

# Designing an Object-oriented Solution from a Business Case



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# Overview



**Gathering the requirements**

**Identifying the classes and their functionalities**

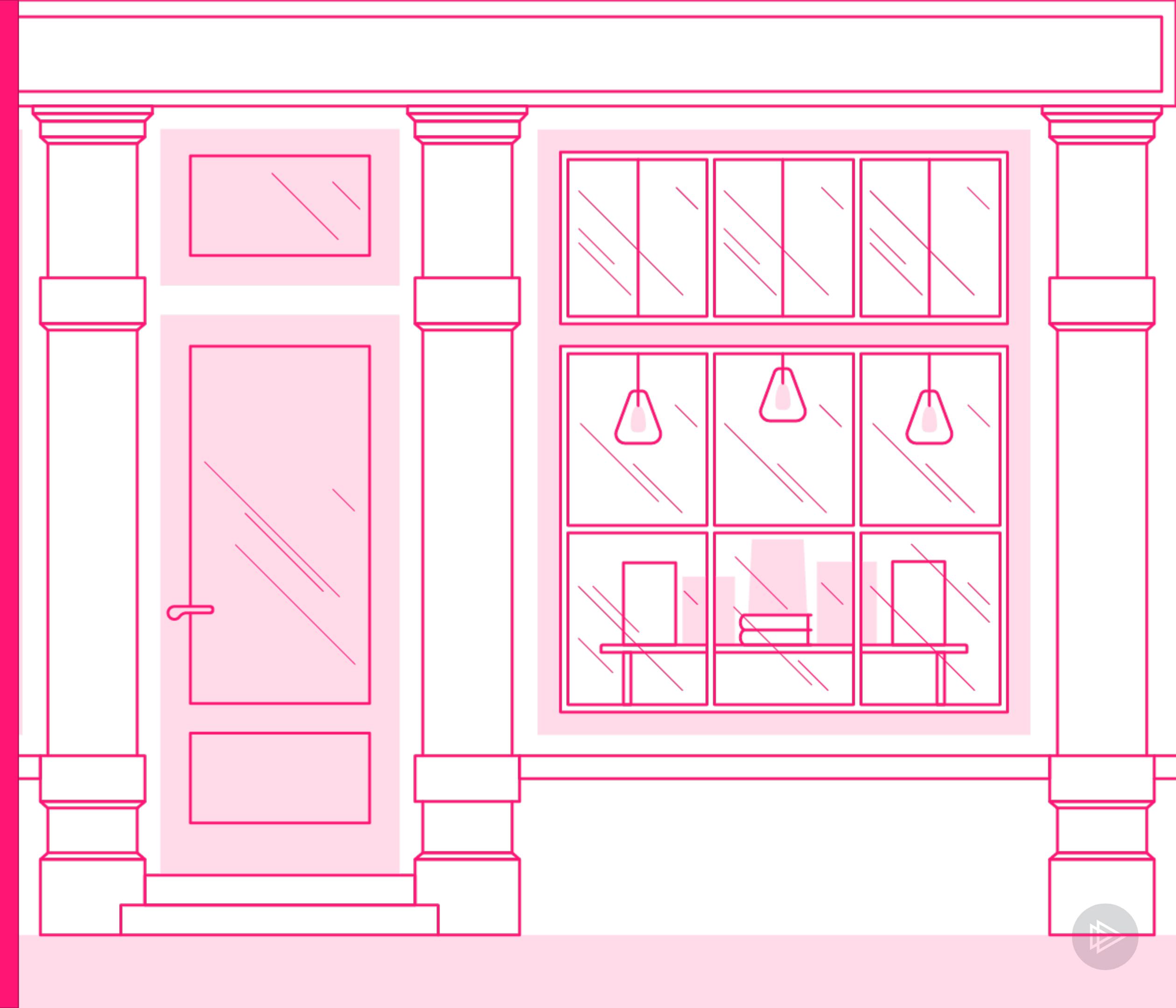


# Gathering the Requirements



# Welcome to Bethany's Pie Shop!

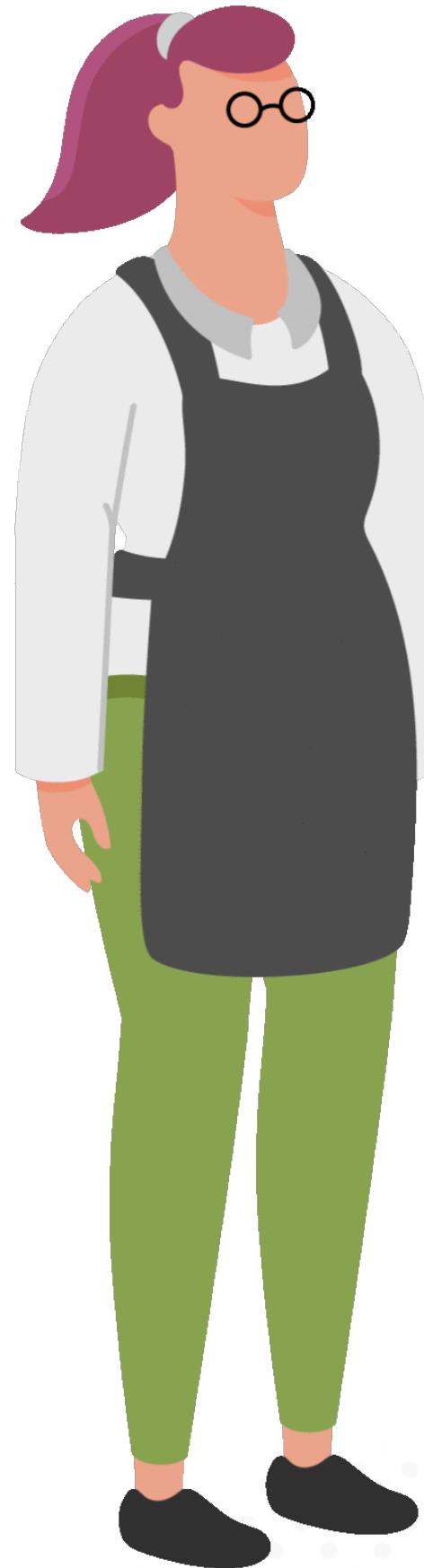
*The most delicious pies*





**“Hi!  
I’m Bethany!”**





**“I will need an application for the management of our inventory of ingredients, so that we can continue baking our pies!”**

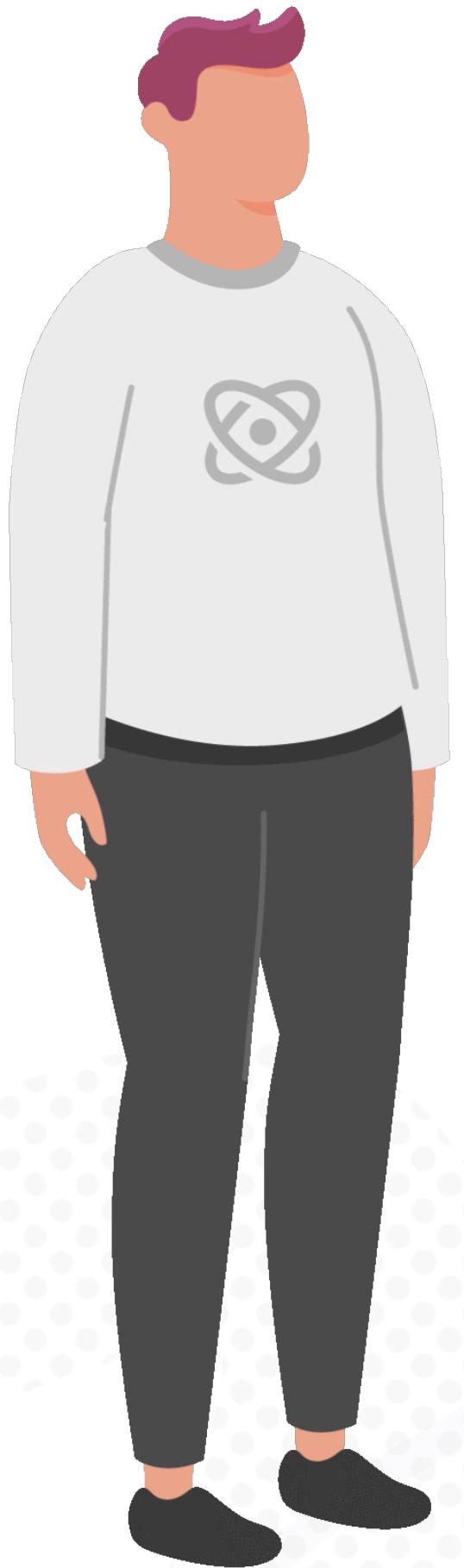


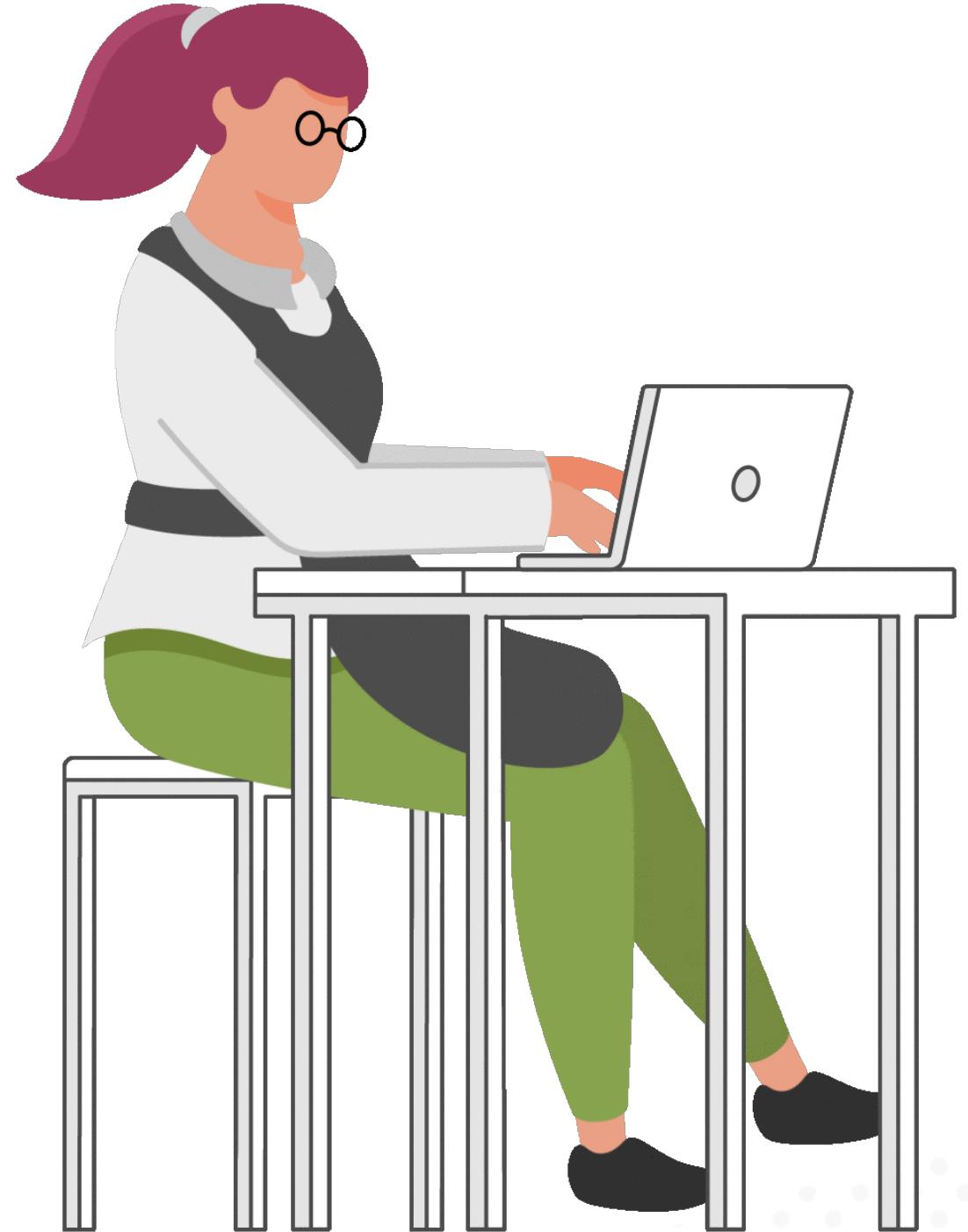
**This... is you,  
the developer for the new application.**



**“OK, Bethany, I think we can do that.**

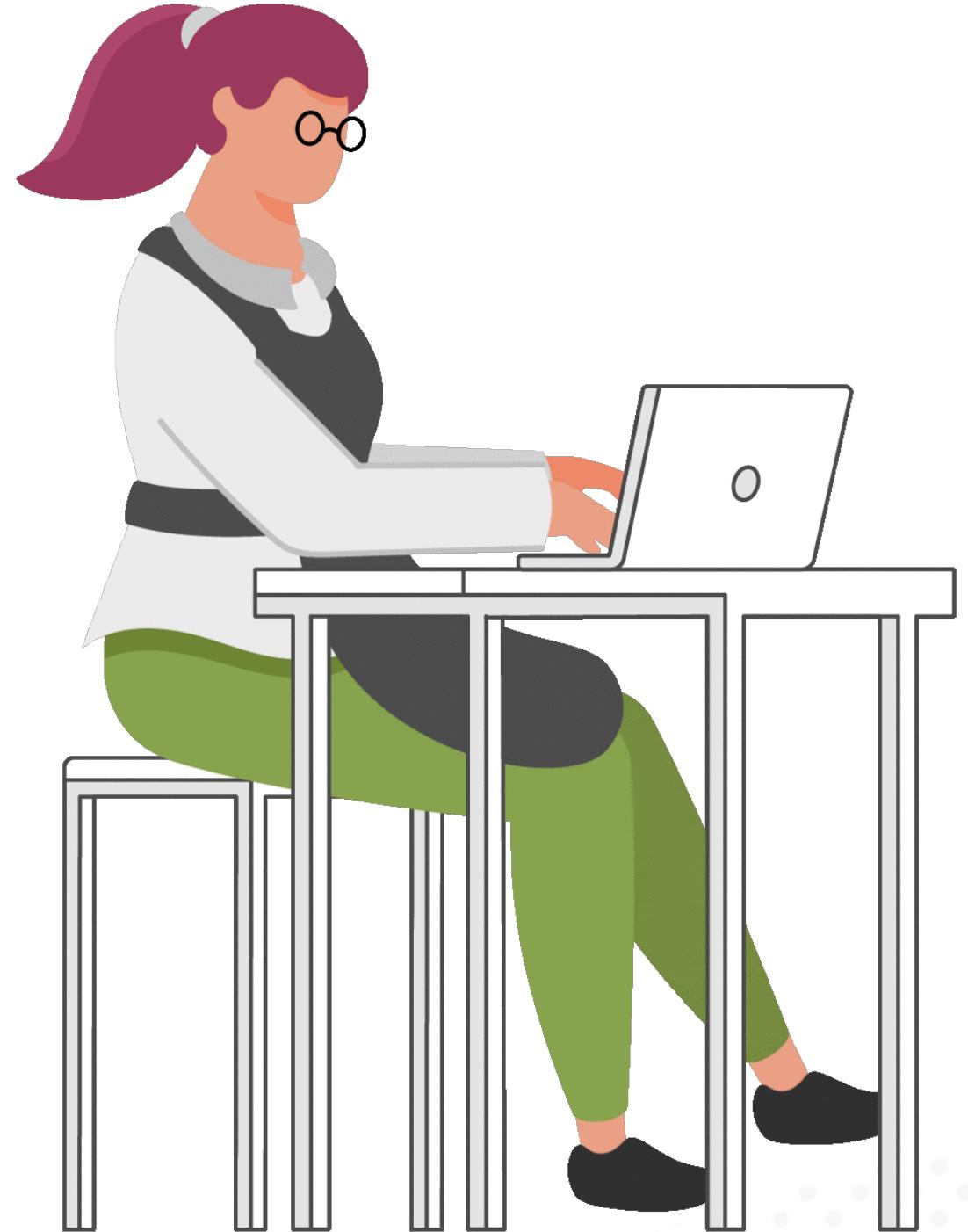
**Let’s discuss what the application will need  
to be capable of doing first!”**





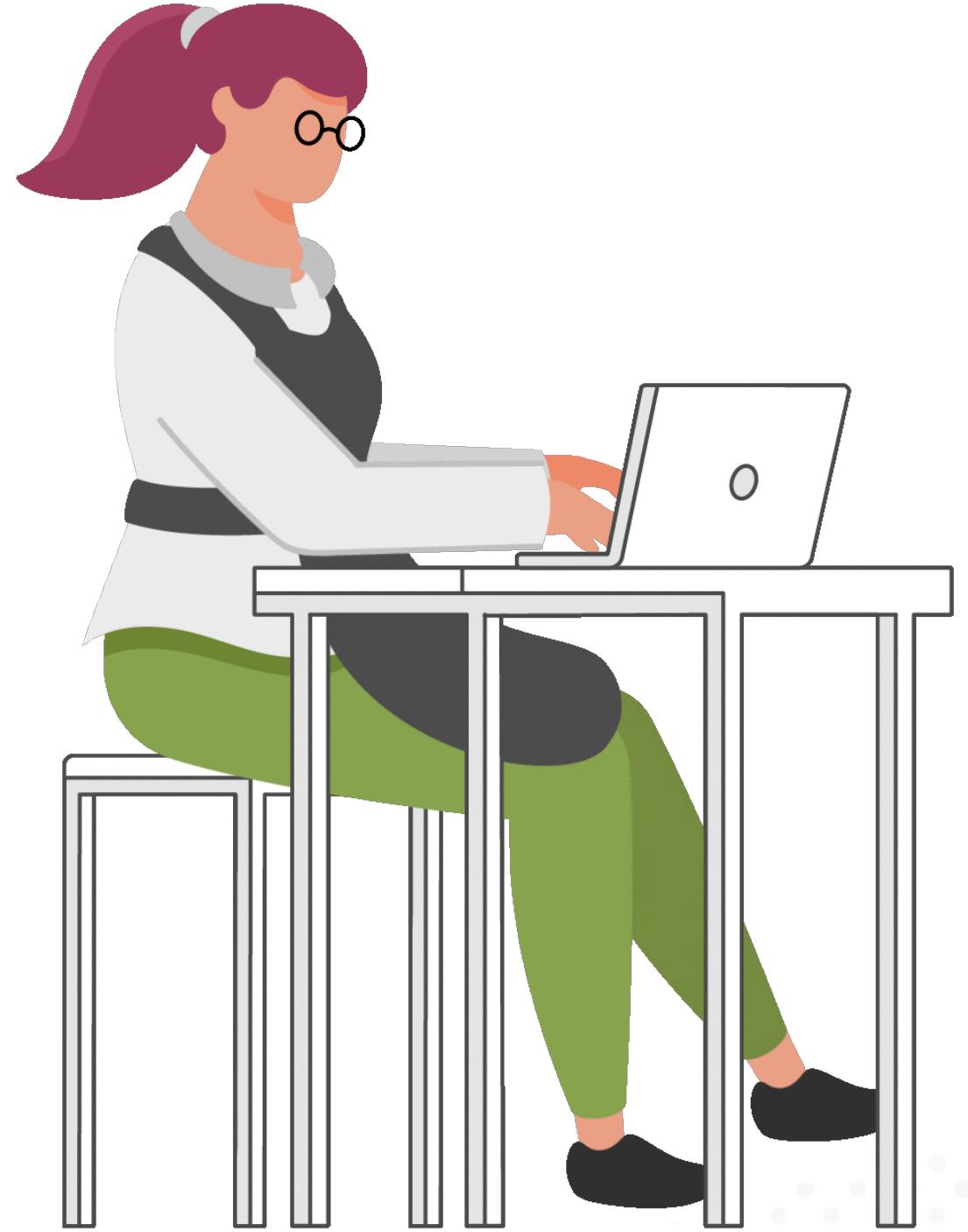
**“Let’s call the application ‘Bethany’s Pie Shop Inventory Management’, I think that covers what it will need to do!”**





**“It will be used by our inventory managers in the warehouse.”**

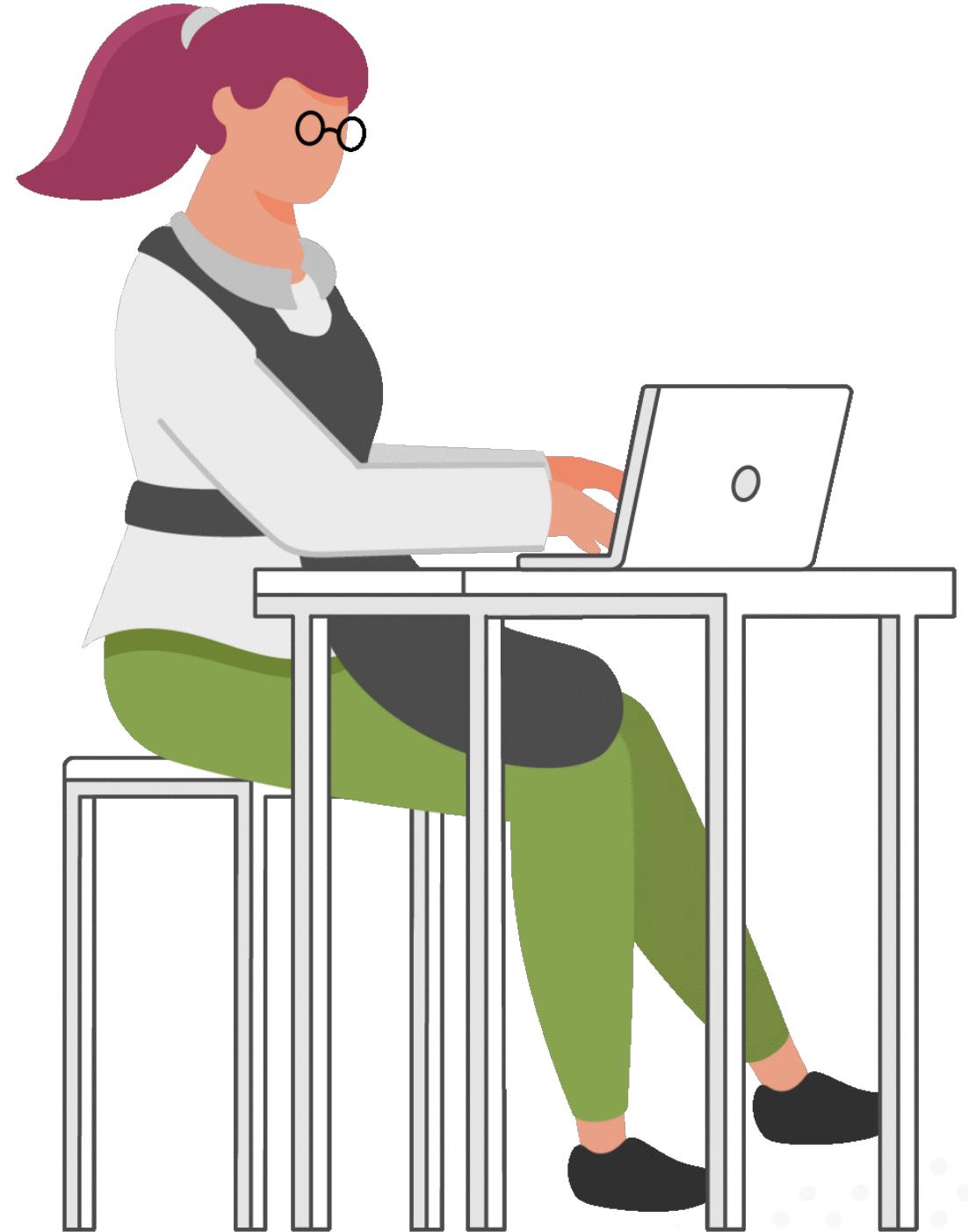




**“When a product is used, the inventory of course needs to be updated to reflect the new situation.**

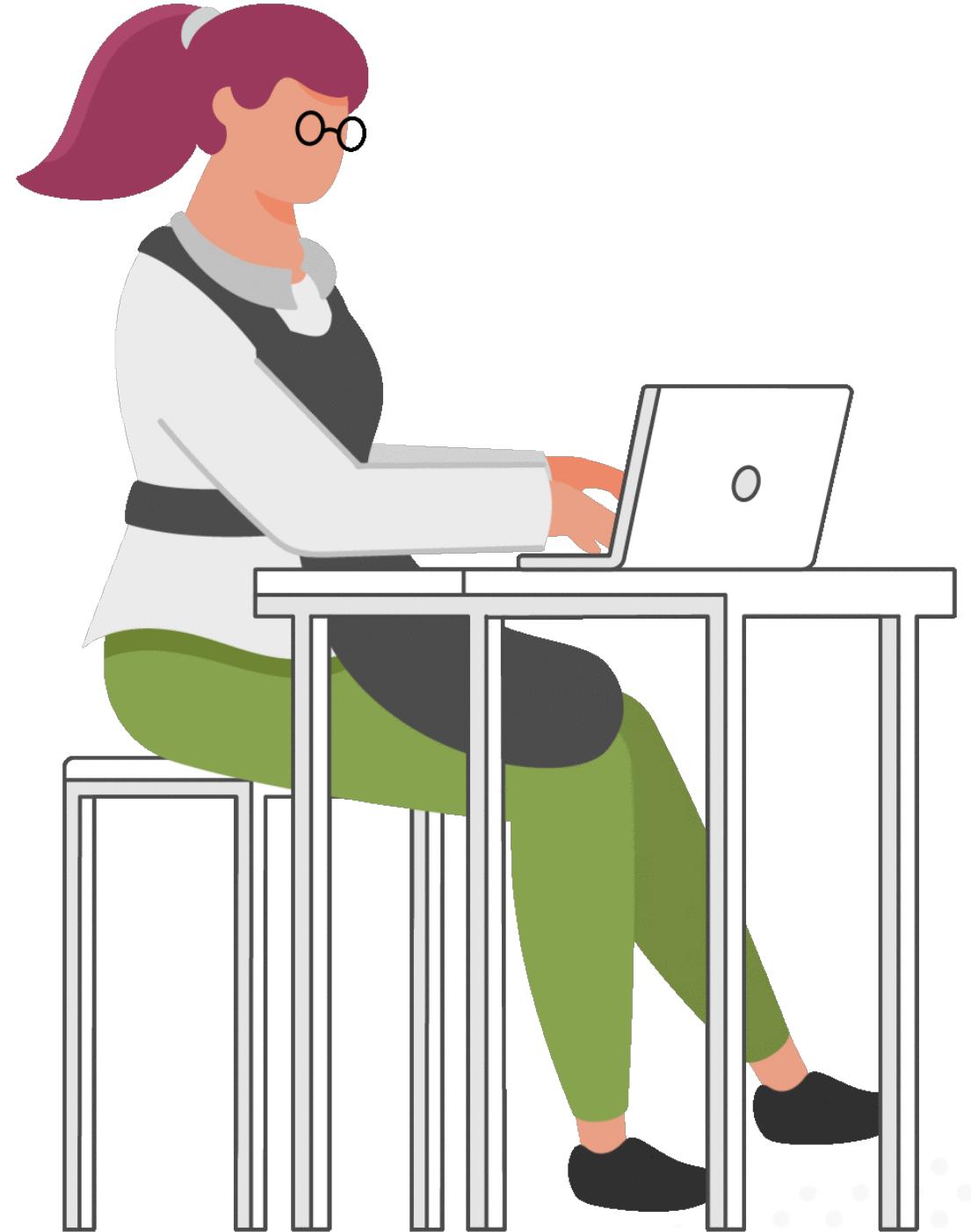
**Some products are stored and used per item, in fact most of them are. But some, like flour, are stored per kilo. And some like eggs are bought per box.”**





**“They need to be able to see which products  
are low on stock, so we don’t run out!”**





**“And it would be great from the application that they can directly create a new order for one or more products.**

**Most of our products are purchased in dollar, but some are also ordered in euro currency. A few I believe are ordered in British pound.**

**We also need to make sure not to order too many of a product, since we have limited storage capacity.”**



**“That is great information, I think we can start with this!”**



# Gathering the Requirements



## Work with Products

**Products exist in different unit types**

**Create Orders to increase stock of one or more Products**

**Products can have a Price in different Currencies**



# Gathering the Requirements



## Work with Products

Products exist in different unit types

Create Orders to increase stock of one or more Products

Products can have a Price in different Currencies





**“I may not have mentioned it: our inventory managers will also need to be able to add new products!”**





**Requirements will  
change!**

**OOP design will help you making this  
possible!**



# Gathering the Requirements



## Work with Products

**Products exist in different unit types**

**Create Orders to increase stock of one or more Products**

**Products can have a Price in different Currencies**

**Add new Product**



# **Identifying the Classes and Their Functionalities**

# Identifying the Types

Product

Order & OrderItem

Price

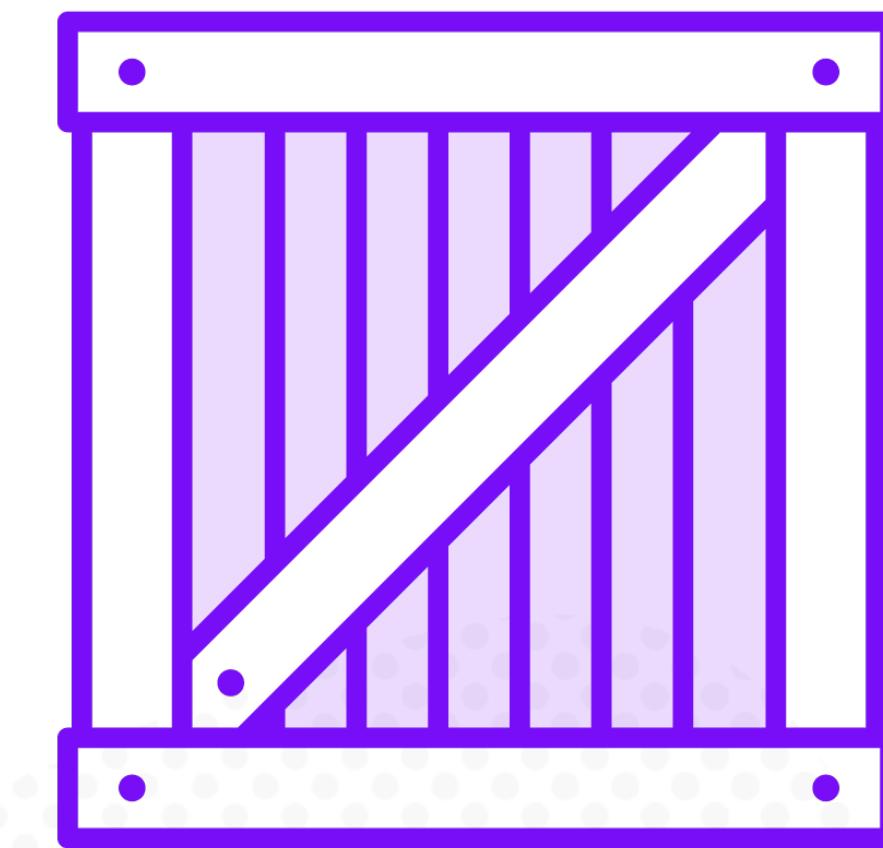
Currency

UnitType



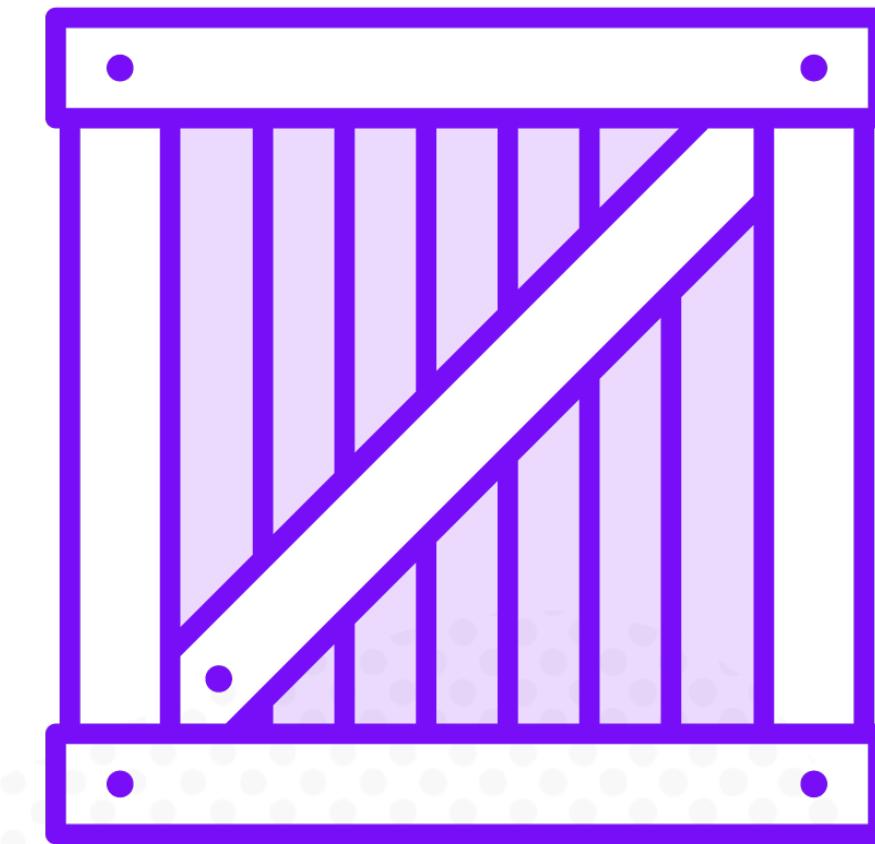
# The Product Class: Data

**Id**  
**Name**  
**Description**  
**Maximum in stock**  
**Price & currency**  
**Unit type**  
**Current amount in stock**  
**Low on stock?**



# The Product Class: Functionalities

- “Use” product
- Add new product to inventory
- Alert if low on stock
- Display the details of a product (short & long)
- Increase stock when order arrives



# The Order Class: Data

**Id**  
**List of Order Items (amount of product)**  
**Fulfilled**  
**Fulfilment date**



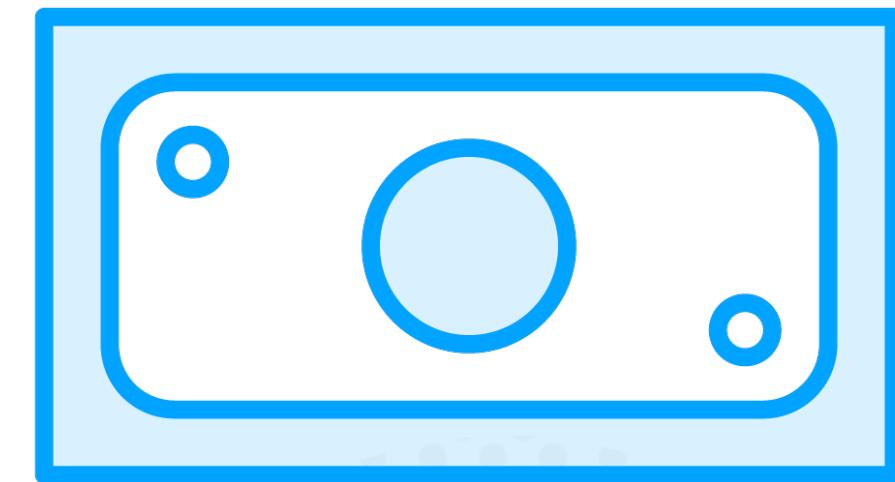
# The Order Class: Functionalities

Show details of order and order lines



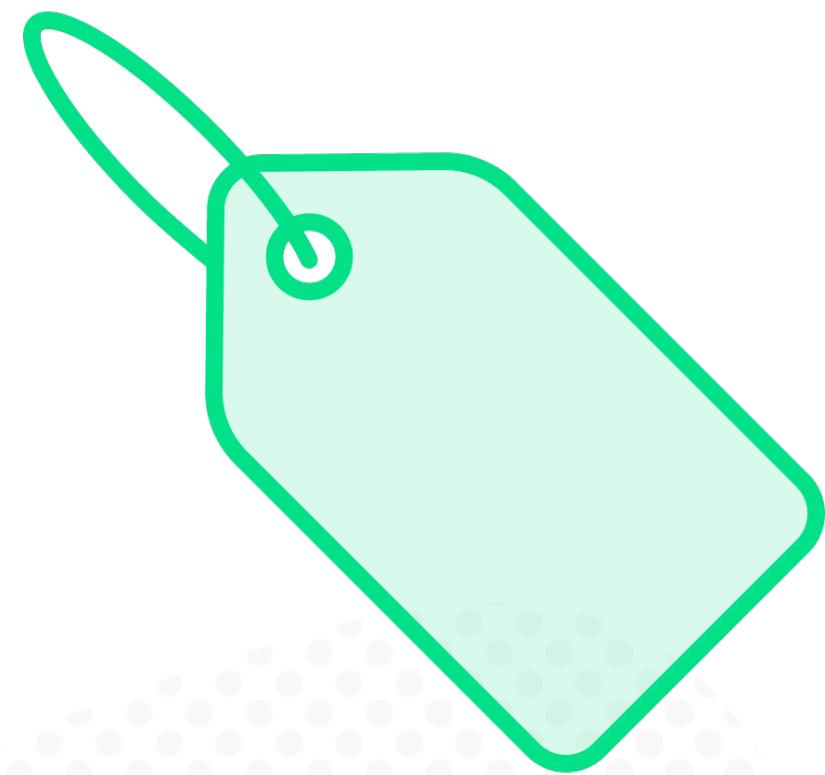
# The Price and Currency Types

Item price  
Currency (Euro, Dollar or Pound)

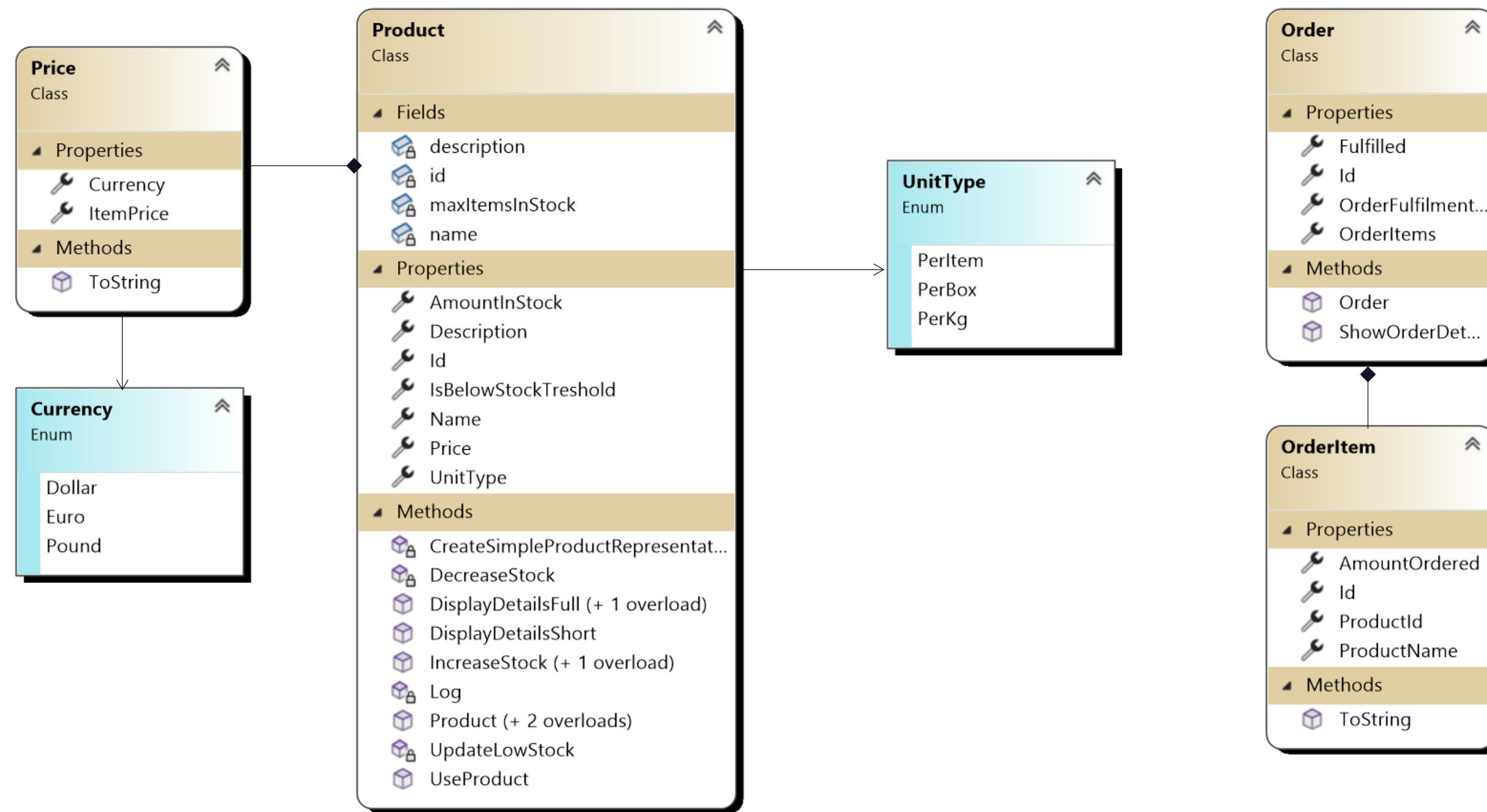


# The “Unit Type” Type

Can be “per item”, “per kilogram” or “per box”



# A First Class Diagram



**“We have enough information to start coding. Let’s do this!”**



**Up Next:**

# **Creating the Classes**

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