Angular: Services and Dependency Injection

Creating Custom Angular Services

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Version Check

This course was created by using:

- Angular 20

Version Check

This course is 100% applicable to:

- Angular 14+

Mostly applicable to:

- 8+

Recommended Prerequisites

Angular Fundamentals

HTML

JavaScript

Q: What are Angular Services?

A: Simply a TypeScript Class

Services Are Just Classes

```
class ProductsService {

}
```

Services Are Just Classes

```
class ProductsService {

  getProduct(id:string): Observable<Product> {
    return ...;
  }

}
```

Q: Why are services necessary?

Why are Services Necessary?

Encapsulation

Code reuse

Separation of concerns

Dependency injection

Services Are Just Classes

```
class ProductsService {


  getProduct(id:string): Observable<Product> {
    return httpClient.get(...);
  }

}
```

Services Are Just Classes

```
class ProductsService {


  getProduct(id:string): Observable<Product> {
    const httpClient:HttpClient = new httpClient(...);
    return httpClient.get(...);
  }

}
```

Services Are Just Classes

```
class ProductsService {

  constructor(private httpClient: HttpClient) { }

  getProduct(id:string): Observable<Product> {
    return httpClient.get(...);
  }

}
```

Why are Services Necessary?

Encapsulation

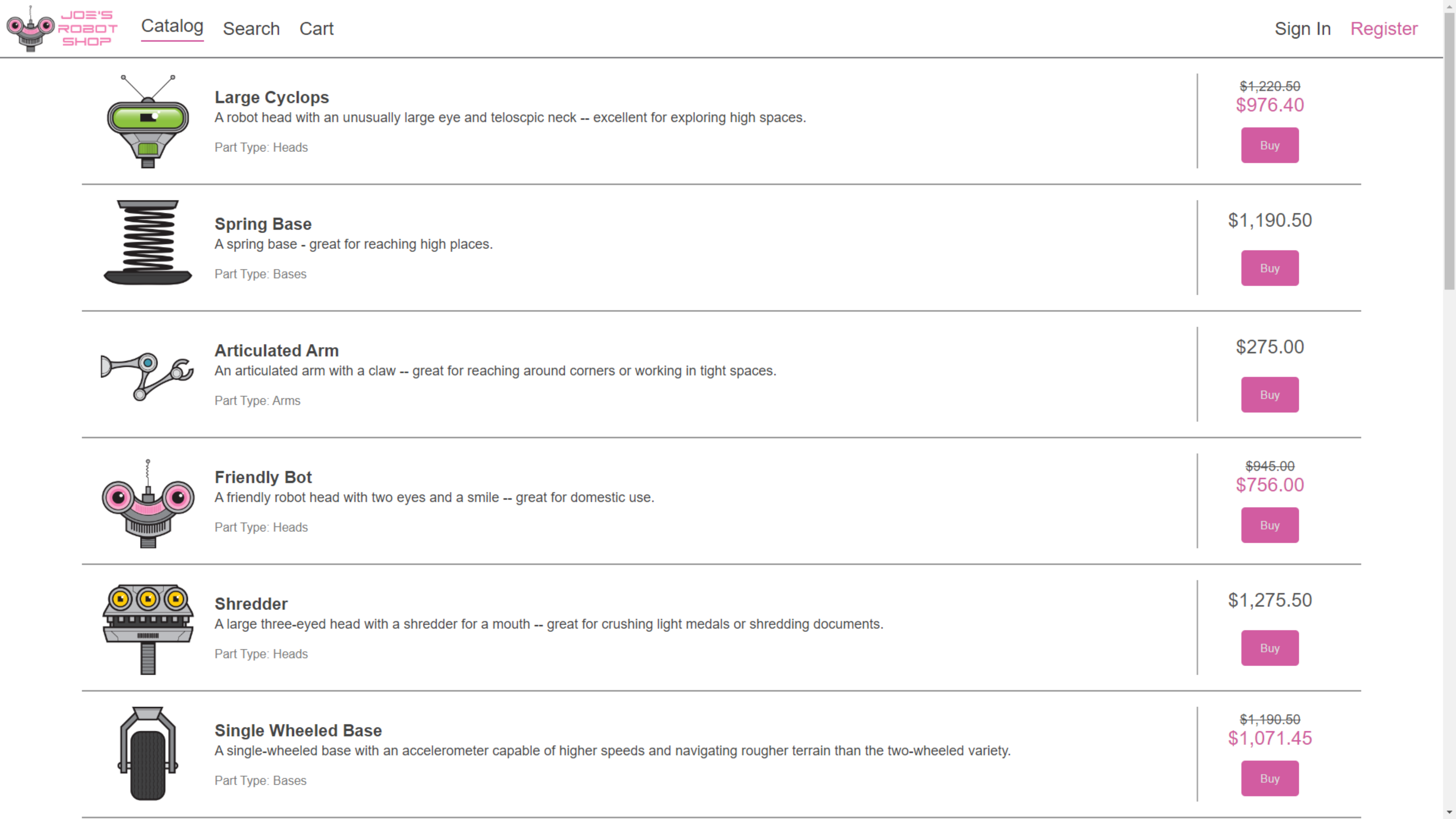
Code reuse

Separation of concerns

Dependency injection

Single Responsibility Principle

Single Responsibility Principle



Large Cyclops

A robot head with an unusually large eye and teloscpic neck -- excellent for exploring high spaces.

Part Type: Heads

~~$1,220.50~~
$976.40

Spring Base

A spring base - great for reaching high places.

Part Type: Bases

$1,190.50

Articulated Arm

An articulated arm with a claw -- great for reaching around corners or working in tight spaces.

Part Type: Arms

$275.00

Friendly Bot

A friendly robot head with two eyes and a smile -- great for domestic use.

Part Type: Heads

~~$945.00~~
$756.00

Shredder

A large three-eyed head with a shredder for a mouth -- great for crushing light medals or shredding documents.

Part Type: Heads

$1,275.50

Single Wheeled Base

A single-wheeled base with an accelerometer capable of higher speeds and navigating rougher terrain than the two-wheeled variety.

Part Type: Bases

~~$1,190.50~~
$1,071.45

The Single Responsibility Principle

```
@Component({...})
export class CatalogComponent {
  products: Product[] = [];

  ngOnInit() {
    this.products = this.fetchProducts();
  }

  addToCart(product) {
    this.addProductToCart(product);
  }

  async fetchProducts() {
    return await fetch('/api/products').json();
  }

  addProductToCart(product) {
    ...
  }
```

```
<ul class="products">
  <li *ngFor="let product of
products">
    <div (click)="addToCart()">
    </div>
  <li>
</ul>
</div>
```

The Single Responsibility Principle

```
@Component({...})
export class CatalogComponent {
  products: Product[] = [];

  ngOnInit() {
    this.products = productsService.getProducts();
  }

  addToCart(product) {
    this.addProductToCart(product);
  }

  addProductToCart(product) {
    ...
  }

}
```

```
<ul class="products">
  <li *ngFor="let product of
products">
    <div (click)="addToCart()">
    </div>
  <li>
</ul>
</div>
```

The Single Responsibility Principle

```
@Component({...})
export class CatalogComponent {
  products: Product[] = [];

  ngOnInit() {
    this.products = productsService.getProducts();
  }

  addToCart(product) {
    cartService.addToCart(product);
  }

}
```

```
<ul class="products">
  <li *ngFor="let product of
products">
    <div (click)="addToCart()">
    </div>
  <li>
</ul>
</div>
```