

Using Material 3 (M3) with Angular

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“ Innovation made Human ”

For more information
<https://solvative.com/>

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- Blogs
- Open Source Libraries
- Helping other developers



1000+
GitHub
Stars



Agenda



User Experience



Material Design



Angular Material



M3 with Angular
Material

User Experience

“User
experience is
the summary
of everything”.

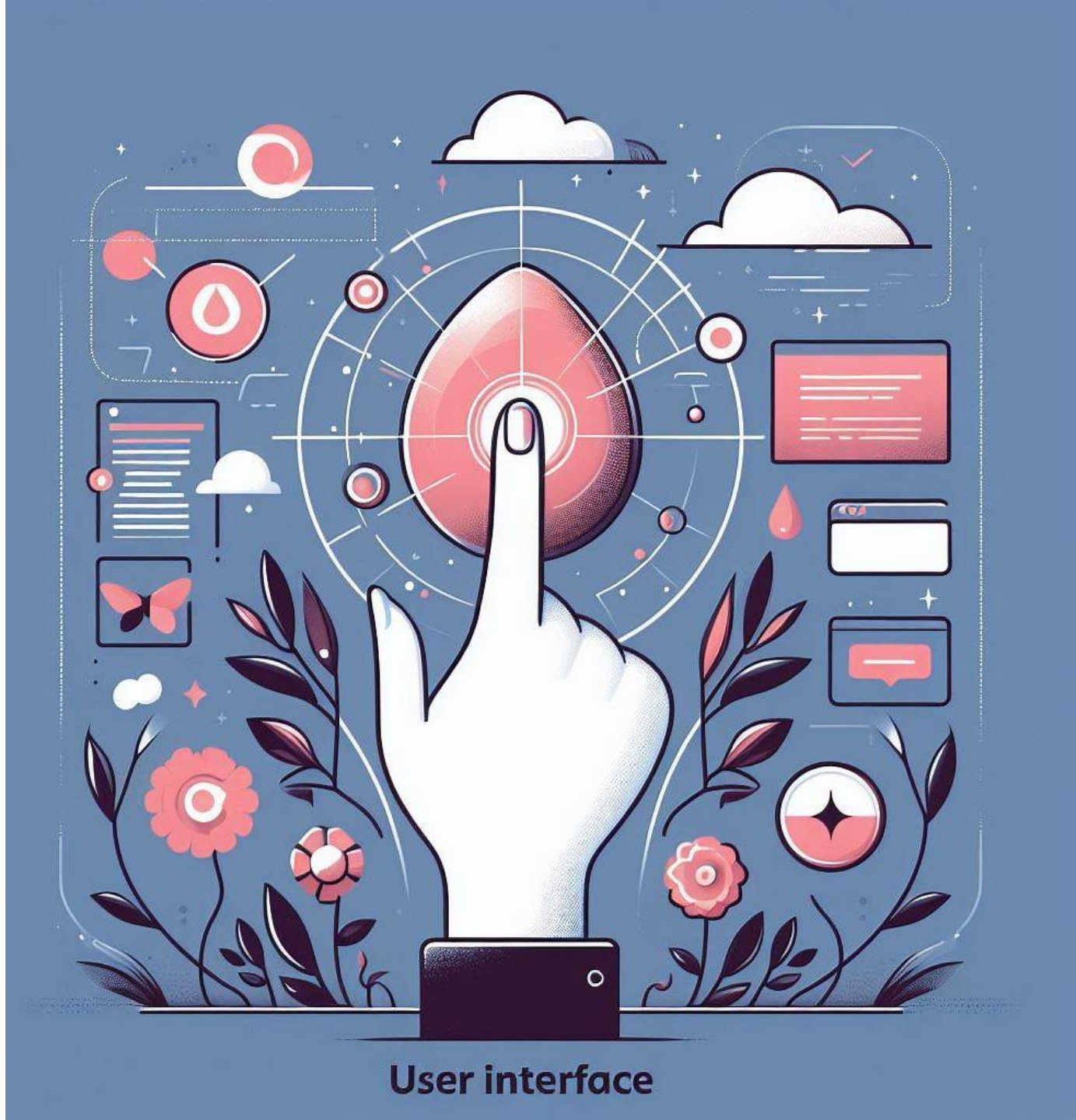




User
experience
encompasses
all aspects of
the end user's
interaction

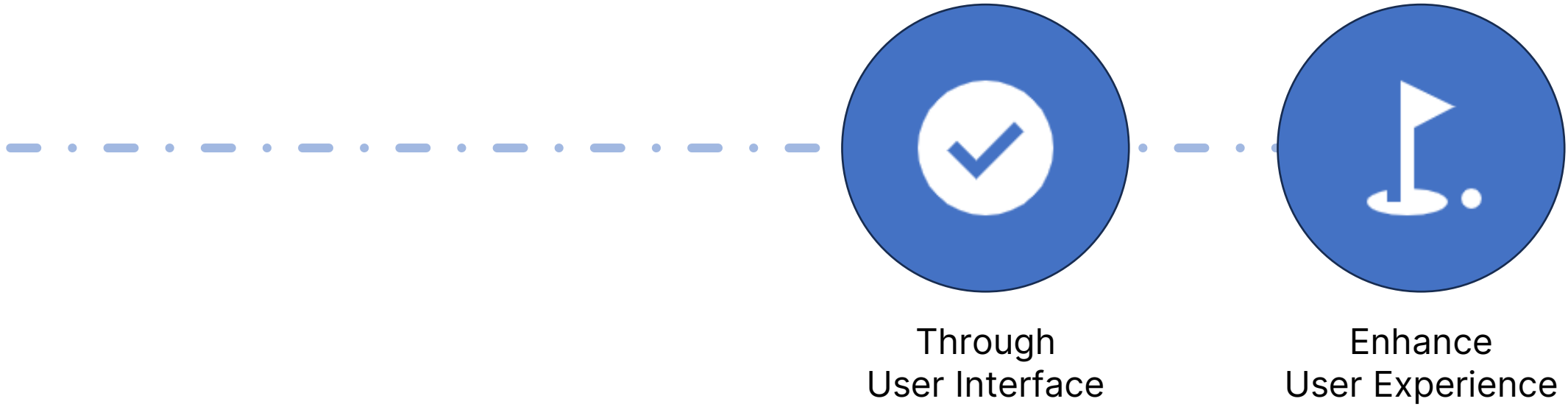
Then what is User Interface?

- Visual touchpoint or asset the user interacts with
- Color, spacing, grids, icons, and buttons
- Shape, decoration, and presentation



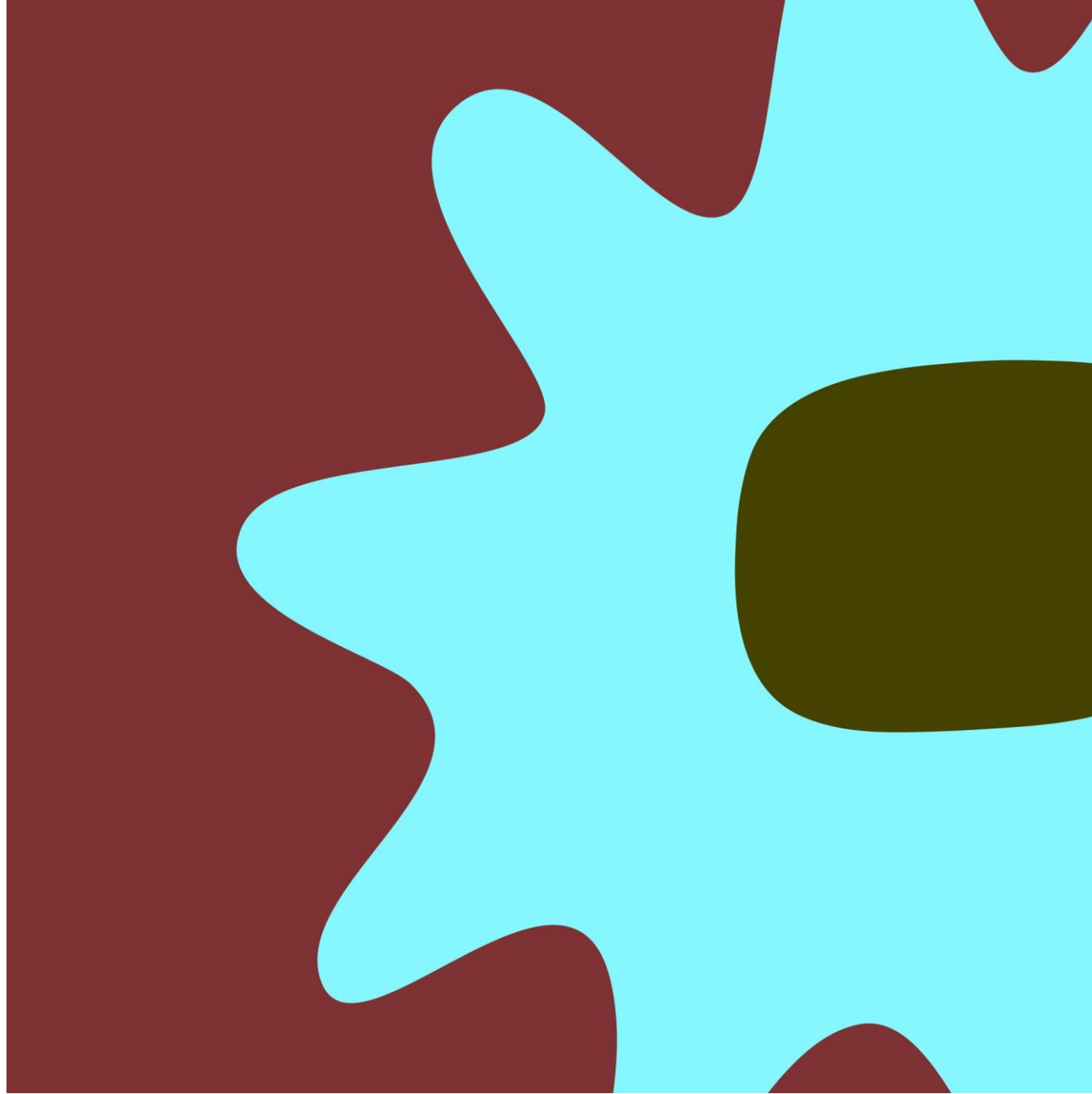
User interface

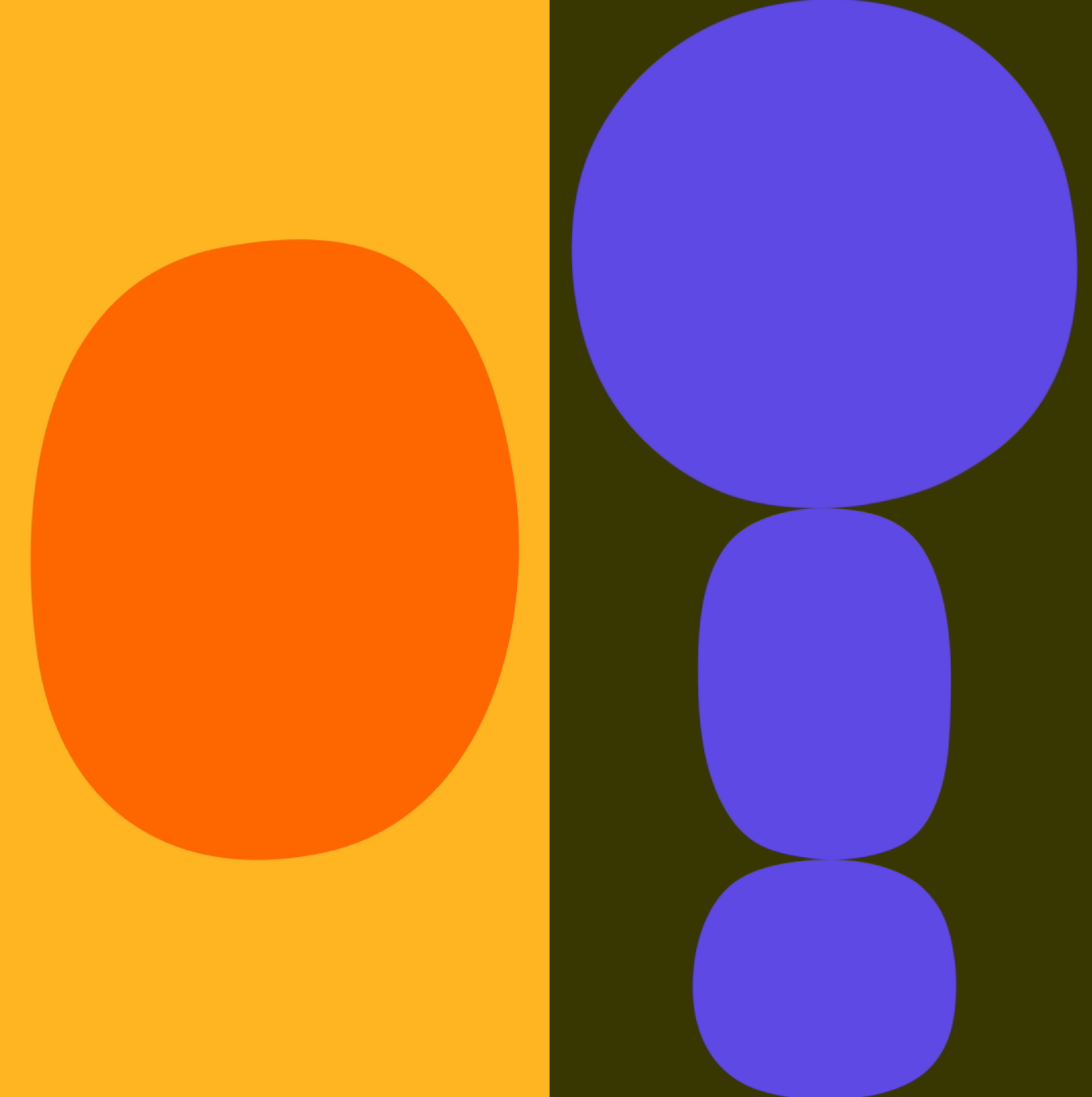




Material Design

Material 3 is the latest version of Google's open-source design system. Design and build beautiful, usable products with Material 3.





- Increased focus on personalization
- Updated theming
- New & improved components
- Emphasis on motion and responsiveness



Using Material
Design



Through
User Interface



Enhance
User Experience

Angular Material





Autocomplete

Suggests relevant options as the user types.



Badge

A small value indicator that can be overlaid on another object.



Bottom Sheet

A large interactive panel primarily for mobile devices.



Button

An interactive button with a range of presentation options.



Button toggle

A groupable on/off toggle for enabling and disabling options.



Card

A styled container for pieces of itemized content.



Checkbox

Captures boolean input with an optional indeterminate mode.

Amenities



Chips

Presents a list of items as a set of small, tactile entities.



Discard draft?

Contact 1

Contact 2

<https://material.angular.io/>

Angular Material

- Material Design components for Angular
- High quality, versatile and frictionless
- Customizing base, color, typography and density
- APIs built with SASS (<https://sass-lang.com/>)
- Easy to setup thanks to schematics

M3 in Angular Material

- 🖐️ As of v17.2.0, Angular Material includes **experimental support** for M3 styling in addition to M2
- M3 is implemented in Angular Material as an alternate Sass theme



Using
Material 3 Design



Through
Angular Material



Through
User Interface



Enhance
User Experience

Time to code

- Clone the starter
- Or Create new Angular project
 - With scss
 - Install dependencies
 - @angular/material
 - @angular/cdk
 - @angular/material-experimental
- Setup M3 theme
- Create application skeleton
 - Layout with sidenav
- Create pages



Clone the starter

```
> git clone  
https://github.com/shhdharm  
en/tilconf-m3-angular.git -  
-branch at-installed-deps
```



Create new Angular project

```
> ng new m3-angular --defaults --styles scss  
> cd m3-angular
```


Install dependencies

```
> ng add @angular/material  
? Choose a prebuilt theme name, or "custom"  
for a custom theme: Custom  
? Set up global Angular Material typography  
styles? Yes  
? Include the Angular animations module?  
Include and enable animations
```

Install dependencies

```
> npm i @angular-material/experimental
```

Time to code

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Setup M3 Theme

1 Use material-experimental

```
@use "@angular/material-experimental" as matx;
```

3 Use M3 theme

```
html {  
  @include mat.all-component-themes($light-theme);  
  background: mat.get-theme-color($light-theme,  
    surface);  
  
  &.dark {  
    @include mat.all-component-colors($dark-theme);  
    background: mat.get-theme-color($dark-theme,  
      surface);  
  }  
}
```

2 Create M3 theme

```
$light-theme: matx.define-theme(  
  (  
    color: (  
      primary: matx.$m3-azure-palette,  
      tertiary: matx.$m3-blue-palette,  
    ),  
  )  
);  
$dark-theme: matx.define-theme(  
  (  
    color: (  
      theme-type: dark,  
      primary: matx.$m3-magenta-palette,  
      tertiary: matx.$m3-violet-palette,  
    ),  
  )  
);
```

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Create application skeleton

- 1 Use navigation schematics to generate layout

```
> ng generate @angular/material:navigation core/layout
```

- 2 Add content project in layout

```
<!-- Add Content Here -->  
<ng-content></ng-content>
```

Use layout component

1 Import layout in app component

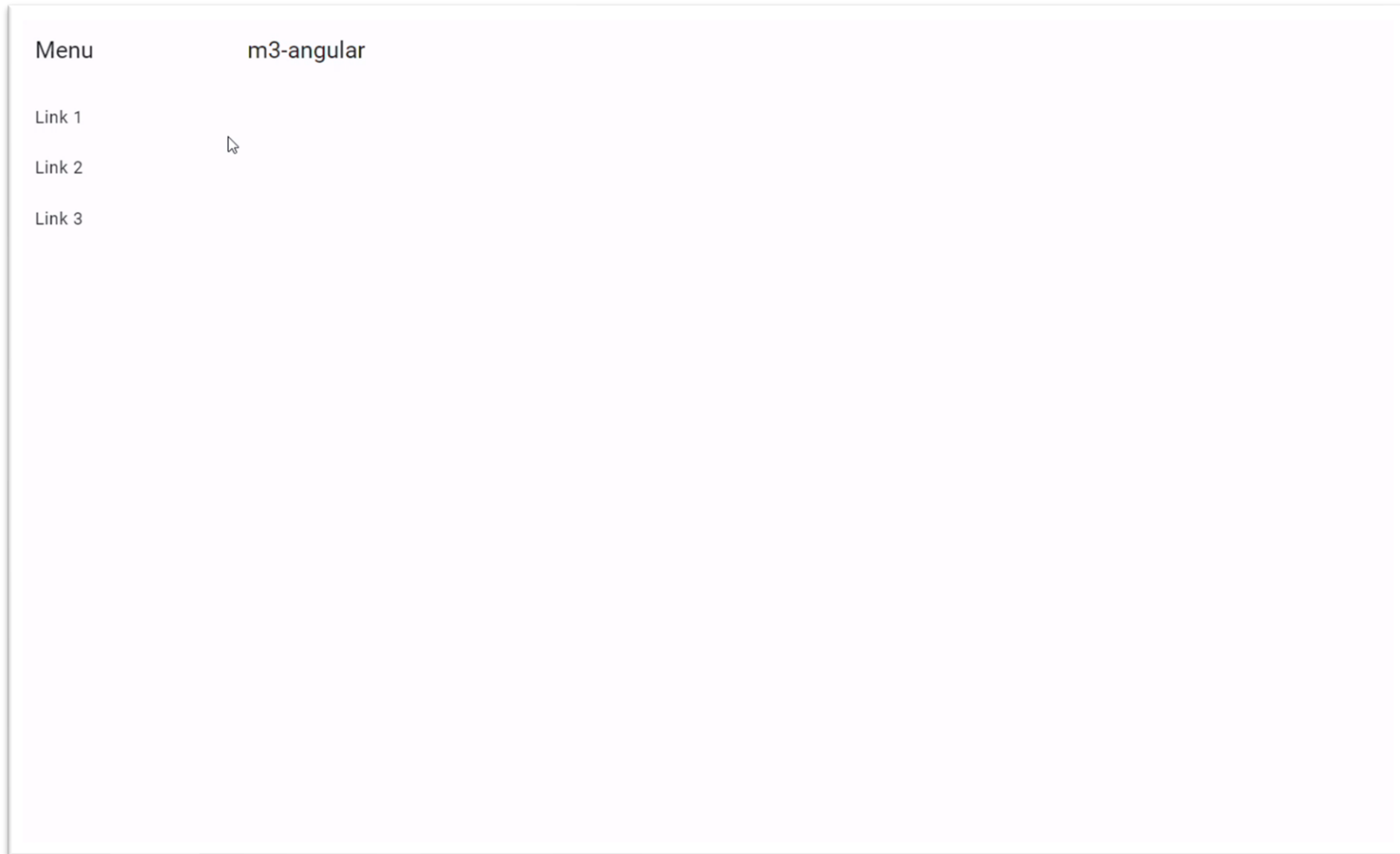
```
import { LayoutComponent } from
'./core/layout/layout.component';

@Component({
  selector: 'app-root',
  standalone: true,
  imports: [RouterOutlet, LayoutComponent],
  templateUrl: './app.component.html',
})
export class AppComponent {}
```

2 Use layout in app template

```
<app-layout>
  <router-outlet></router-outlet>
</app-layout>
```


Output after using layout



Apply theme to layout

1 New file _layout.component.theme.scss

```
@use "@angular/material" as mat;

@mixin theme($theme) {
  .sidenav {
    background-color: mat.get-theme-
color($theme, surface-bright);
  }
}
```

2 Use layout-theme in styles

```
@use "../app/core/layout/layout.component.theme"
as layout-theme;

html {
  @include layout-theme.theme($light-theme);

  &.dark {
    @include layout-theme.theme($dark-theme);
  }
}
```

For all possible roles, visit [Reading color roles](#)

Output after theming layout



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Create Pages

```
> ng generate @angular/material:dashboard dashboard  
> ng generate @angular/material:address-form address-form  
> ng generate @angular/material:table table  
> ng generate @angular/material:tree tree  
> ng generate @angular/cdk:drag-drop drag-drop
```

Update routes

```
import { Routes } from '@angular/router';

export const routes: Routes = [
  {
    path: '',
    pathMatch: 'full',
    redirectTo: 'dashboard',
  },
  {
    path: 'dashboard',
    loadChildren: () =>
      import('./dashboard/dashboard.component').then(
        (c) => c.DashboardComponent
      ),
    title: 'Dashboard'
  },
];
```

Updates in layout

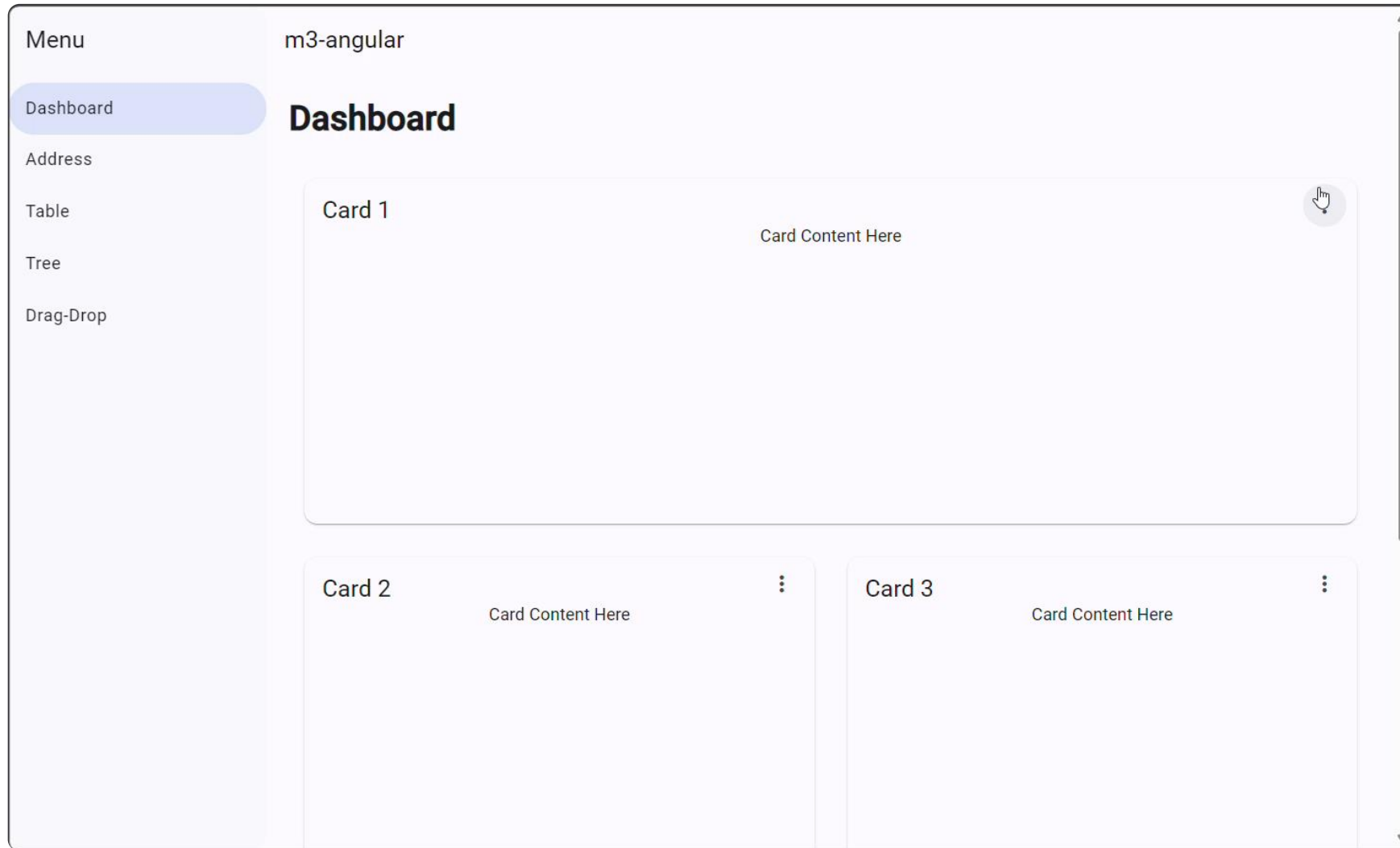
1 Use routes in layout component

```
@Component({
  selector: 'app-layout',
  imports: [
    RouterLink,
    RouterLinkActive
  ]
})
export class LayoutComponent {
  rootRoutes = routes.filter(r=>r.path);
}
```

2 Update layout template

```
<mat-nav-list>
  @for (item of rootRoutes; track $index) {
    <a
      mat-list-item
      [routerLink]="item.path"
      #link="routerLinkActive"
      routerLinkActive
      [activated]="link.isActive"
    >
      {{ item.title }}
    </a>
  }
</mat-nav-list>
```


Output after pages and routes



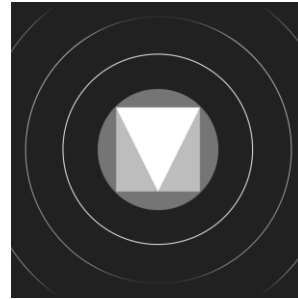
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Quick recap

1. UX vs UI
2. Material Design
3. Angular Material



4. Using Material 3

- Cloning the starter with dependencies
- Creating & using M3 theme
- Creating layout skeleton
- Creating pages



<https://angular-material.dev>



One place for everything related to Material Design in Angular

Q&A



Thank you!

I am available online

<https://twitter.com/shhdharmen>

<https://www.linkedin.com/in/shhdharmen>

<https://github.com/shhdharmen>



Code and deck is available at

<https://github.com/shhdharmen/tilconf-m3-angular>