Invi / **An architecture of localization**

Reorganizing supply chain into hyperlocal components to reduce environment impact

01–08 / **Project introduction**

Invi explores the relationship between on demand, co-created retail and the hyperlocal production and distribution of the 3D printed objects as a method of reducing environment impact of supply chains.

Roles

Economic development research

Synthesis of secondary research

Conceptual development of network conditions

Design development

Prototype creation and evaluation

Course

Self-directed

Tools

Adobe Illustrator

Rhinoceros 3D

Date

Spring 2018

02-08 / **Design objectives**

Continuing, the co-creation of retail goods accounts for the relationships between consumer-facing systems and internal system capabilities to provide services.

Awareness of operating conditions

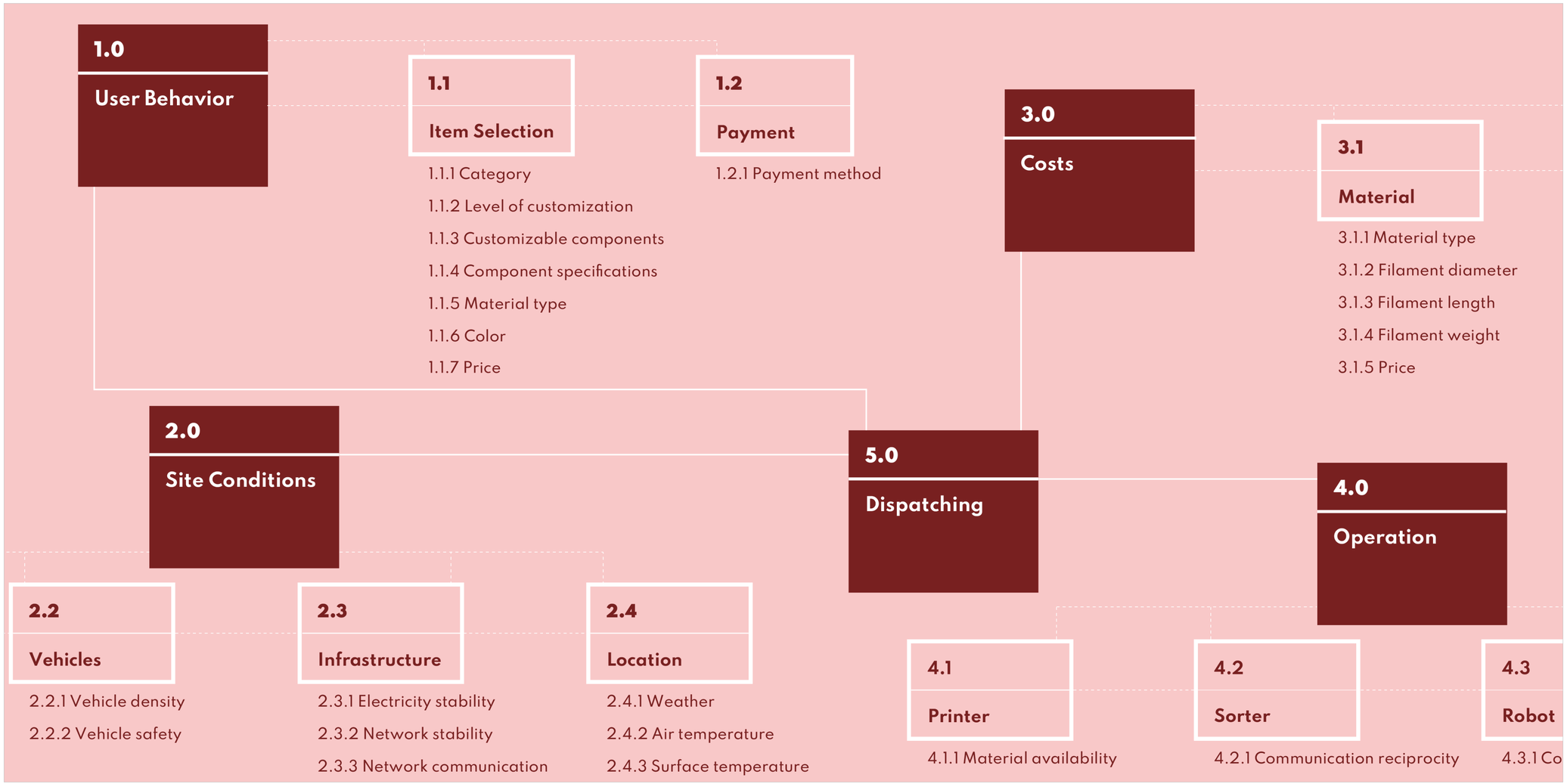
With a focus on advanced distribution technology, all operating conditions, ranging from vehicular to atmospheric, need continuous monitoring to ensure the level of customer service people expect.

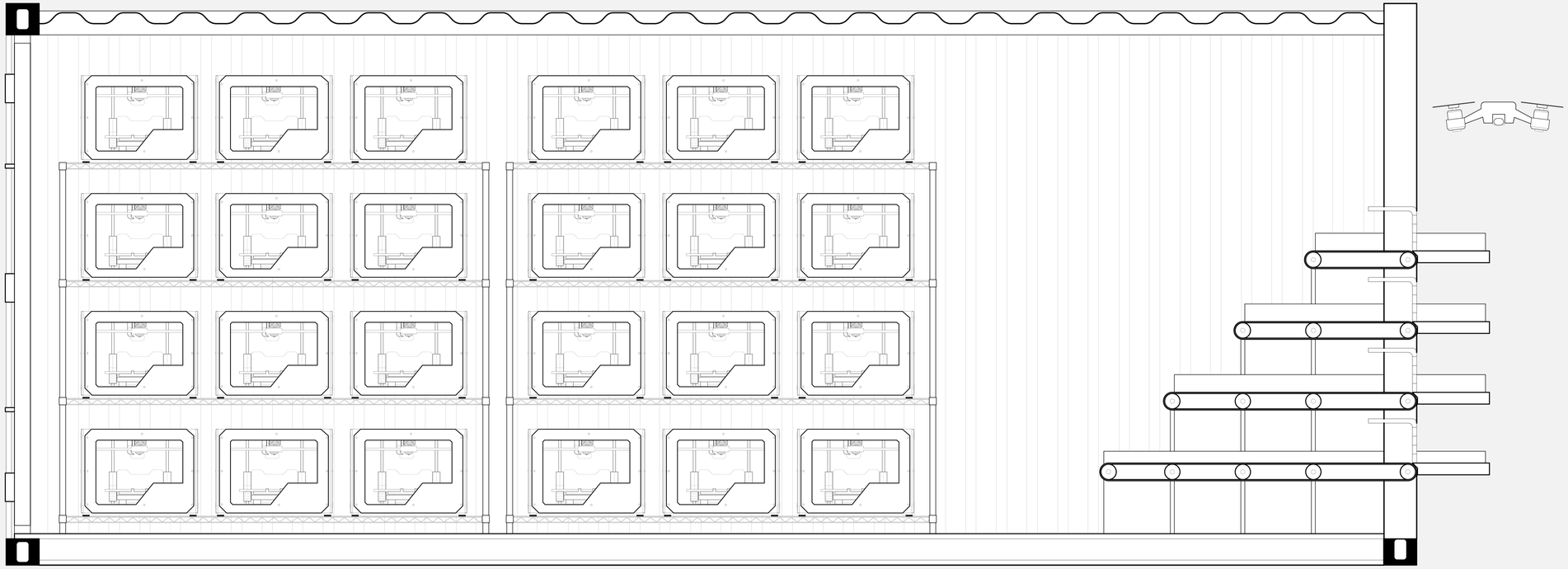
Multi-system integration

Leveraging architectural, mechanical, and digital systems as they converge and diverge in varying capacities provides the opportunity to meet customer demand at the neighborhood level.

Machine to machine communication

The production and distribution of co-created goods is dependent on systems establishing, maintaining, and updating communication reciprocity between all machines.

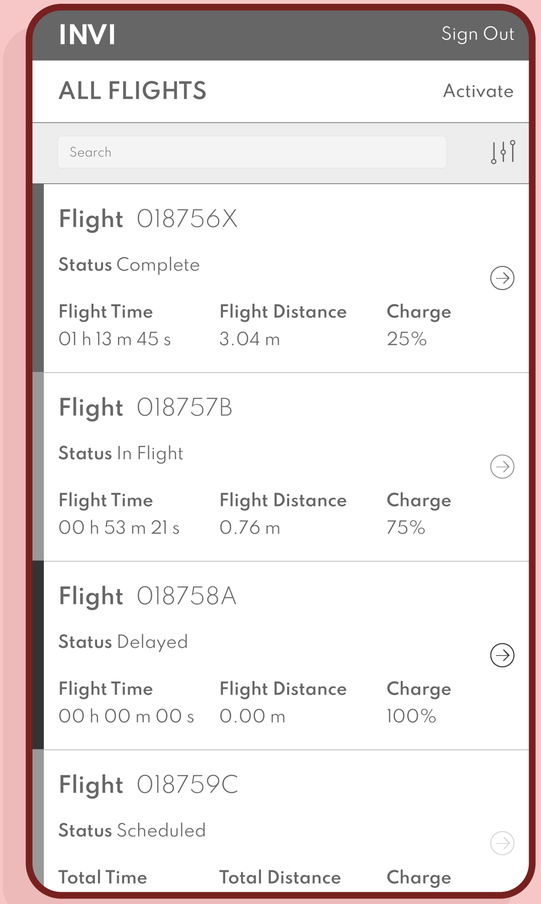

1.0
User Behavior
1.1
Item Selection
1.1.1 Category
1.1.2 Level of customization
1.1.3 Customizable components
1.1.4 Component specifications
1.1.5 Material type
1.1.6 Color
1.1.7 Price
1.2
Payment
1.2.1 Payment method
3.0
Costs
3.1
Material
3.1.1 Material type
3.1.2 Filament diameter
3.1.3 Filament length
3.1.4 Filament weight
3.1.5 Price
2.0
Site Conditions
5.0
Dispatching
4.0
Operation
2.2
Vehicles
2.2.1 Vehicle density
2.2.2 Vehicle safety
2.3
Infrastructure
2.3.1 Electricity stability
2.3.2 Network stability
2.3.3 Network communication
2.4
Location
2.4.1 Weather
2.4.2 Air temperature
2.4.3 Surface temperature
4.1
Printer
4.1.1 Material availability
4.2
Sorter
4.2.1 Communication reciprocity
4.3
Robot
4.3.1 Co

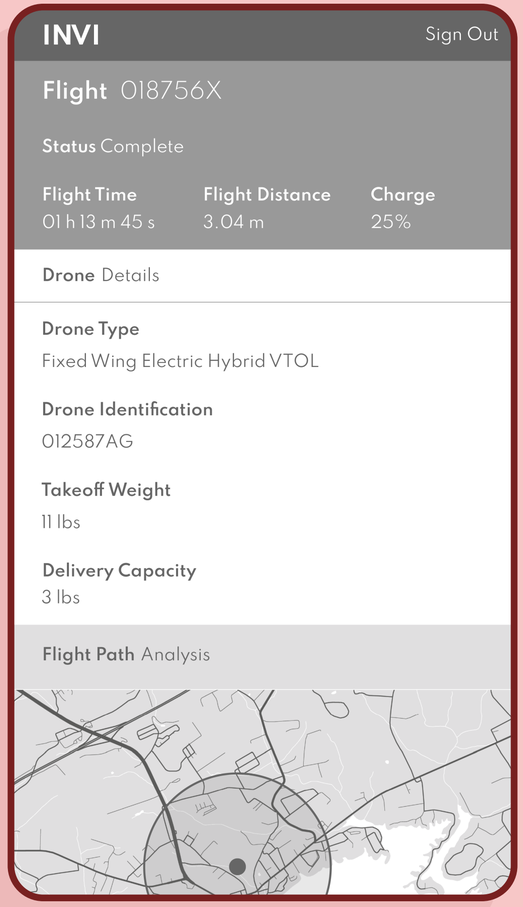


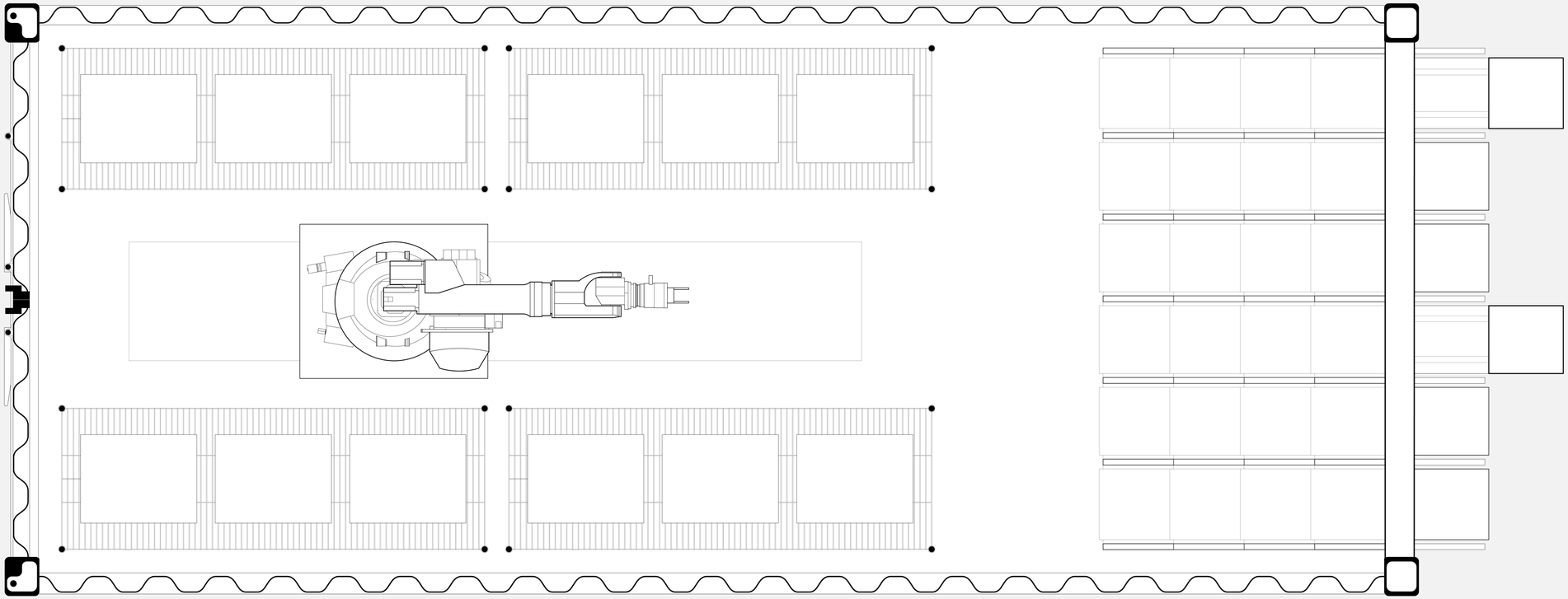
04-08 / **Hyperlocal production and distribution structure section**

05-08 / **Internal infrastructure wireframes**

Flight dispatchers and field technicians monitor the flow of retail goods and aerial drones through a smartphone application that is device-agnostic.



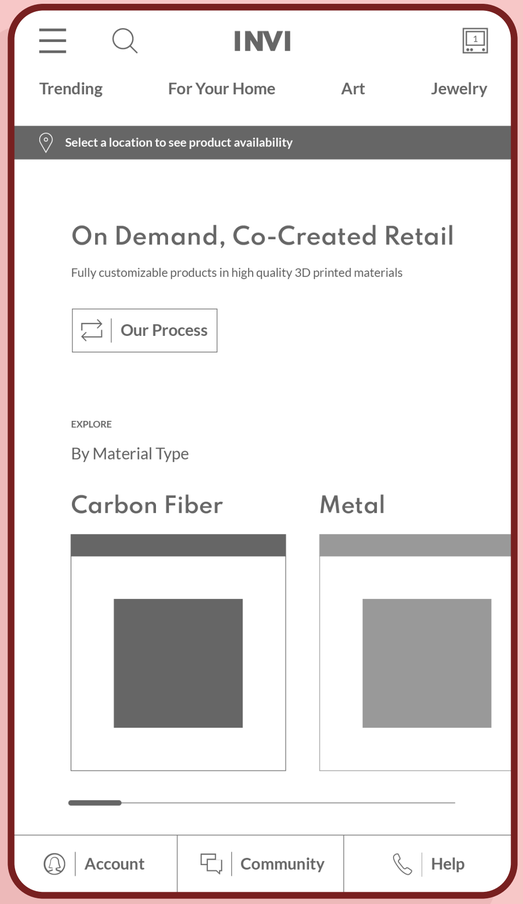


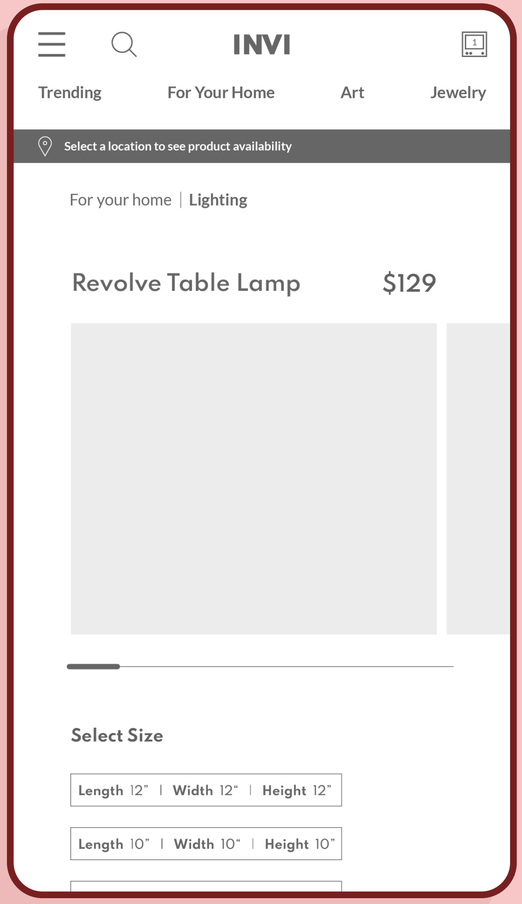


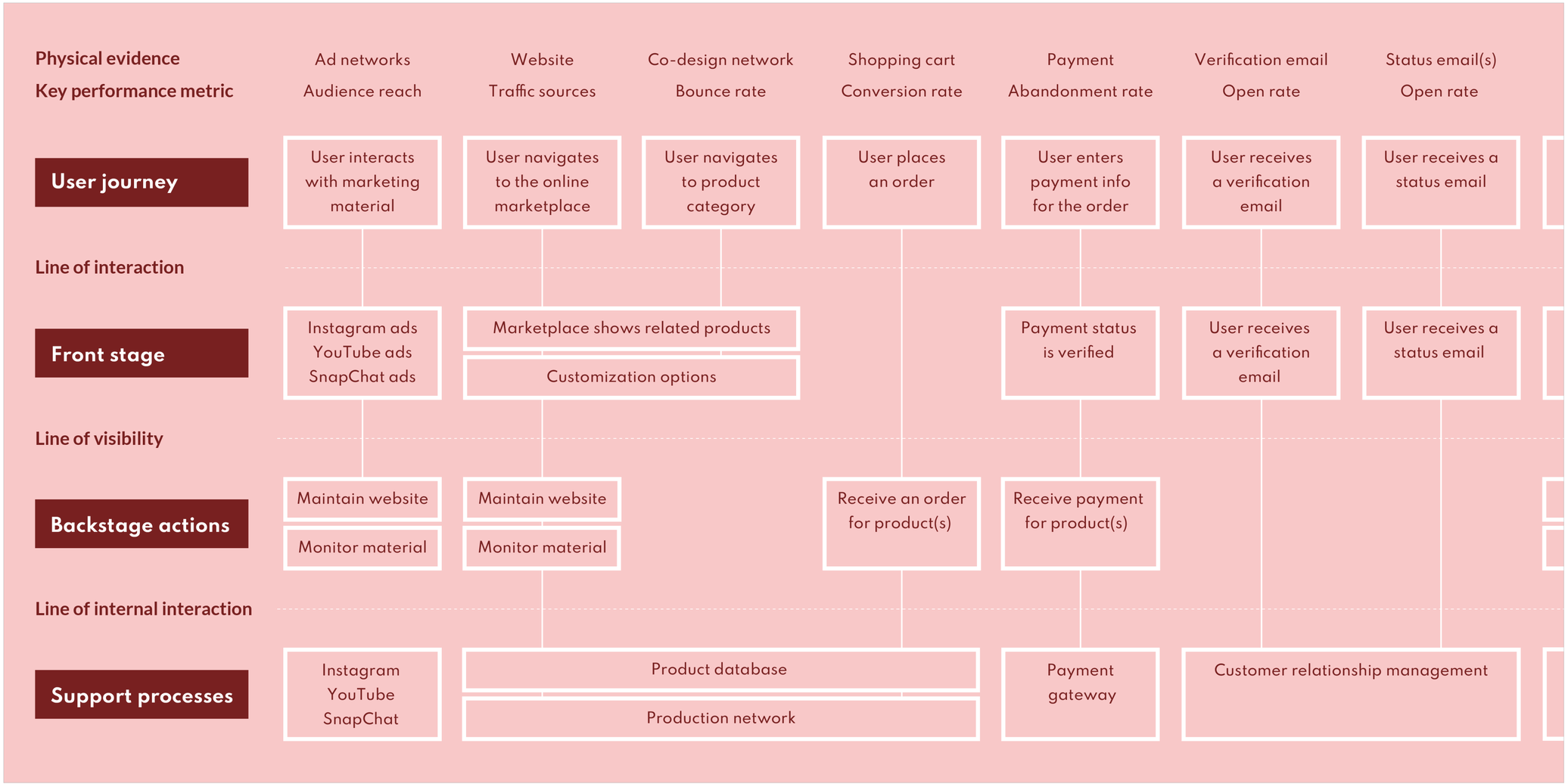
06-08 / **Hyperlocal production and distribution structure plan**

07-08 / **eCommerce wireframes**

Customers set and adjust product design conditions, like defining the level of customization and modifying design parameters, in a web-based experience.







08-08 / **eCommerce service diagram**