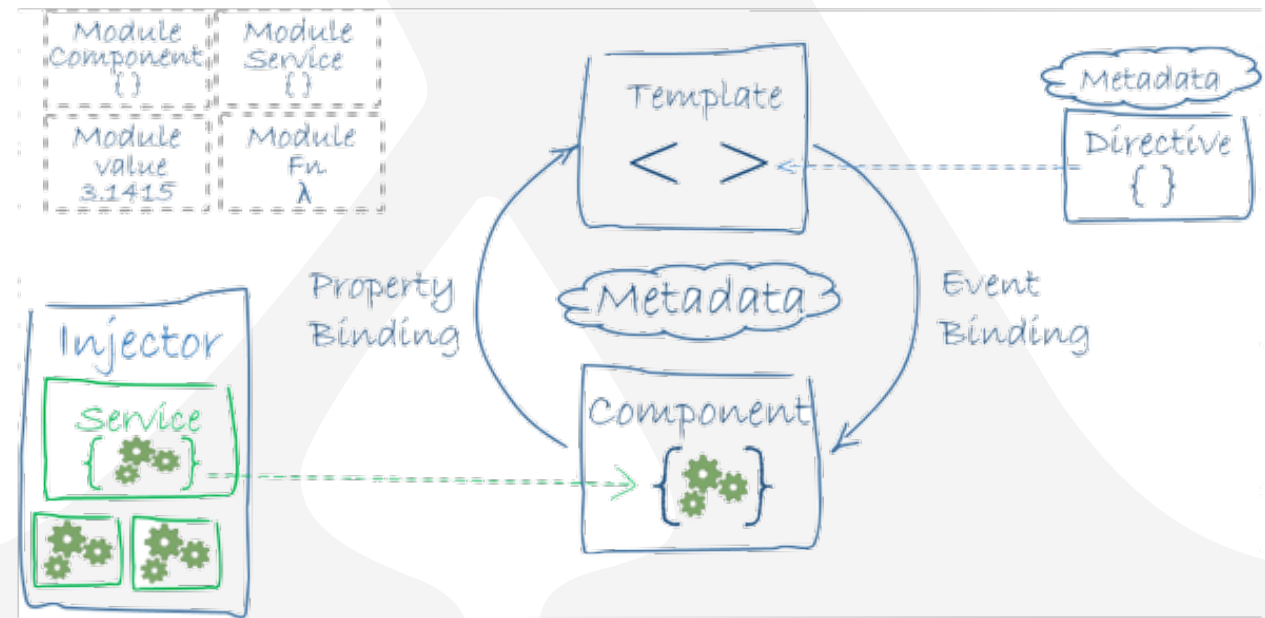


Components & Modules



Components & Modules

- Component concept
- Module architecture
- Lifecycle hooks



Components & Modules

- Components describe a 'piece of the screen'
- Modules describe a 'piece of functionality'
- Angular uses Modules to compile Components



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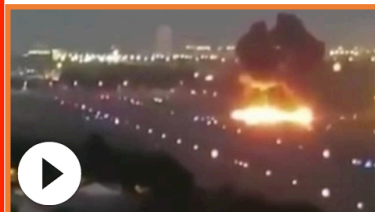
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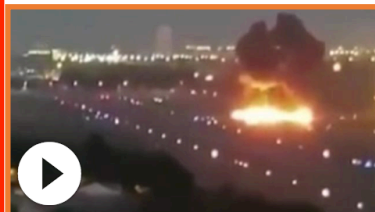
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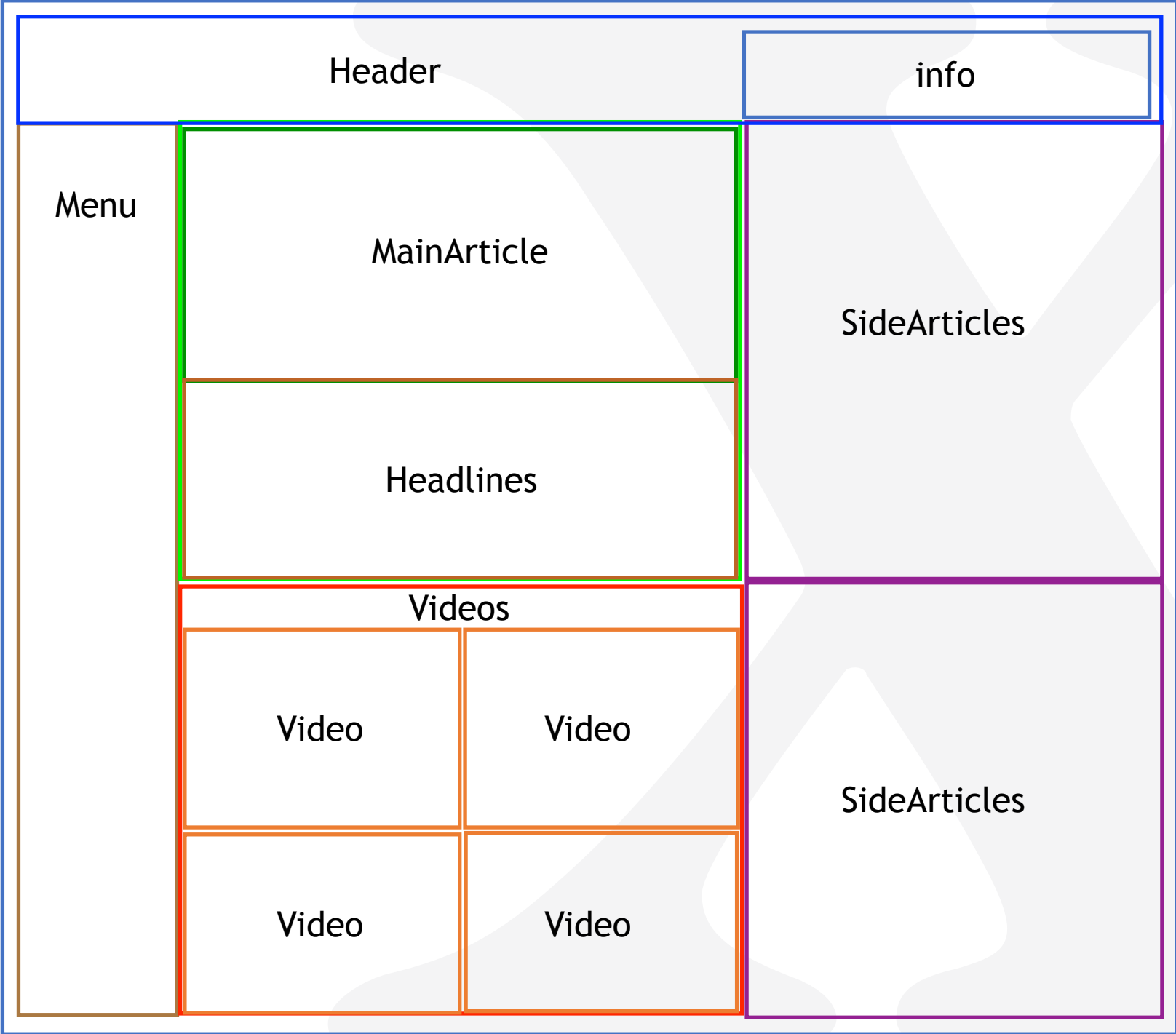
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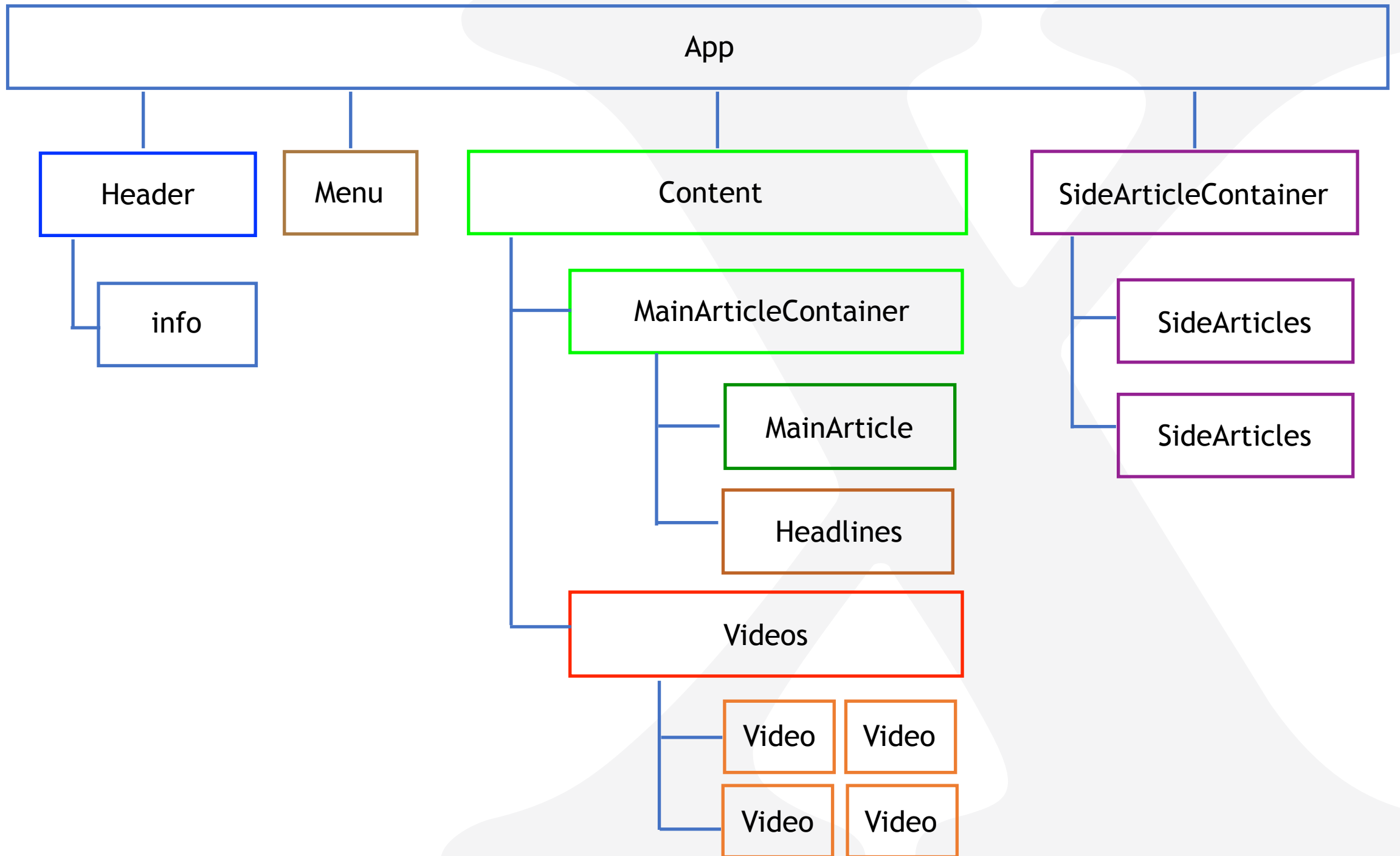
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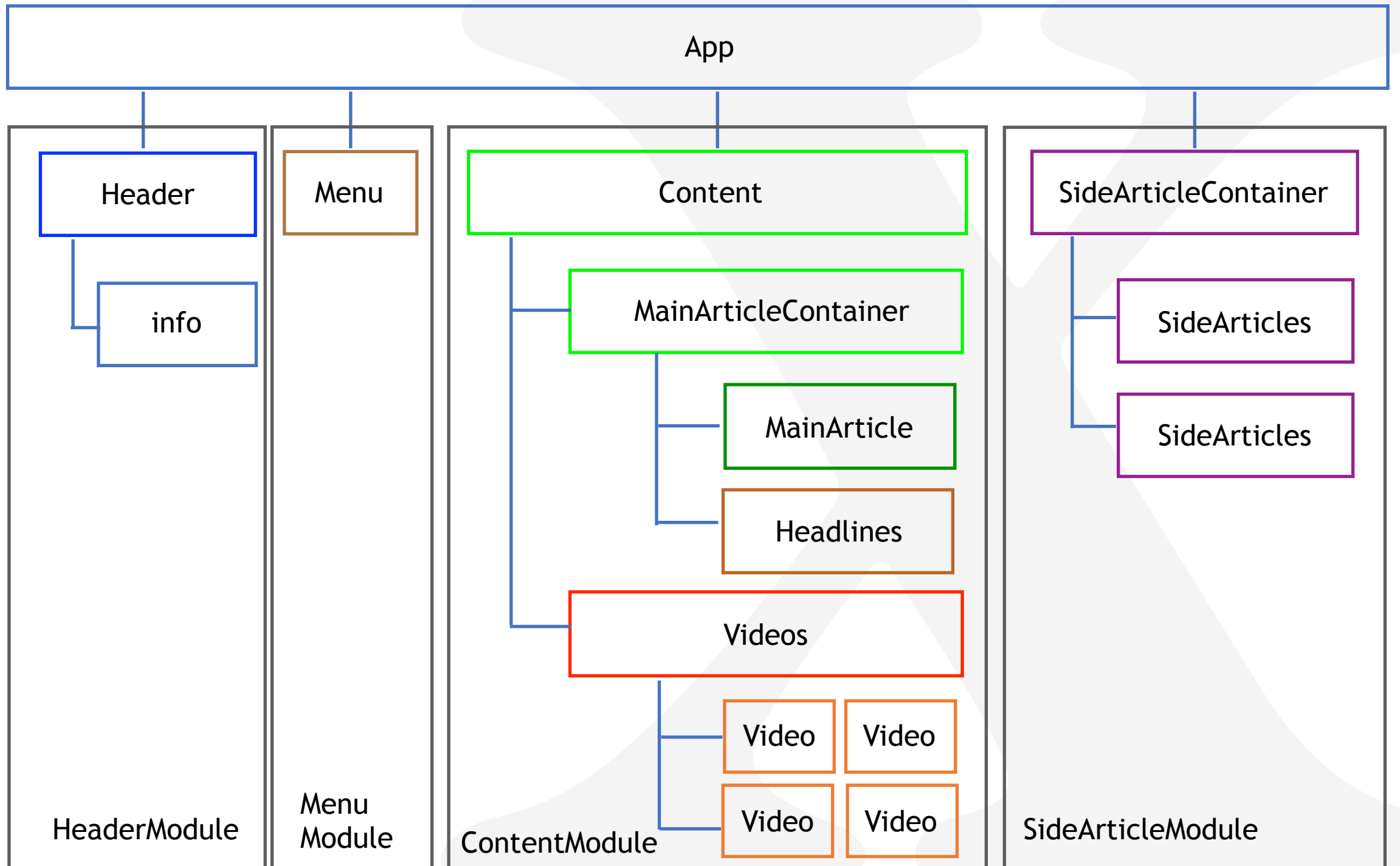
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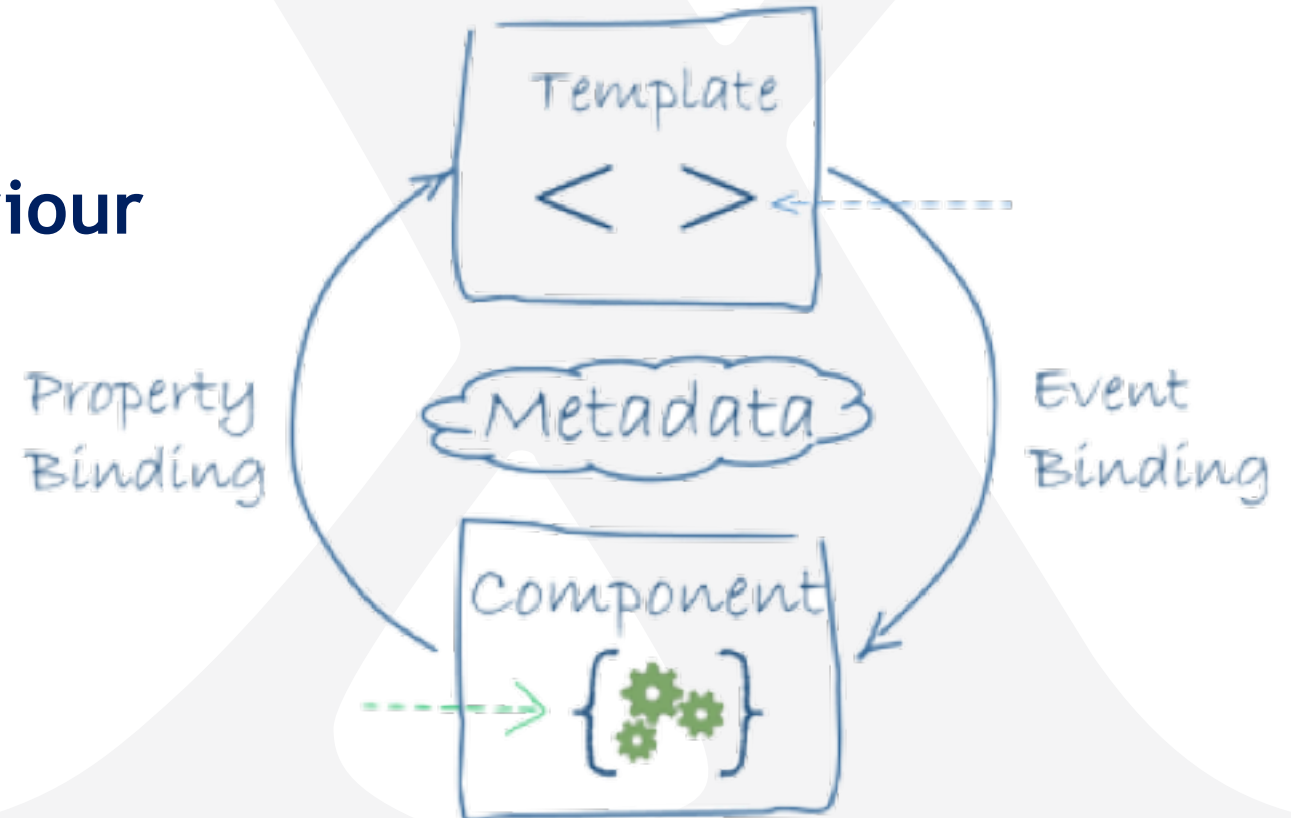


Components

- Applications are build with components
- Communicate through the template
- Should have one purpose

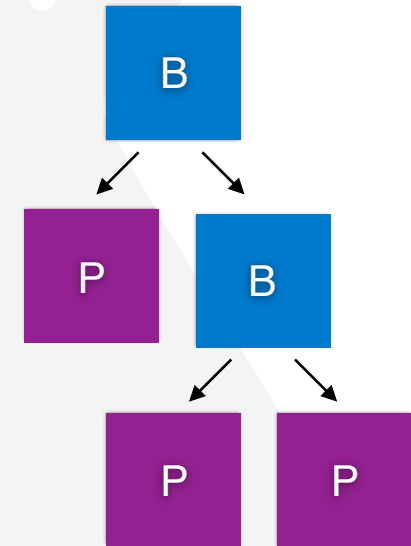
Component

- `@Component()`
- Connect template and behaviour
- Business / Smart / Container
- Presentation / Dumb



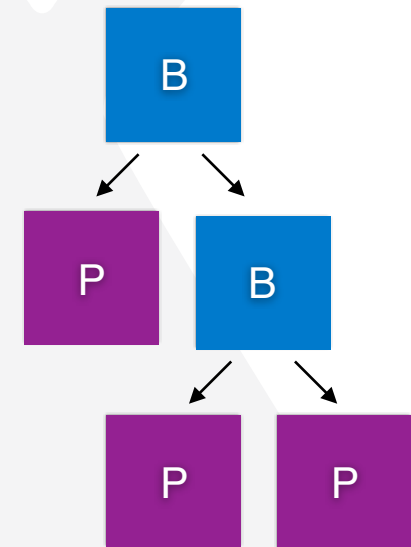
Presentation / dumb components

- Present data
- Catch user interaction / events
- Runs on Inputs and Outputs



Business / Container components

- Managing screen logic
- Communicates with Services
- Provide data to Dumb components
- Catch Dumb component events



@Component

Decorate a class to make it an Angular Component

```
@Component({  
  selector: 'ps-contact'  
  template: `<h1 class="title">Pretty Contact</h1>`,  
  styles: [ `h1.titel { color: #e6e6e6; }` ]  
})  
export class ContactComponent {  
  
}
```

contact.component.ts

@Component

Split up a component into different files

```
@Component({  
  selector: 'ps-contact'  
  templateUrl: './contact.component.html',  
  styleUrls: [ './contact.component.css' ]  
})  
export class ContactComponent {  
  
}
```


@Component - selector

Use the component in the Template of a different Component

```
@Component({  
  selector: 'app-root'  
  template: '<div> <ps-contact></ps-contact> </div>'  
})  
export class AppComponent {  
  
}
```

Life cycle methods

Called by Angular during specific phases of the application

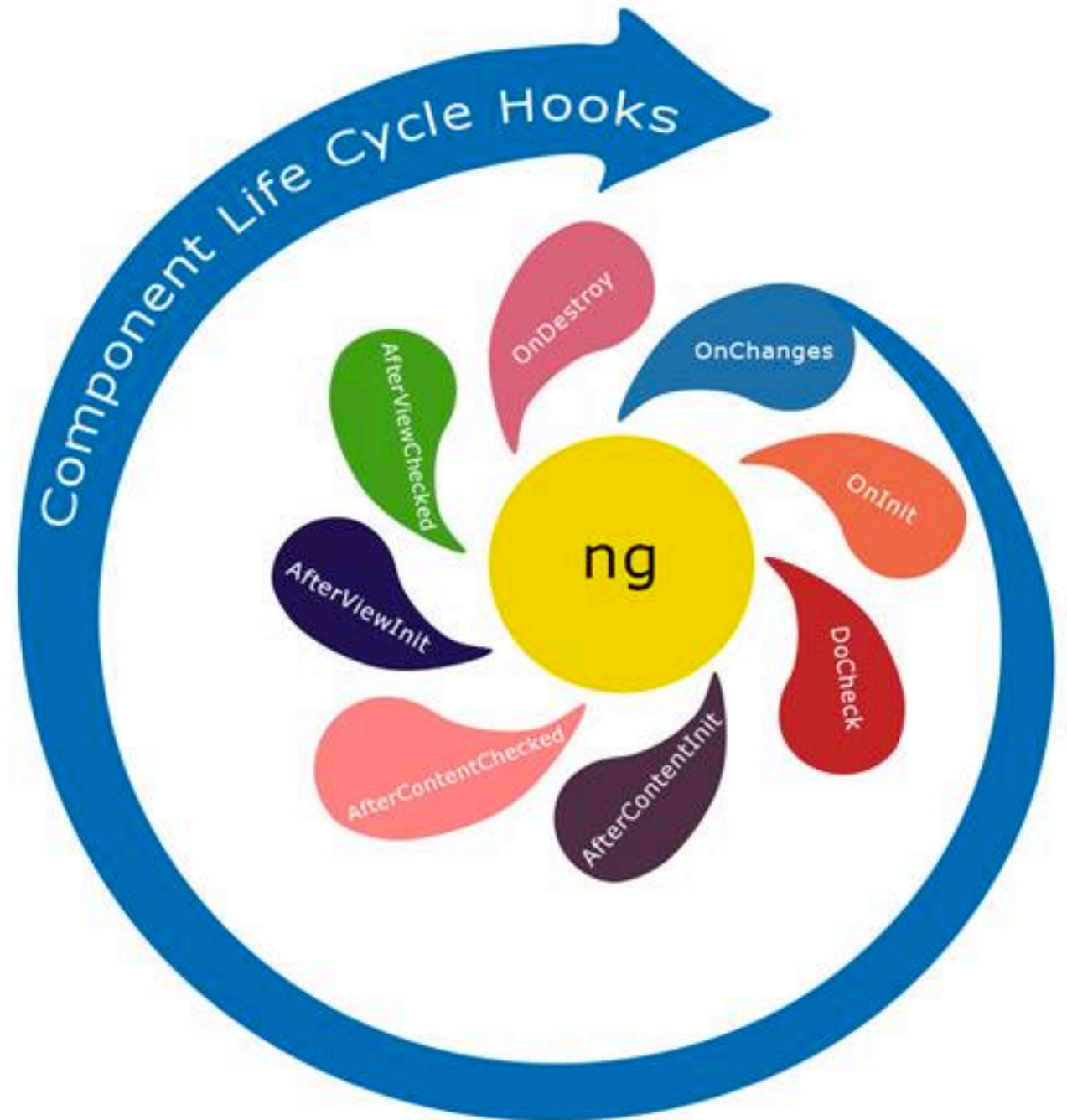
```
@Component({
  selector: 'ps-contact'
  templateUrl: './contact.component.html',
  styleUrls: [ './contact.component.css' ]
})
export class ContactComponent implements OnInit {

  ngOnInit() {
    // code for initialisation
  }

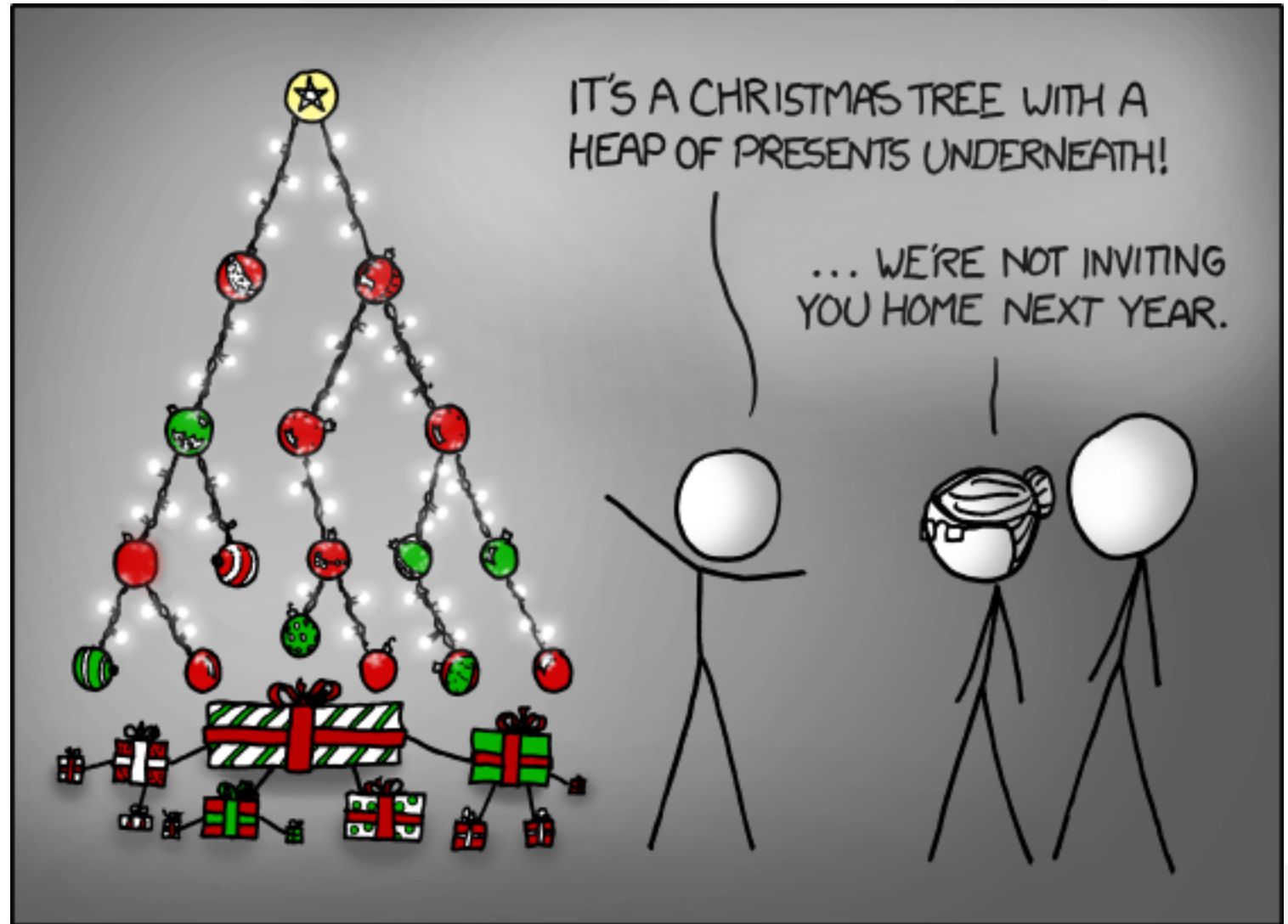
}
```

Life cycle methods

- ngOnChanges
- ngOnInit
- ngDoCheck
 - ngAfterContentInit
 - ngAfterContentChecked
 - ngAfterViewInit
 - ngAfterViewChecked
- ngOnDestroy



Code



Modules & Components

- Modules describe a 'piece of functionality'
- Components describe a 'piece of the screen'
- Angular uses Modules to compile Components

Modules

More modules

Imports

Components
Pipes
Directives

Declarations

Exports

Components
Pipes
Directives

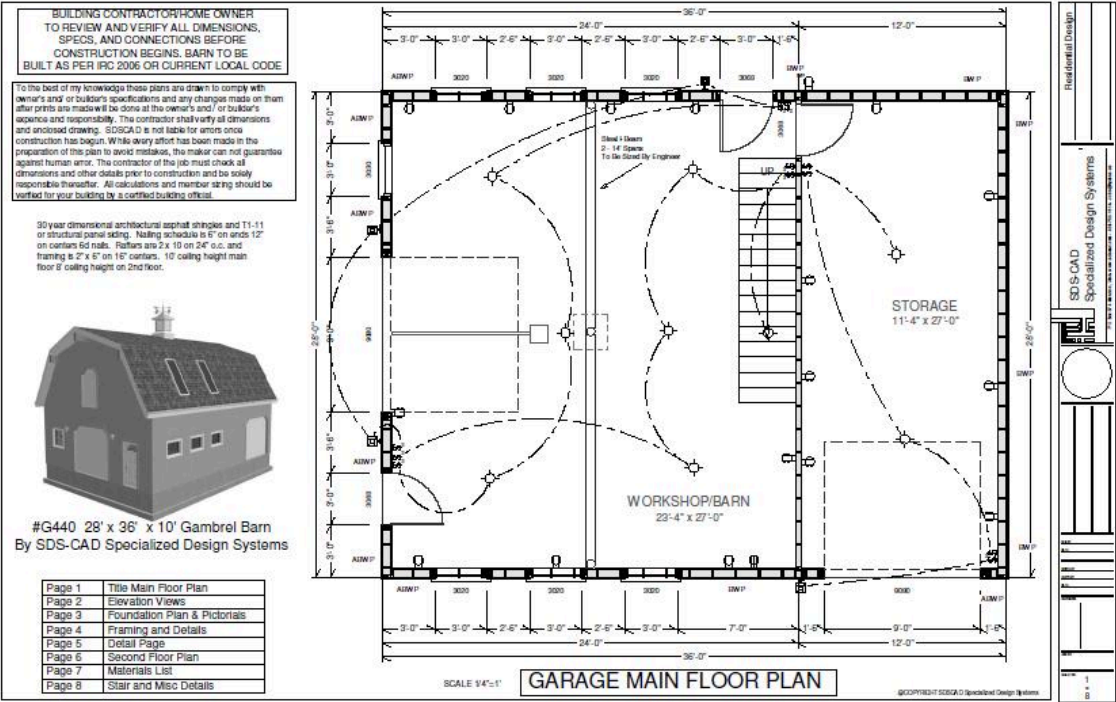
MyFeatureModule

Modules - Angular compiler

Developer

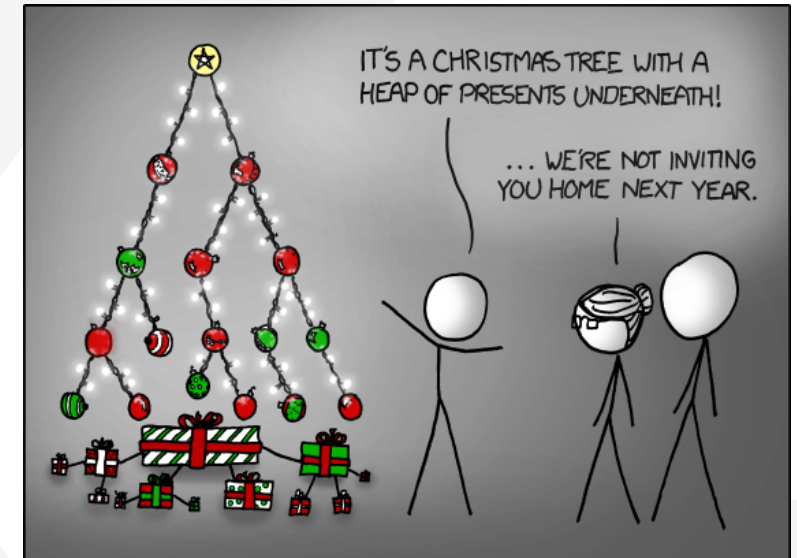


Compiler



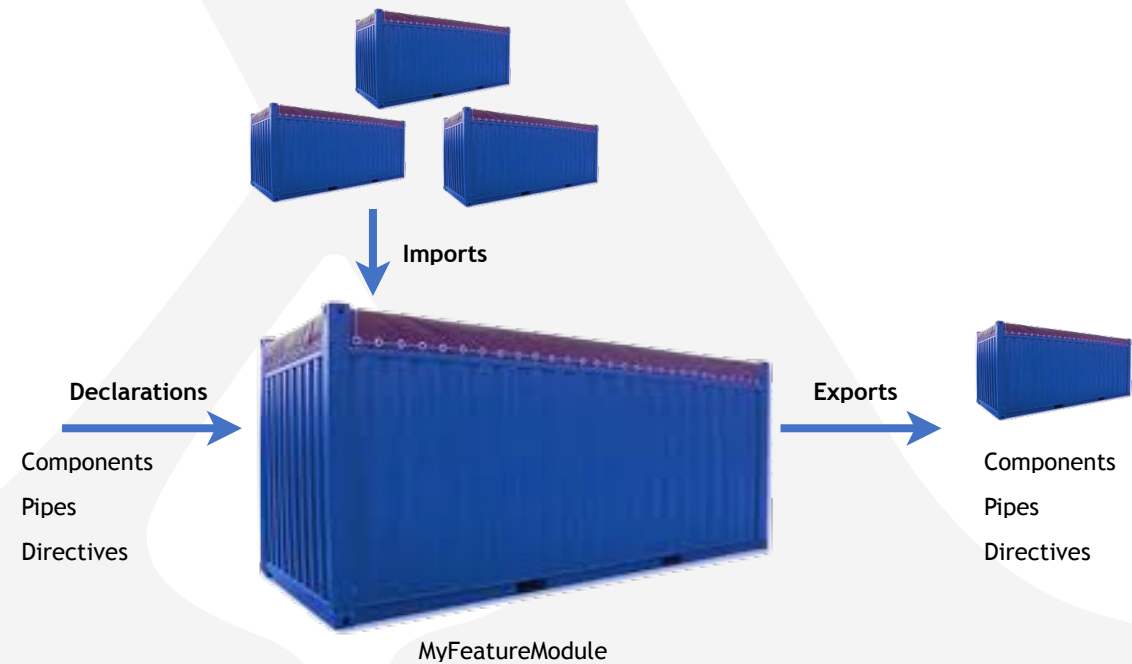
Modules

- Modules describe a 'part of the application'
- Isolated containers of features
- Multiple 'types' of modules
- Compose the application
- Tree structure



Main Tasks NgModule

- Declare components*
- Import modules
- Export modules & components*
- Bootstrap Root Component



@NgModule decorator

```
@NgModule({  
  declarations: [ AppComponent ],  
  imports: [ FeatureModule ],  
  exports: [ AppComponent ]  
})  
export class AppModule {  
}
```

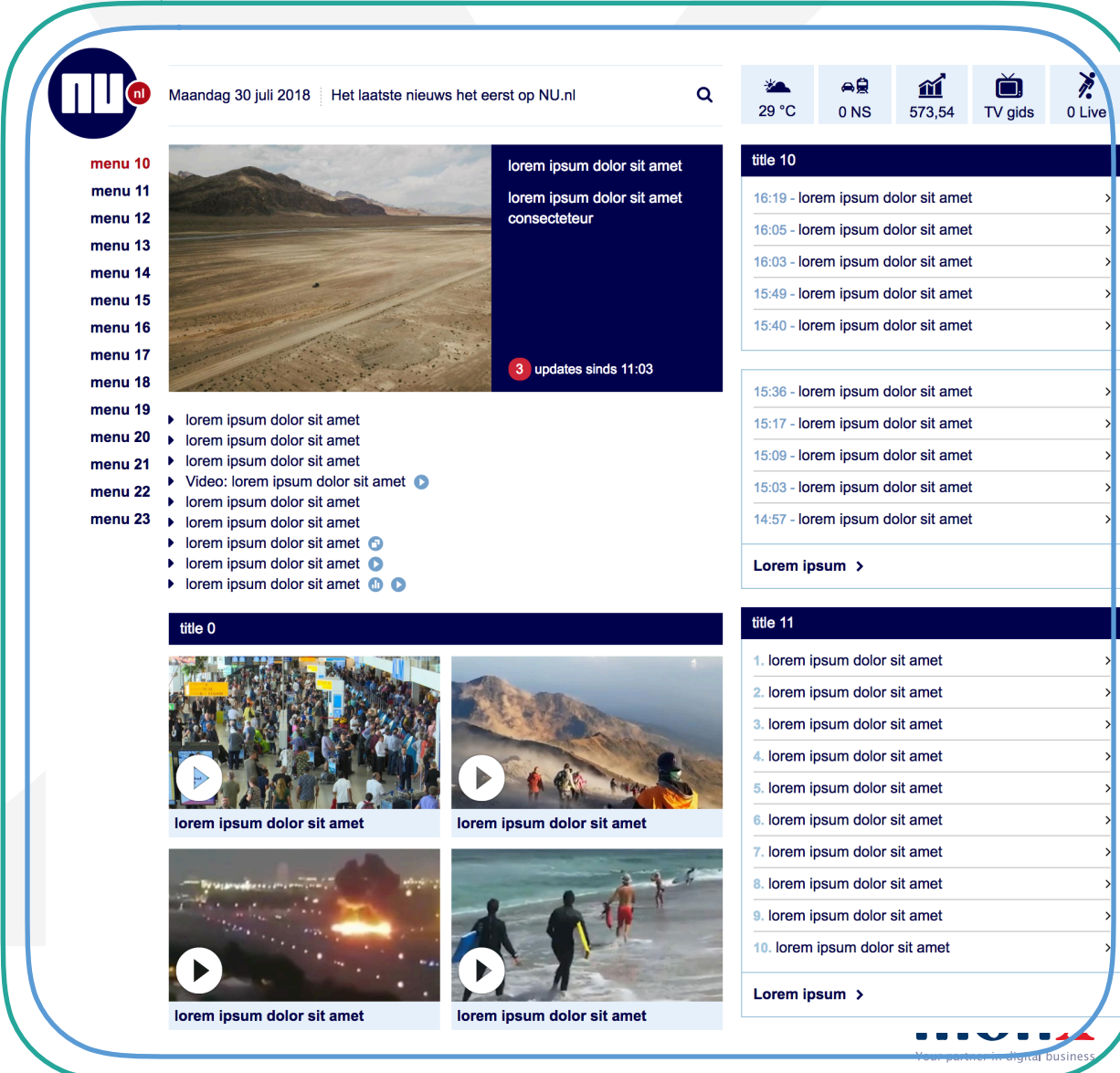
app.module.ts

Declarations

Register components, directives
and pipes with the module

AppModule

declarations:
[AppComponent]



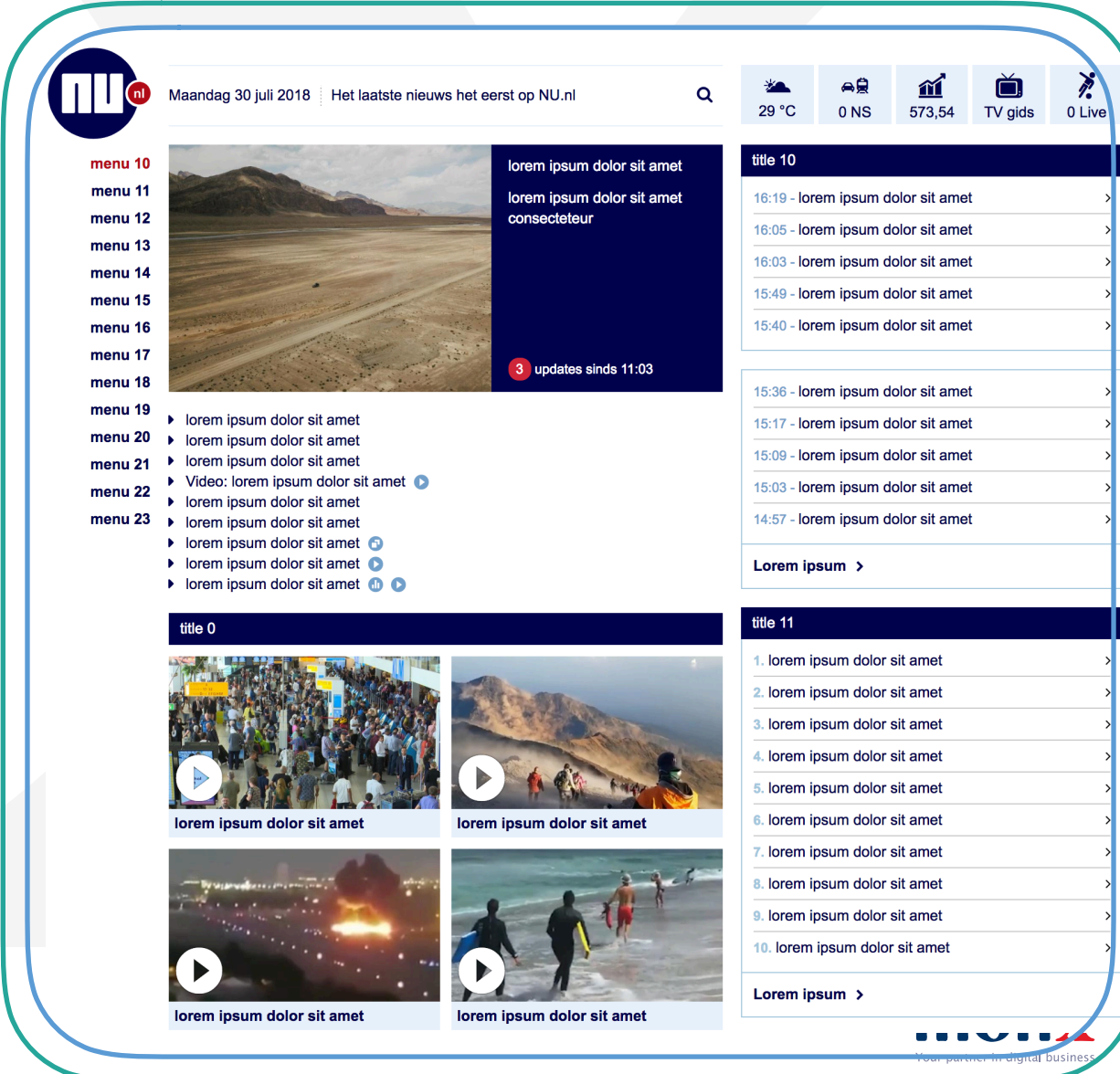
Declarations

Only the Root Component is bootstrapped

AppModule

declarations:
[AppComponent]

bootstrap:
[AppComponent]



Adding functionality

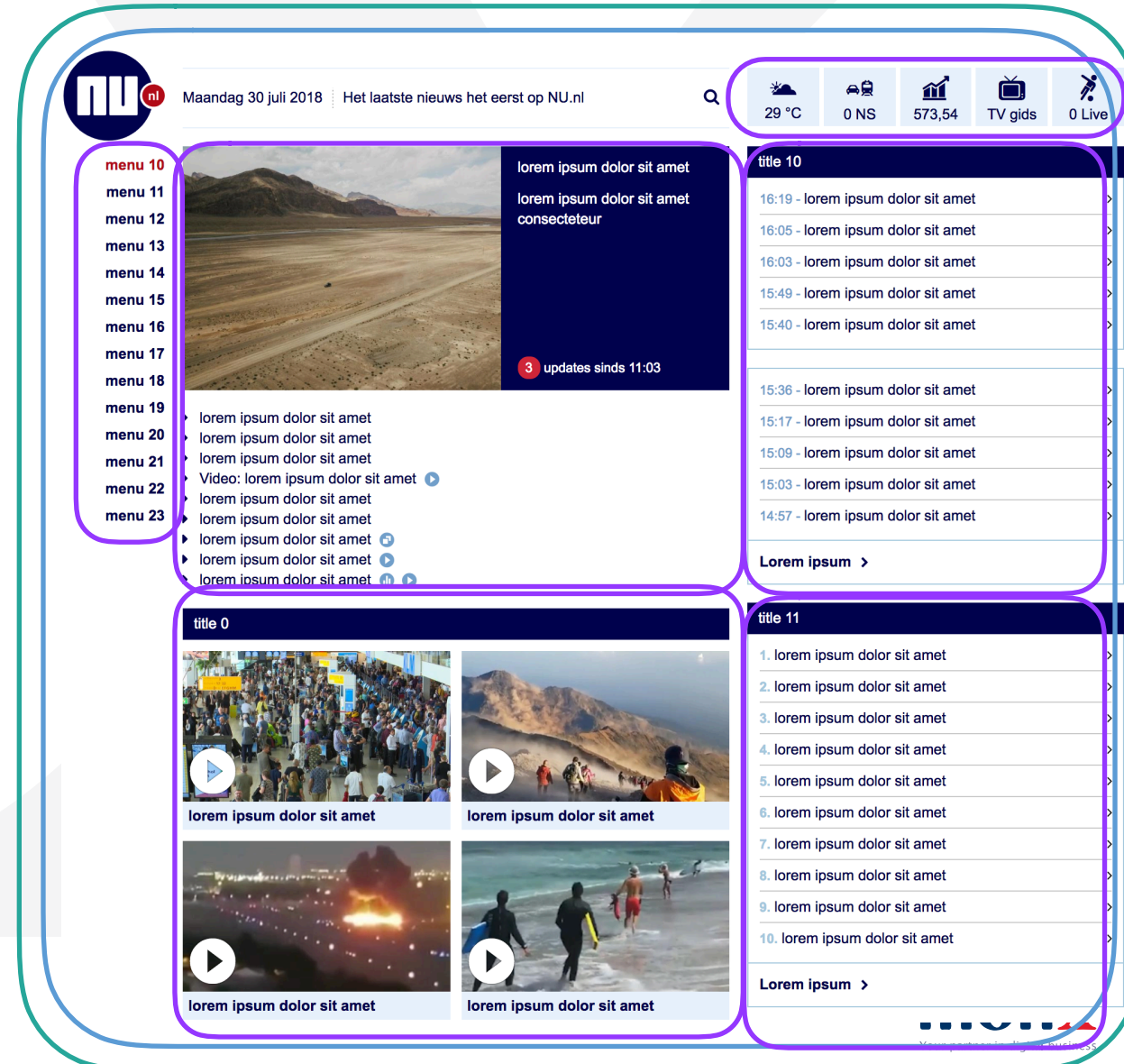
Feature Modules add functionality to modules

AppModule

declarations:
[AppComponent]

imports:
[FeatureXModule,
...]

Feature Modules



Declarations

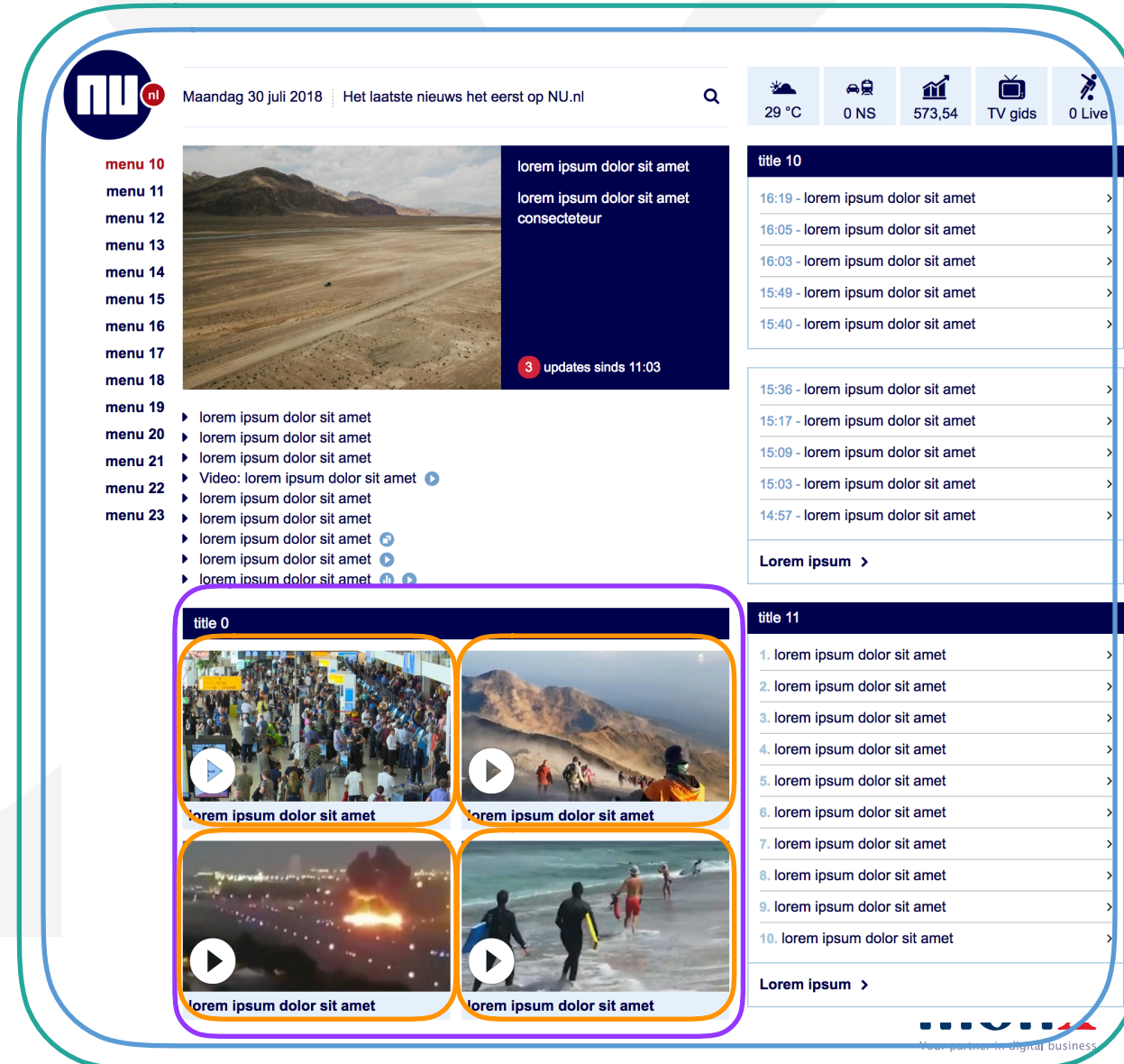
Components are scoped within the module

AppModule

declarations:
[AppComponent]

Feature Modules

declarations:
[VideoComponent]



Exports

Exports makes components* available to other modules

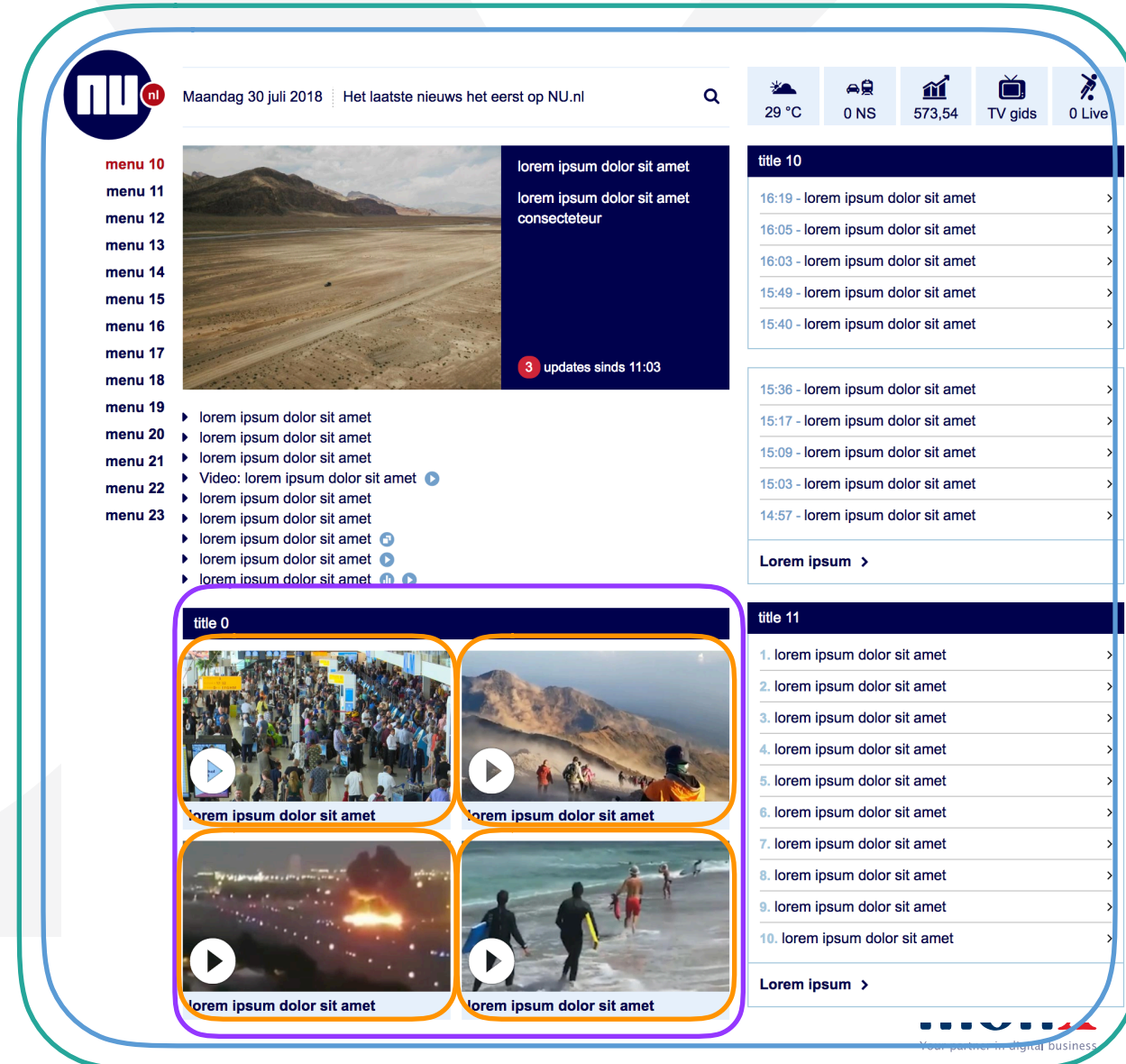
AppModule

declarations:
[AppComponent]

Feature Modules

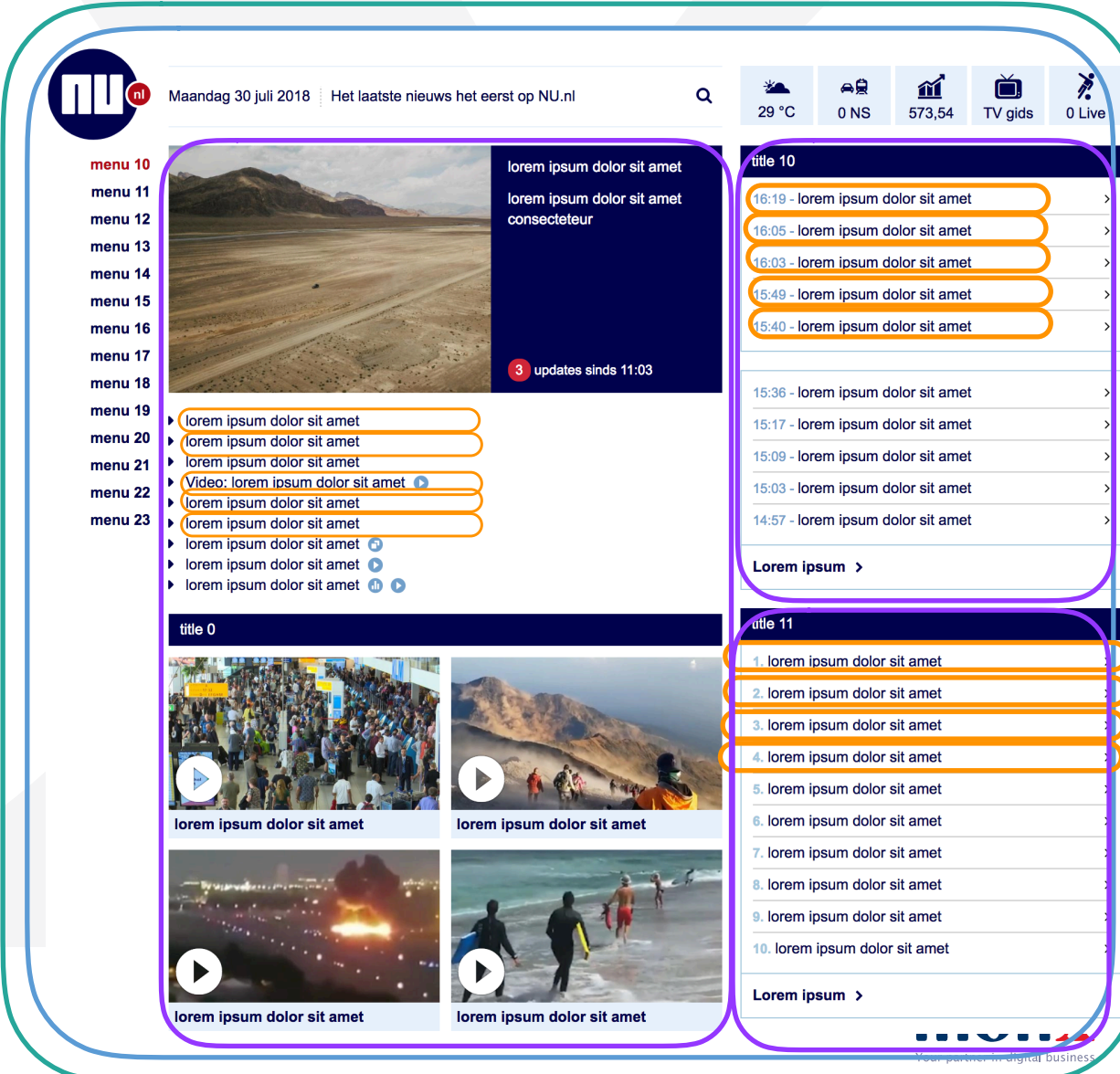
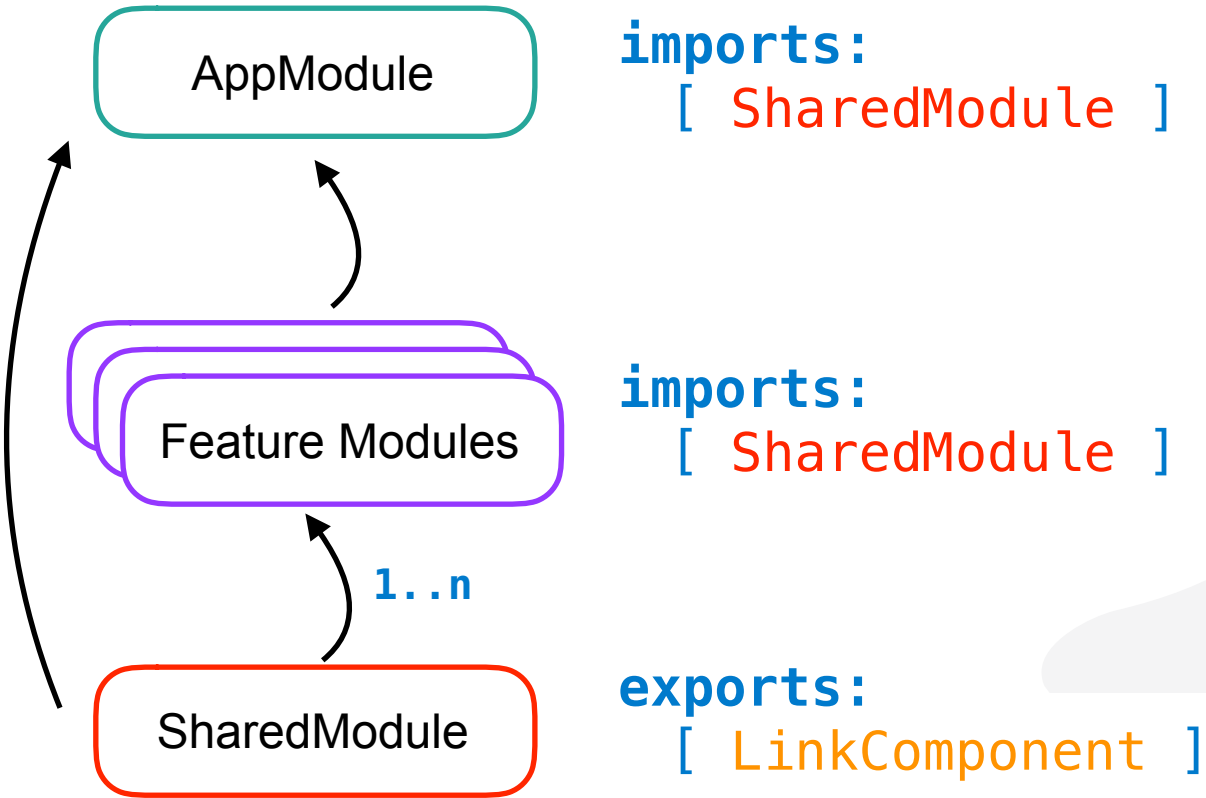
declarations:
[VideoComponent]

exports:
[VideoComponent]



Shared Components

Always declare once, make available through import/export



Why modules?

declarations: [
 AppComponent,
 LoginComponent,
 MamComponent,
 GuideComponent,
 FeedsComponent,
 HighlightPipe,
 TranslatePipe,

Why modules?

```
declarations: [
  AppComponent,
  LoginComponent,
  NavComponent,
  GuideComponent,
  FeedsComponent,
  HighlightPipe,
  TranslatePipe,
  FormatDatePipe,
  OrderByPipe,
  ByteFormatPipe,
  ProgramFilter,
  SerialFilter,
  BlockFilterPipe,
  SanitizeHtml,
  RouteComponent,
  FeedListComponent,
  FeedDetailComponent,
  FeedMultipleComponent,
  ModelSelectorComponent,
  MailComponent,
  ImagePopupComponent,
  DatePicker,
  SpinnerComponent,
  ChannelSelectorComponent,
  GuideProgramFilterComponent,
  DisplayFieldComponent,
  TextFieldComponent,
  GuidelistComponent,
  DetailComponent,
  GuideMultipleComponent,
  GuideTemplatesComponent,
  GuideSerialFilterComponent,
  GuideSerialComponent,
  GuideBlockFilterComponent,
  GuideDetailComponent,
  GuideSerialDetailComponent,
  GuidedetailDetailComponent,
  GuidedetailSerialDetailComponent,
  GuideBlockDetailComponent,
  ErrorComponent,
  ConfirmComponent,
  MailDetailComponent,
  MailListComponent,
  MailPickerComponent,
  MailSelectorSmallComponent,
  MailSelectorLargeComponent,
  MailListComponent,
  ComponentOutlet,
  StoryListComponent,
  StoryFilterPipe,
  FeedListComponent,
  PlannerComponent,
  PlannerDetailComponent,
  PlannerListComponent,
  PlannerMultipleComponent,
  DateNavigatorComponent,
  MapPreviewComponent,
  OfficeSelectorComponent,
  PlannerSearchComponent,
  PlannerFilterComponent,
  PlannerFilterPipe,
  ResizeComponent,
  SearchboxComponent,
```

Recap

- **NgModule**
- **Fully independent "units"**
- **Divide the application functionally**
- **'types' of modules**

Recap: modules and componenten

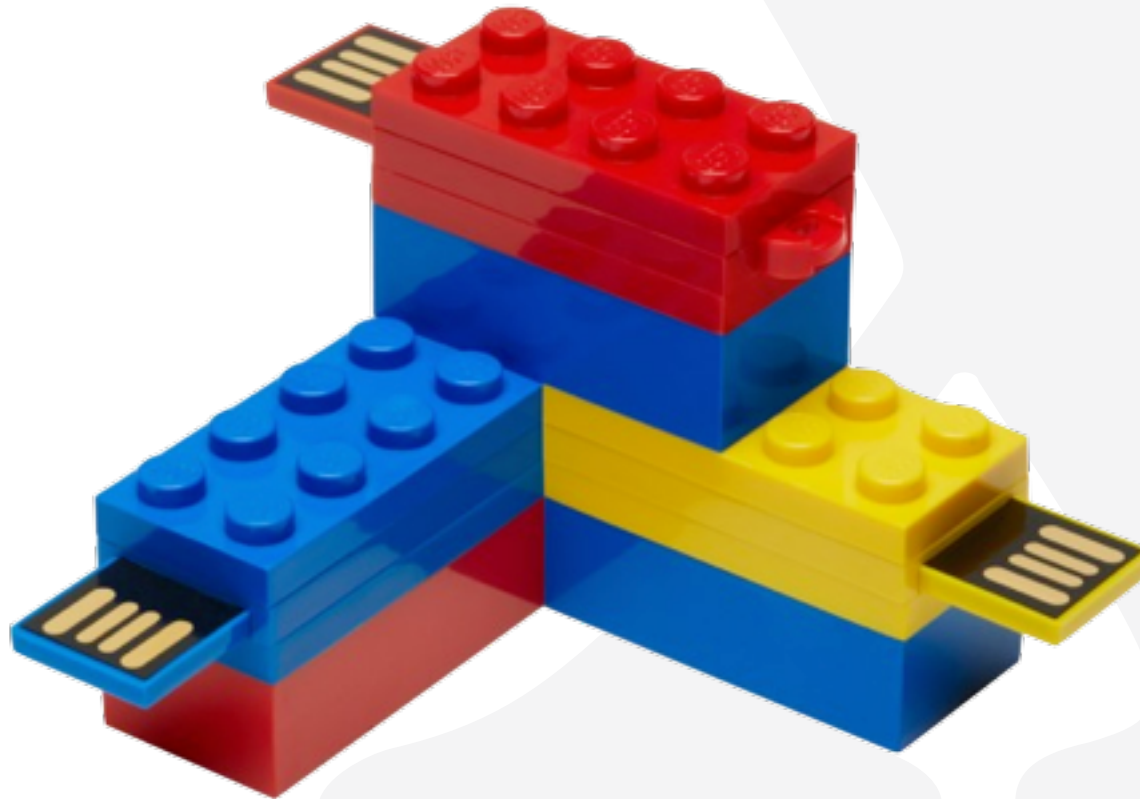
@NgModule

- Divide the application
- App, Feature, Shared, Core

@Component

- Divide the screen
- Life cycle methods
- Smart, dumb

Code



Assignment

- **Declare the components with a module**
- **Give the module a good name**
- **Make a tree of the modules**