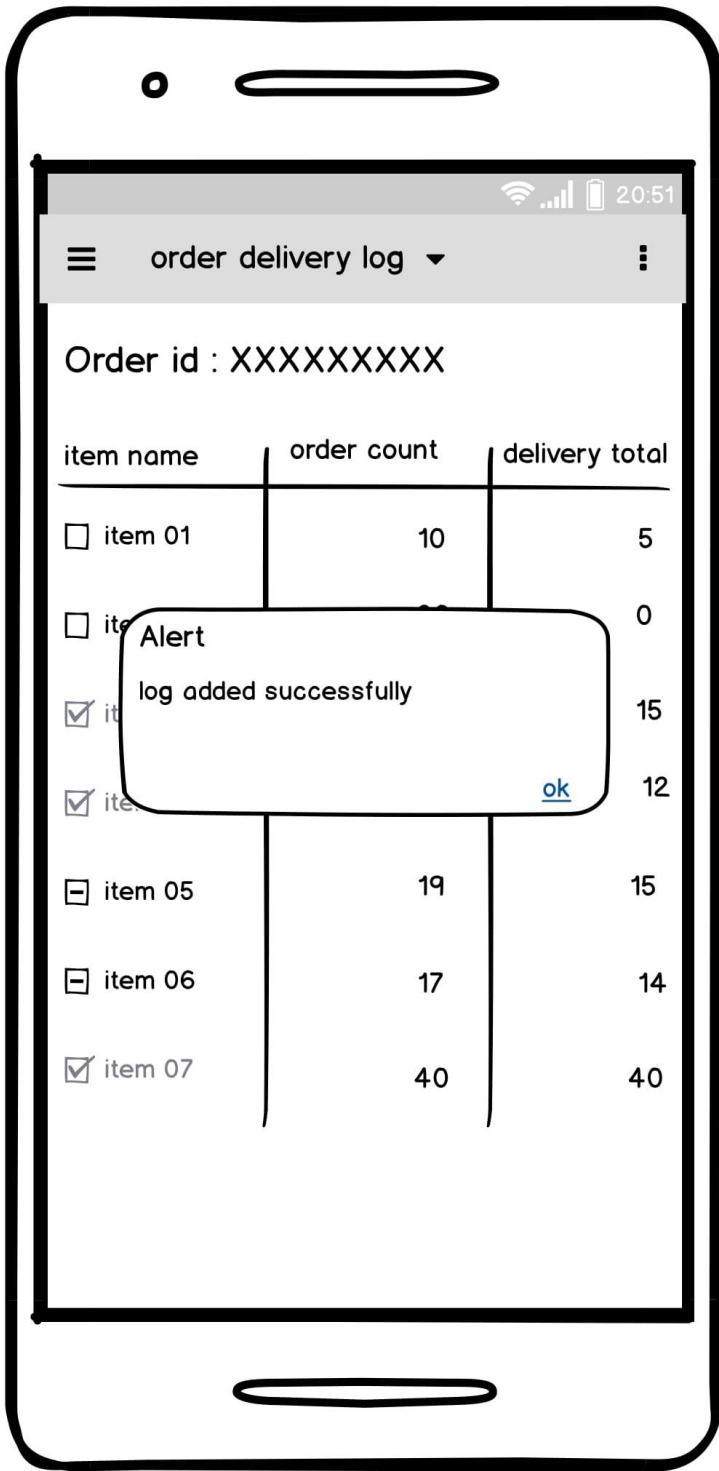


Delivery Logging

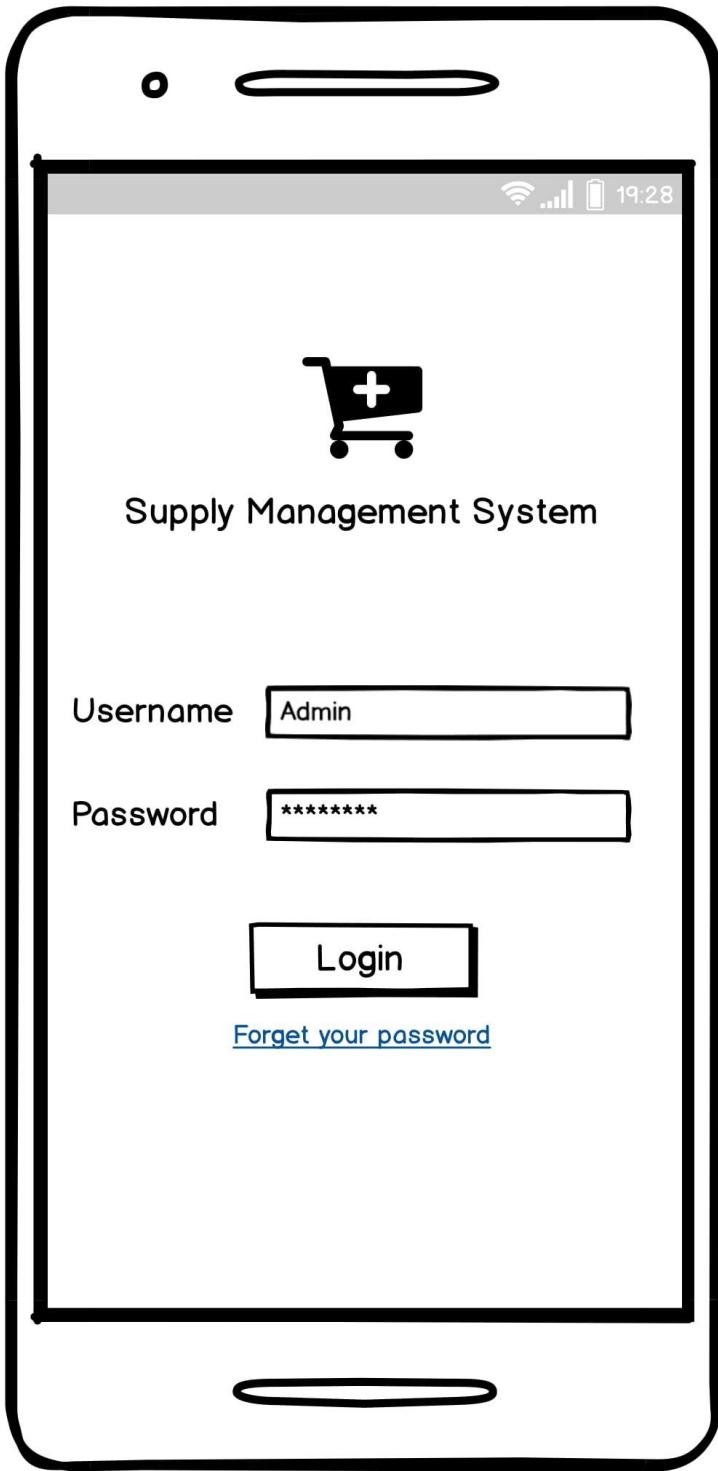


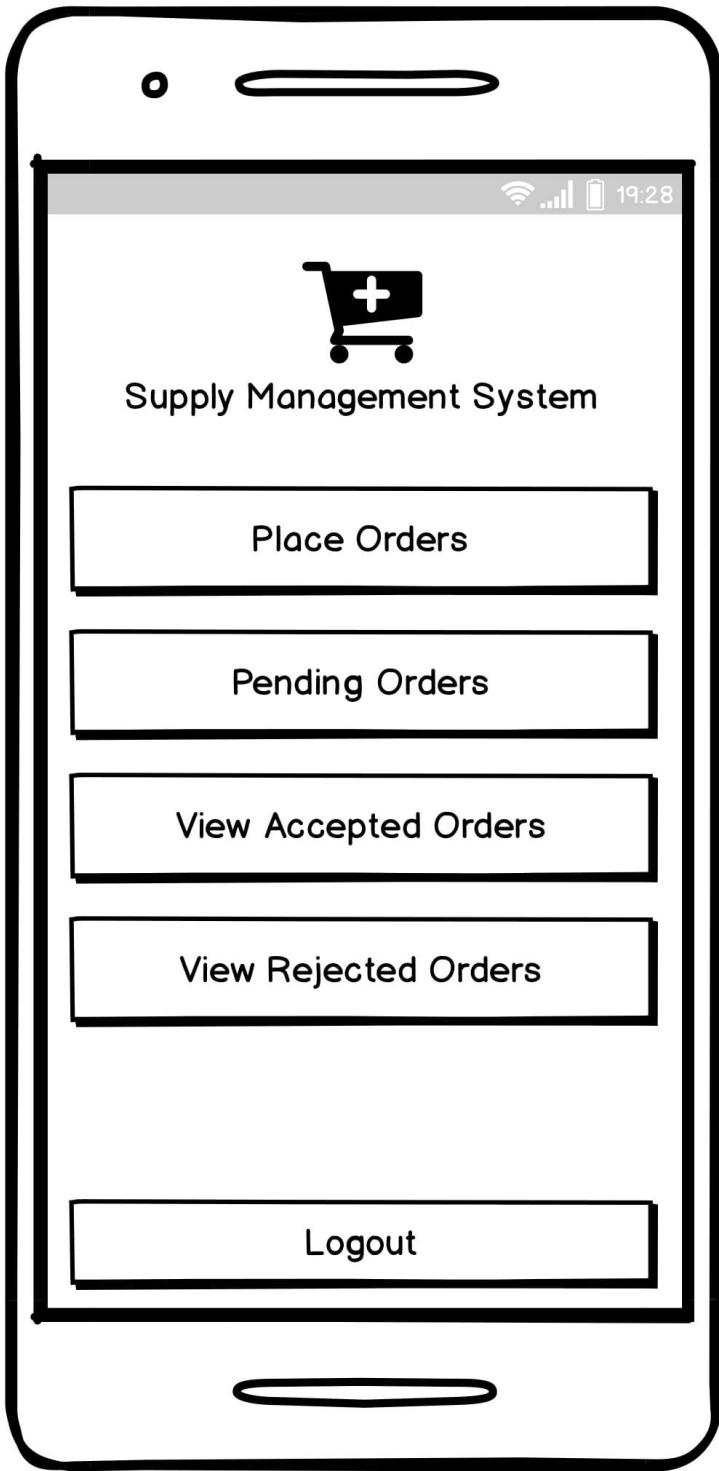


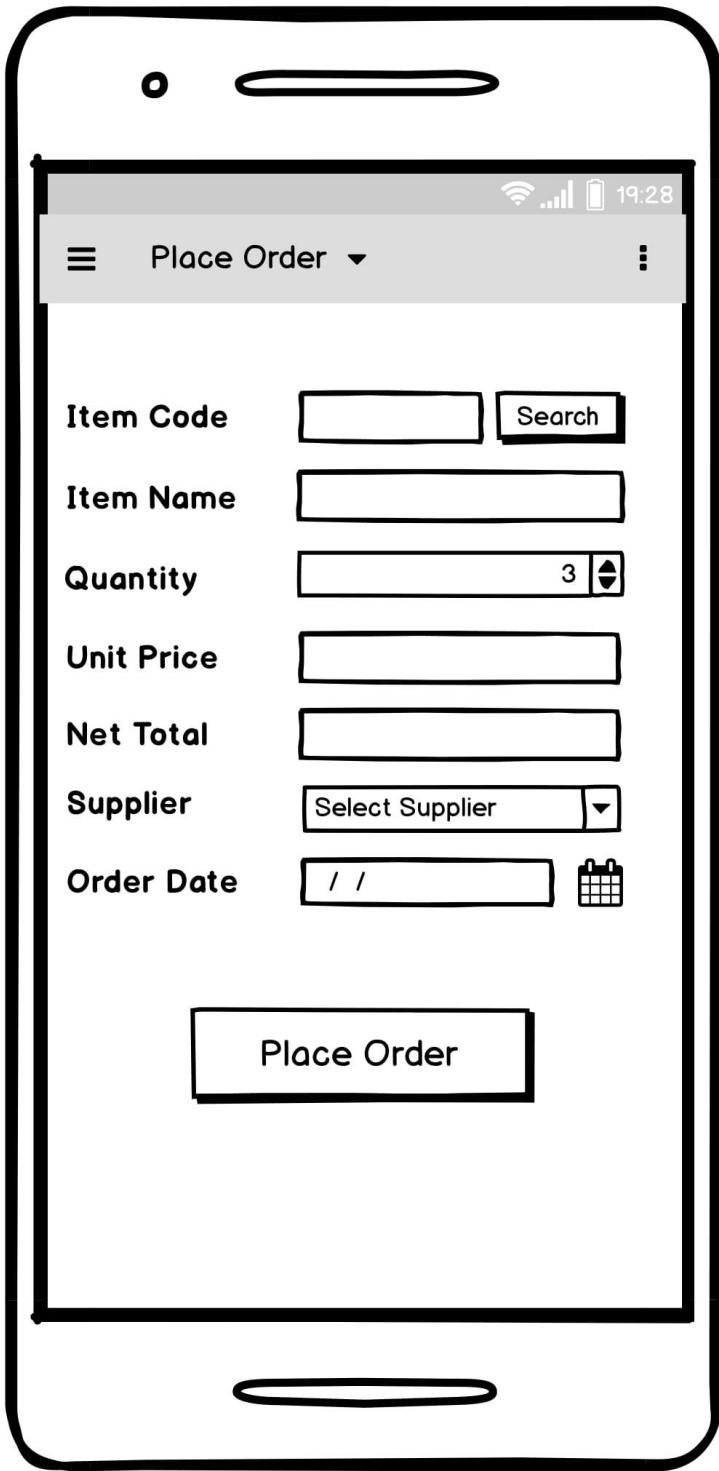


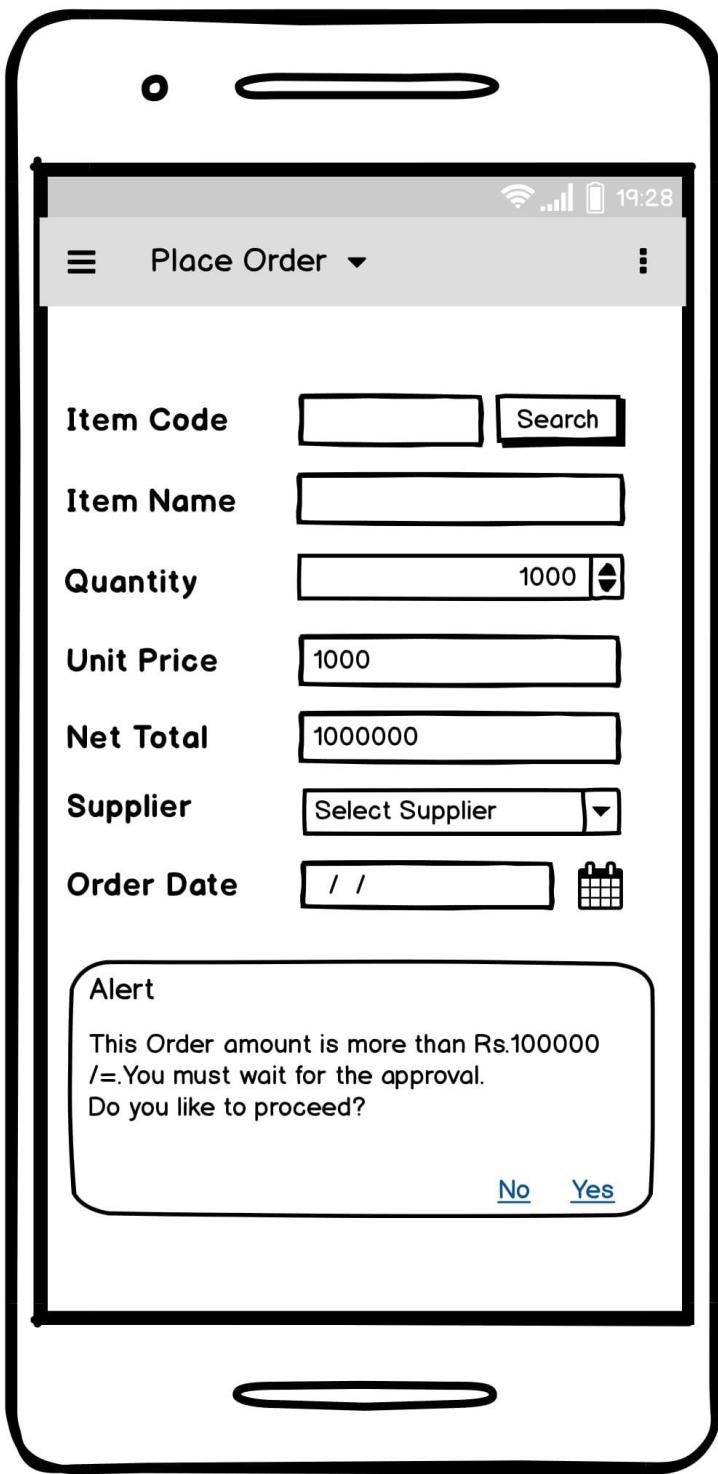


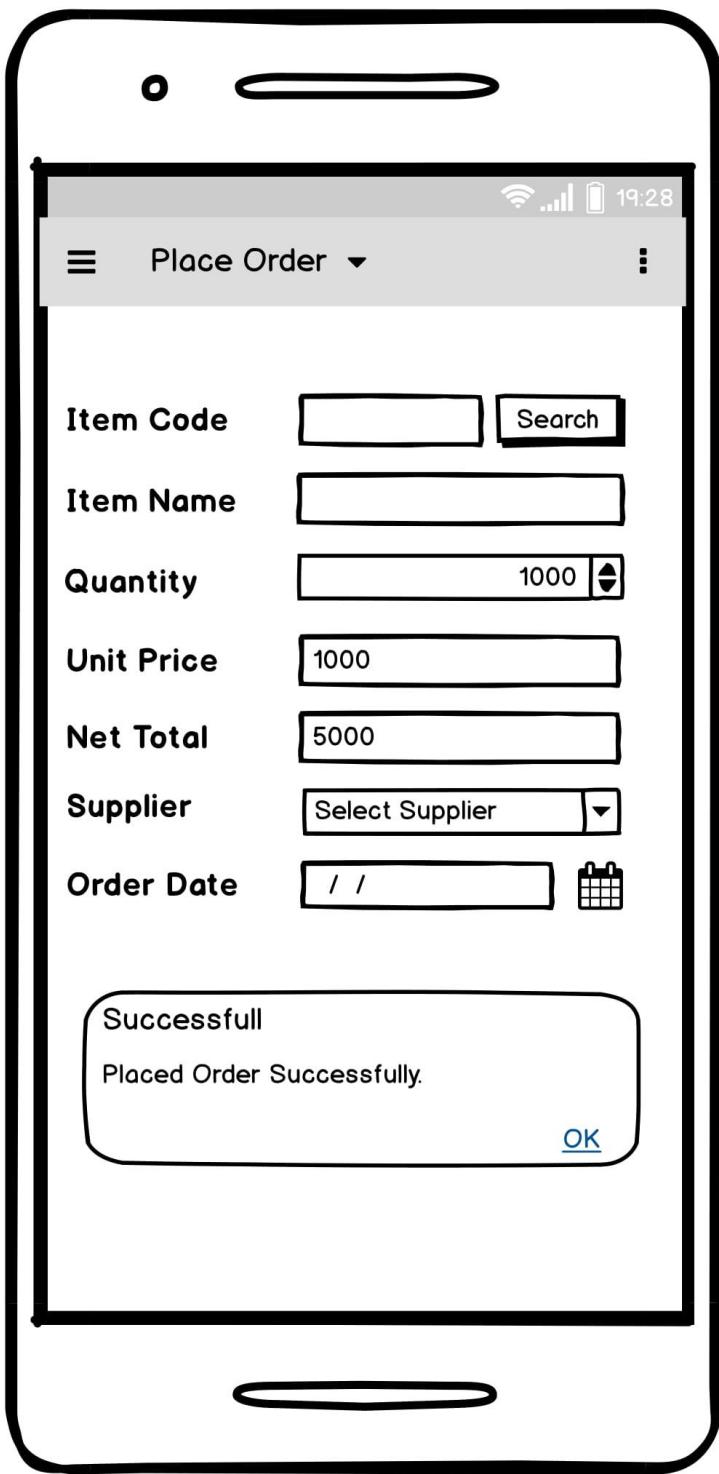
Make Order



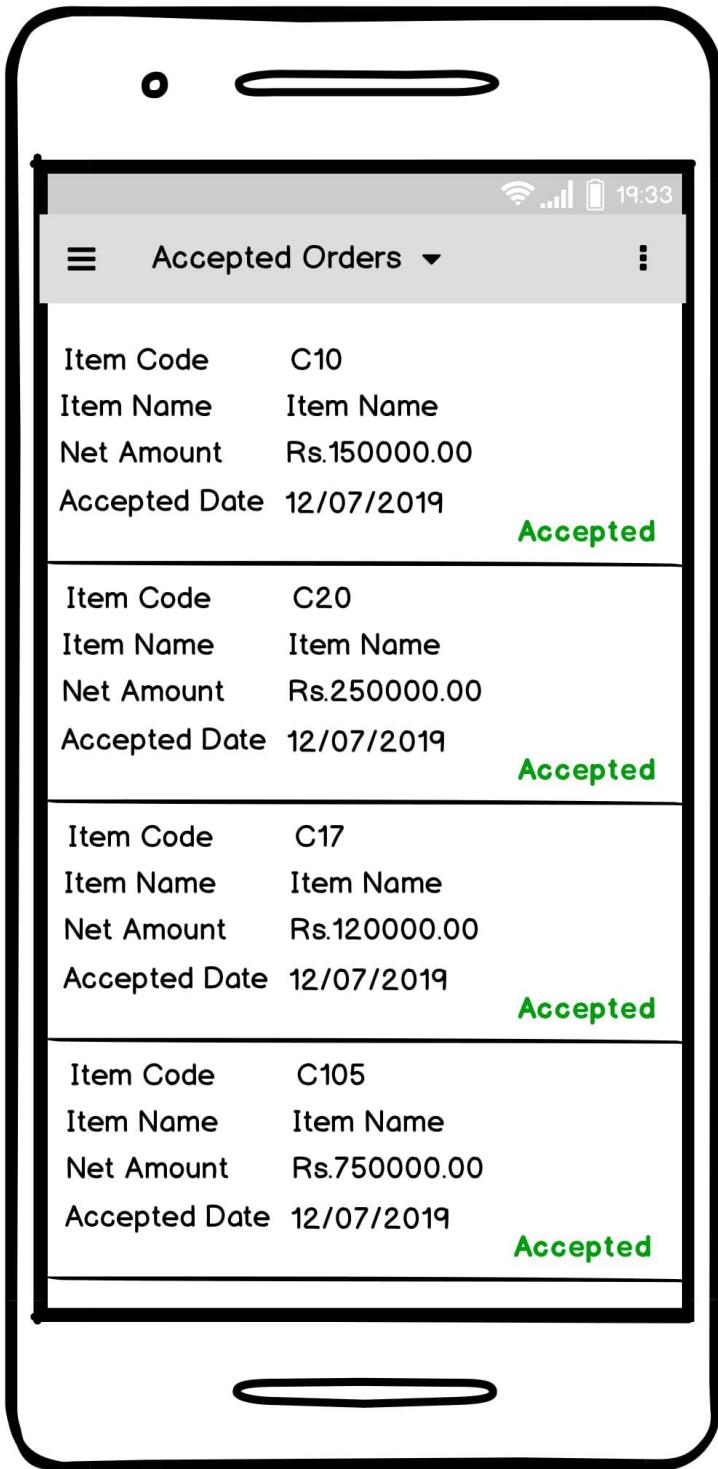






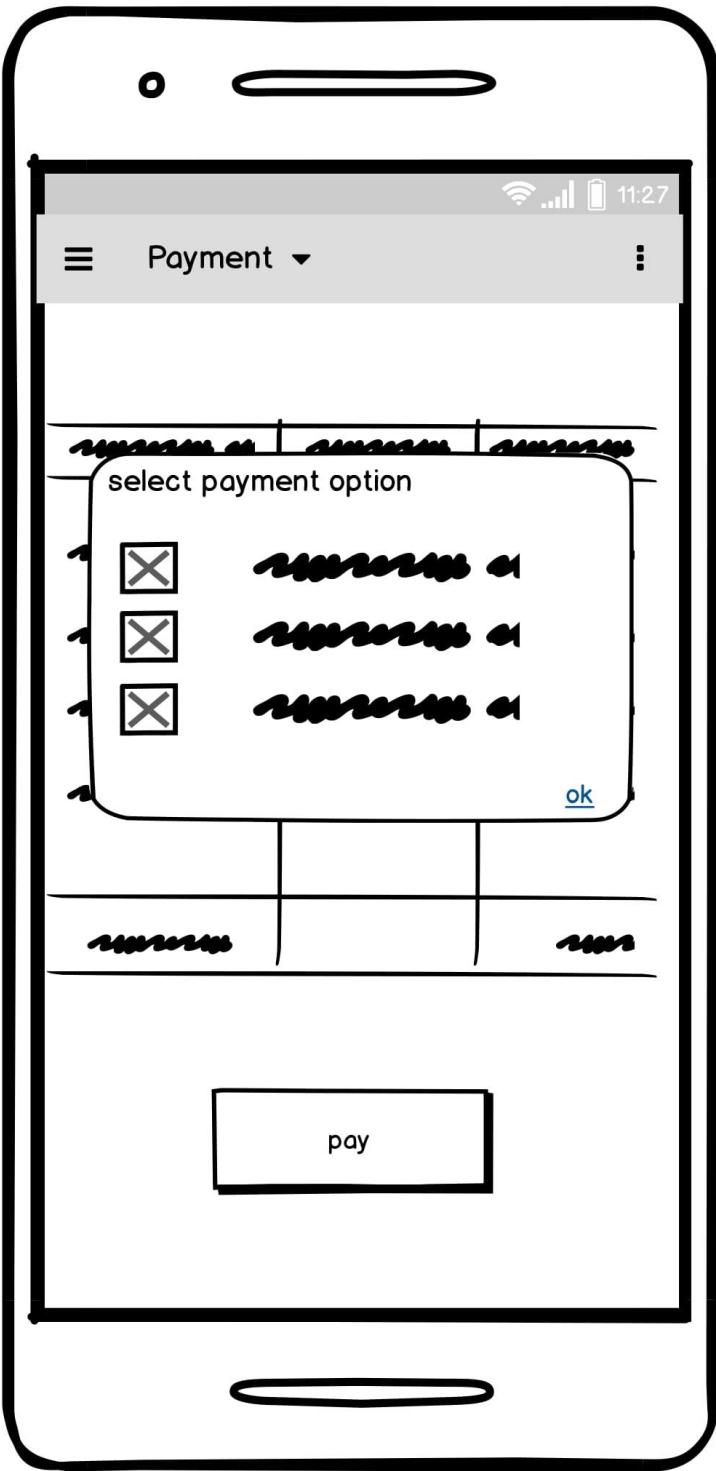


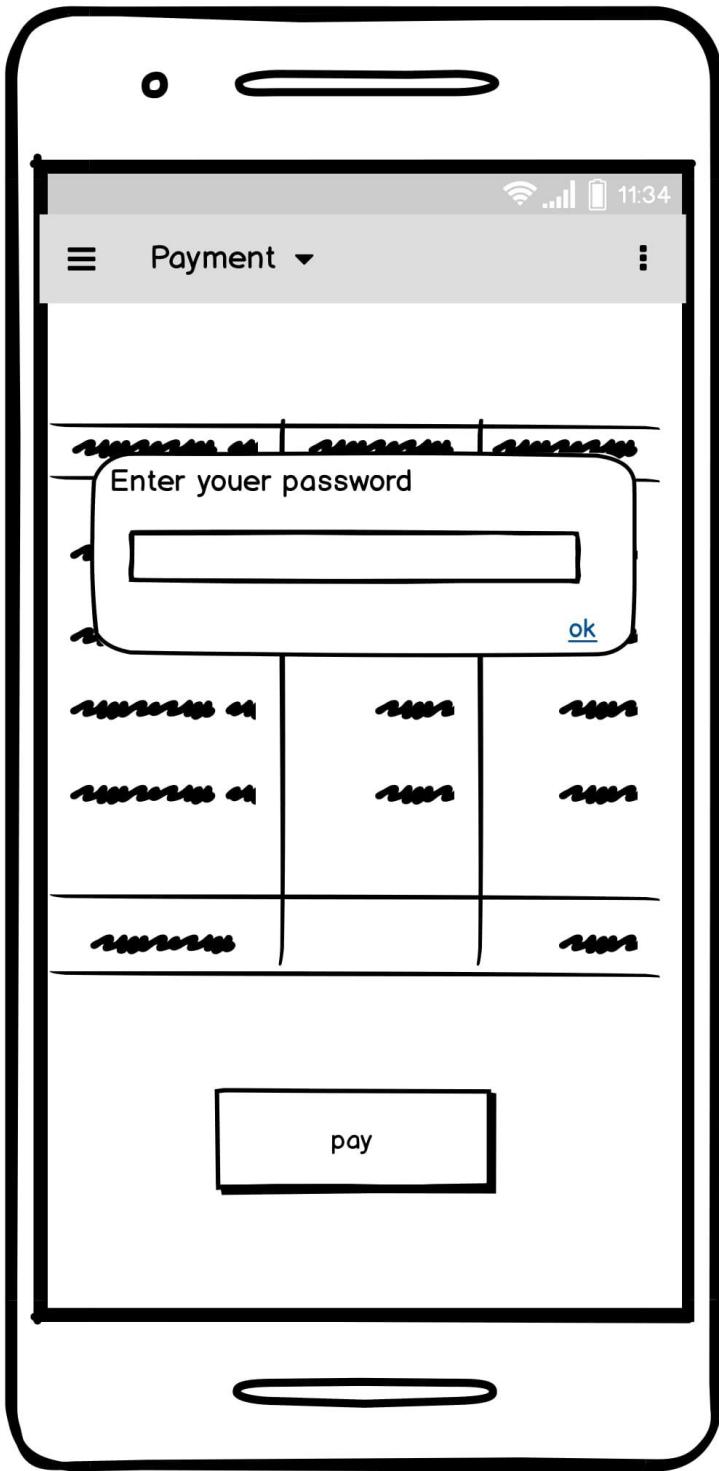


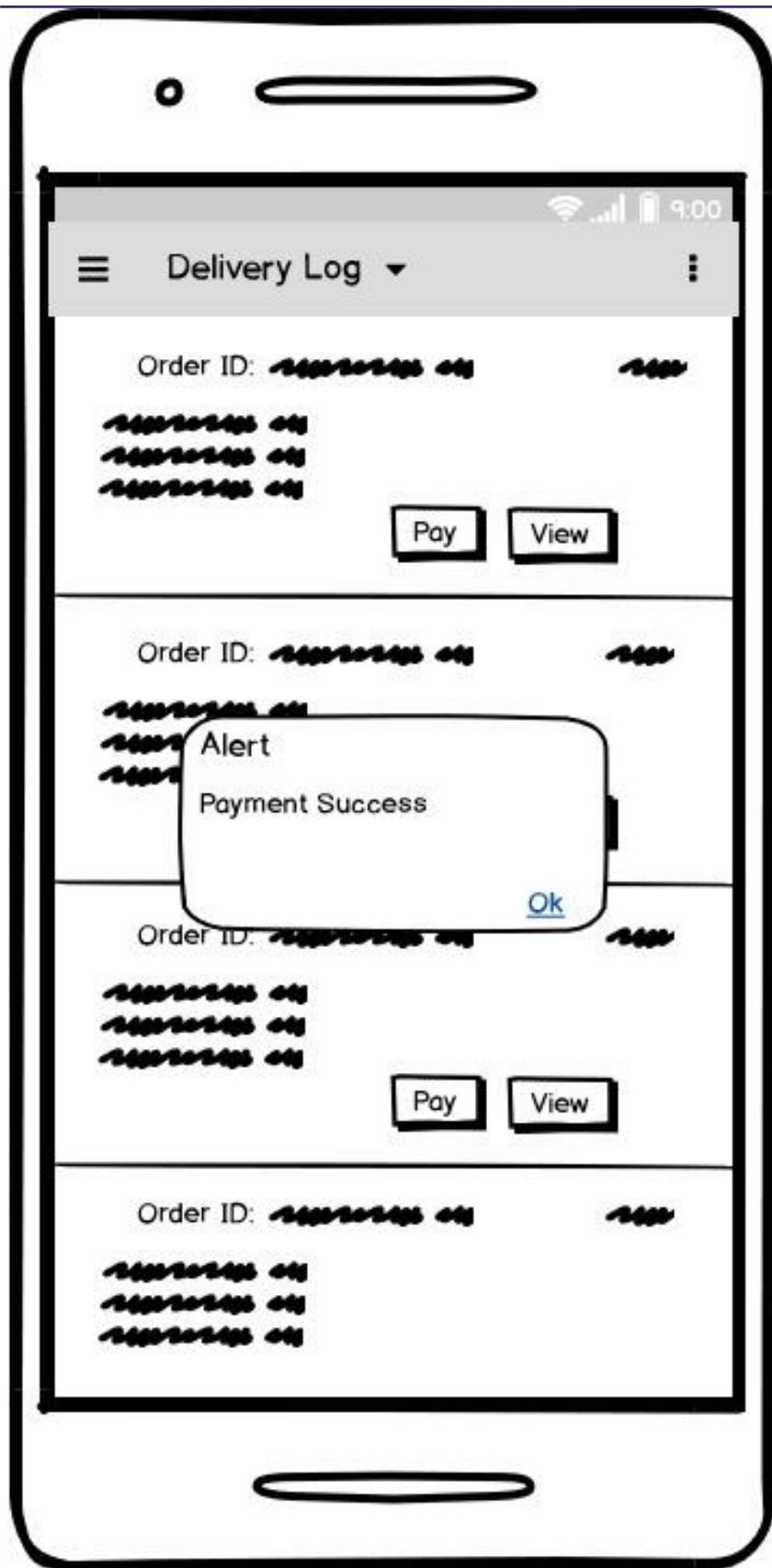


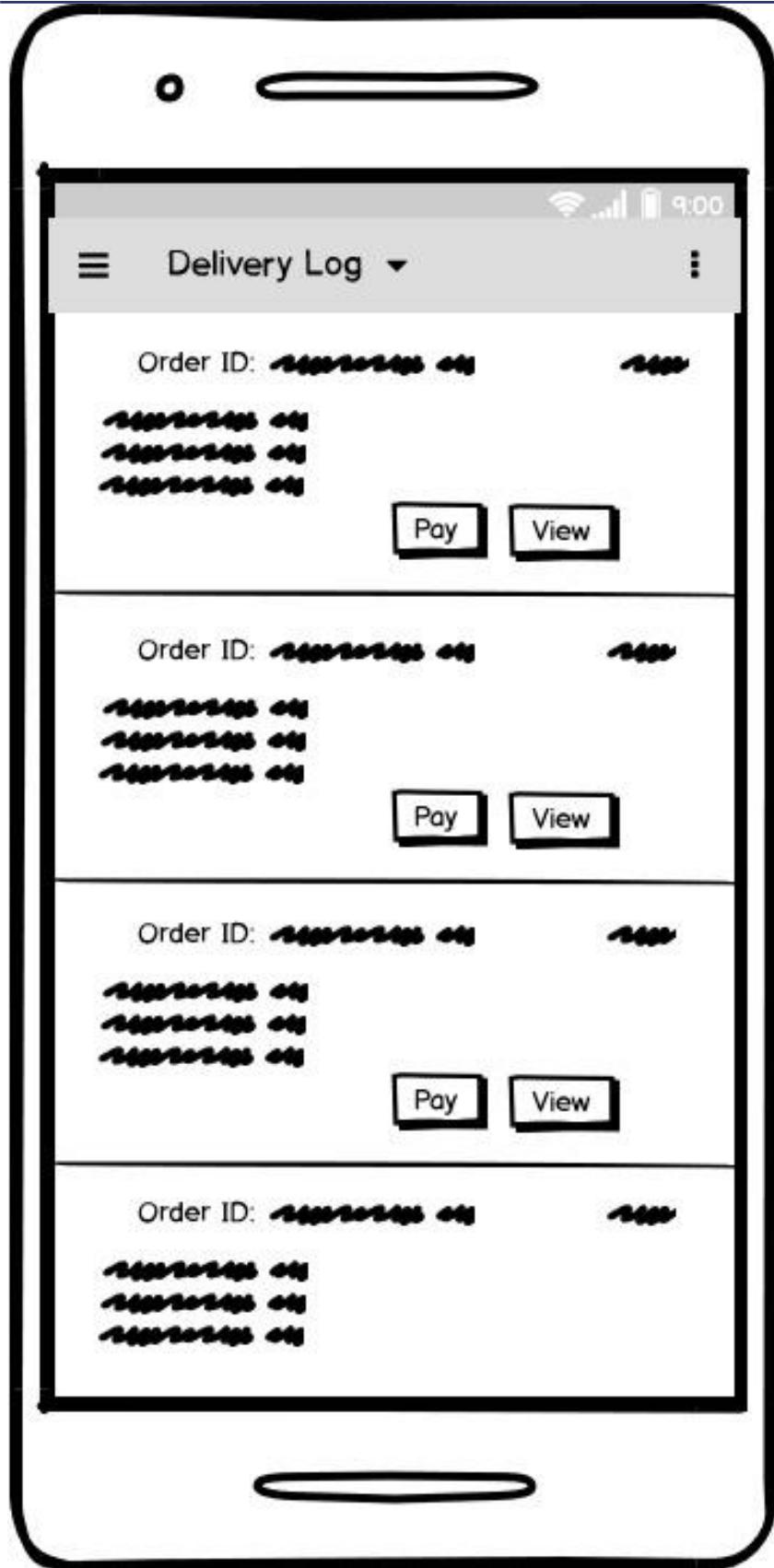


Wireframes (low fidelity)



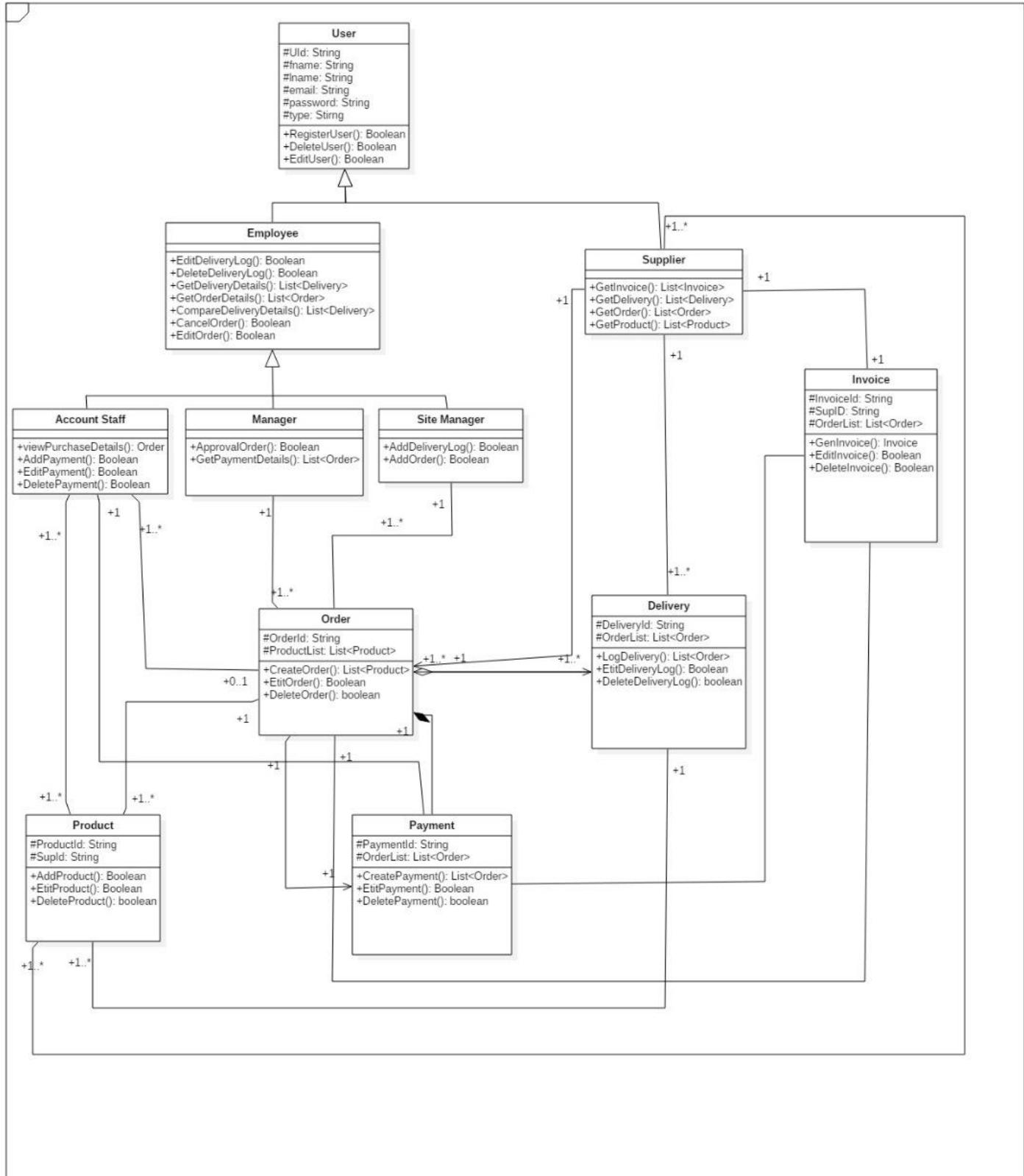






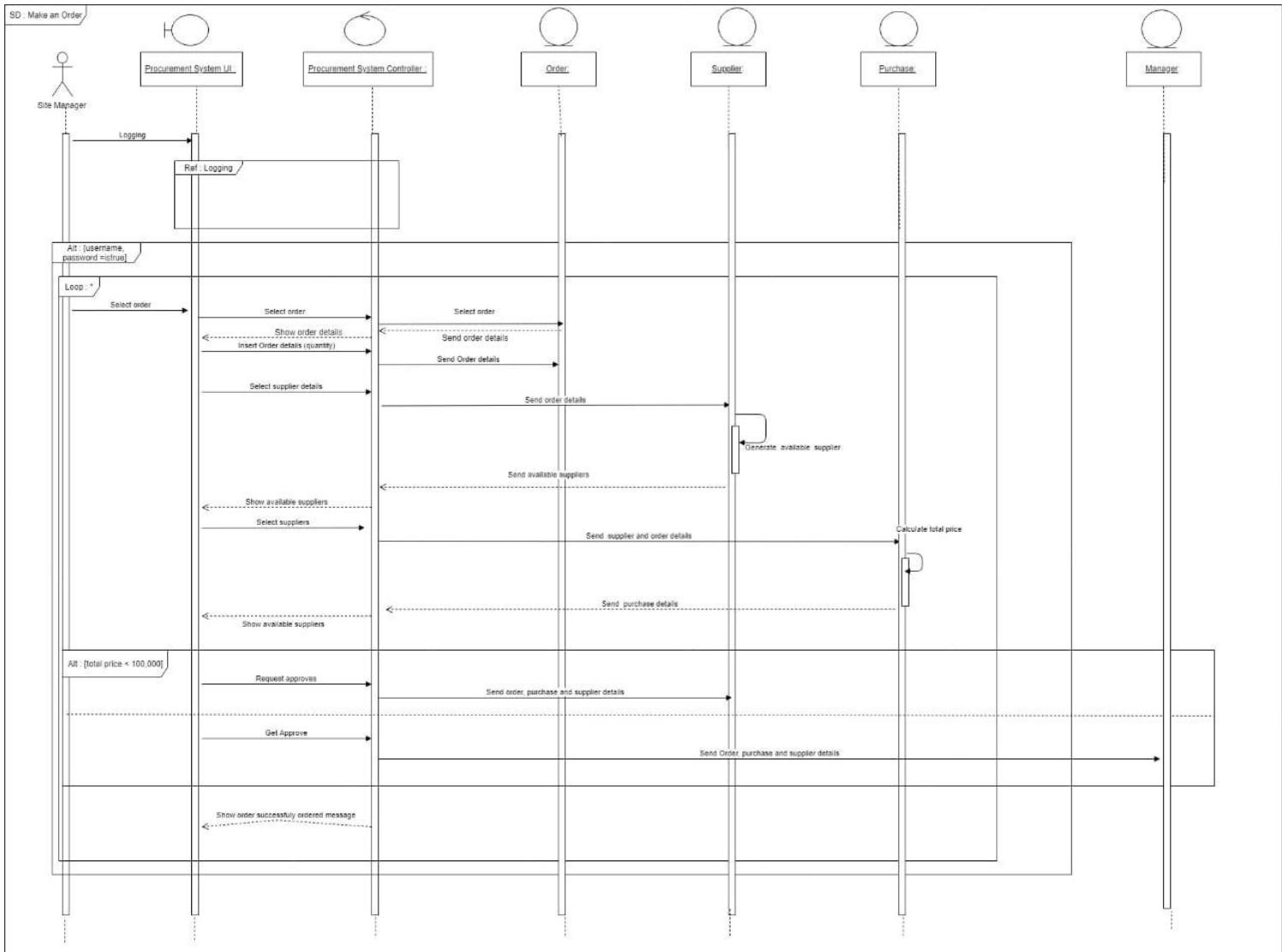


Class Diagram

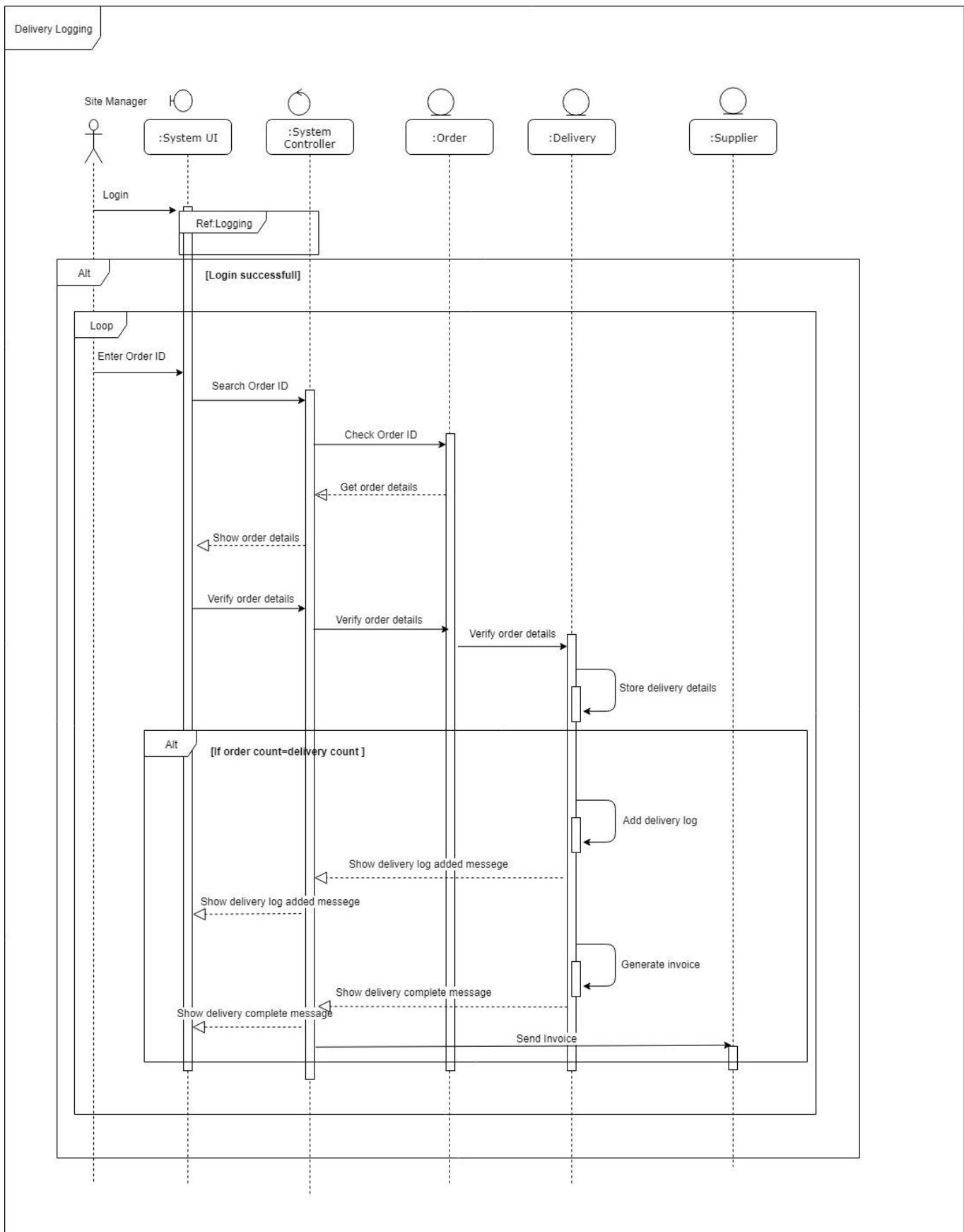


Sequence Diagrams

Make a purchase order



Delivery logging



Approve Order

