

# Guide: Miniframes Navigation

## 1 Function documentation

The `render-miniframes` function generates a navigation bar showing the progress through sections and subsections using “miniframes” (dots or squares).

### 1.1 Parameters Reference

| Option             | Type          | Effect & Expected Values   |
|--------------------|---------------|--|
| structure          | array         | <b>Mandatory.</b> The presentation structure typically obtained via <code>get-structure()</code> .                       |
| current-slide-num  | int           | <b>Mandatory.</b> The index of the active slide typically obtained via <code>get-current-logical-slide-number()</code> . |
| style              | string        | Layout mode: "compact" (all dots on one line) or "grid" (one line per subsection/subsubsection). Default: "grid".        |
| marker-shape       | string        | "circle" (default) or "square".  |
| marker-size        | length        | Diameter/width of the markers. Default: 4pt.   |
| active-color       | color         | Color of the current slide's marker. Default: white.   |
| inactive-color     | color         | Color of future slides' markers. Default: gray.  |
| fill               | color         | Background color of the navigation bar block. Default: black.  |
| text-color         | color         | Color of the section/subsection titles. Default: white.  |
| text-size          | length        | Size of the titles. Default: 10pt.   |
| font               | string   none | Font family for titles. Uses document default if none.   |
| align-mode         | string        | Global horizontal alignment of the block: "left", "center", "right".   |
| dots-align         | string        | Alignment of the dots <b>within</b> their section column: "left", "center", "right".                                     |
| navigation-pos     | string        | Vertical position of dots relative to titles: "top" (dots above) or "bottom" (dots below). Default: "bottom".            |
| show-level1-titles | bool          | Whether to display the names of sections.  |
| show-level2-titles | bool          | In grid mode, whether to display subsection names.   |
| show-numbering     | bool          | Whether to display heading numbers. Default: false.  |
| numbering-format   | string        | Typst numbering format string (e.g., "1.1"). Default: "1.1".   |
| gap                | length        | Horizontal space between sections. Default: 1.5em.   |
| line-spacing       | length        | Vertical space between titles and dots. Default: 4pt.  |
| inset              | dict   length | Internal padding of the bar block. Default: (x: 1em, y: 0.5em).  |

| Option          | Type          | Effect & Expected Values  |
|-----------------|---------------|---|
| radius          | length   dict | Corner rounding of the background block. Can be a single length for all corners, or a dictionary (e.g., (top: 5pt)) for specific corners. Default: 0pt. |
| width           | length        | Total width of the block. Default: 100%.  |
| outset-x        | length        | Horizontal bleed. Useful to make the bar touch page edges.  |
| max-length      | int   dict    | Maximum length of titles before truncation. Ex: 10 or (level-1: 8, level-2: 15). Defaults to none.  |
| use-short-title | bool   dict   | If true, uses short titles defined via #metadata("...") <short> (must be collected via get-structure(all-shorts: ...)). Default: false.                 |

## 2 Structure Extraction

To work, the navigation bar needs to know the presentation structure. Two functions are provided to extract this data from metadata markers.

### 2.1 get-structure

get-structure(slide-selector: auto, filter-selector: none)

Scans the document for headings and slide markers. Returns a structure dictionary.

### 2.2 get-current-logical-slide-number

get-current-logical-slide-number(slide-selector: auto, filter-selector: none)

Determines the index of the current slide relative to the extracted structure.

## 2.3 Selection Parameters

| Option          | Type            | Description   |
|-----------------|-----------------|---|
| slide-selector  | selector   auto | The metadata type used to identify slides. Default is (t: "LogicalSlide"). Useful for custom engines (e.g., Polylux).                           |
| filter-selector | selector   none | If provided, only pages containing this selector will be counted. Useful to exclude transition slides that might share the same slide metadata. |

## 3 Function Signature

render-miniframes(structure, current-slide-num, ...)

### 3.1 The structure object

The structure argument is an array of section dictionaries. Each section has the following schema:

- **Section:** (title: content, loc: location, subsections: array)
- **Subsection:** (title: content, loc: location, slides: array) OR (title: content, loc: location, subsections: array) (if 3 levels are used).
- **Slide:** (number: integer, loc: location)

#### 3.1.1 What is loc?

The loc field expects a Typst **location** object.

- **Purpose:** It defines the destination for navigation links. If a valid location is provided, clicking on the section title or the dot will take the user to that specific position in the PDF.
- **Disabling links:** If set to none, the element will be displayed normally but will not be clickable. This is used in the mock data of this guide.

## 3.2 The current-slide-num argument

An integer representing the current slide number. The function compares this value with the number field of each slide in the structure to determine its state:

- **Active:** slide.number == current-slide-num
- **Completed:** slide.number < current-slide-num
- **Future:** slide.number > current-slide-num

## 4 Basic usage

By default, the navigation bar uses the "grid" style and shows section titles.

```
render-miniframes(structure, 4, use-short-title: true)
```

### Default Grid Style

|             |            |              |
|-------------|------------|--------------|
| 1. Intro    | 2. Methods | 3. Results   |
| 1.1 Context | • •        | 2.1 Raw Data |
| 1.2 Goals   | •          | 2.2 Tools    |

## 5 Short Titles & Truncation

Like progressive-outline, Miniframes supports short titles and truncation. This is crucial for navigation bars which have limited horizontal space.

### 5.1 Collecting Short Titles

You must pass the short titles to the structure extractor.

```
#let struct = get-structure(  
  all-shorts: query(<short>)  
)
```

### 5.2 Truncation & Short Titles

Then, configure the rendering. By default, use-short-title is false.

```
render-miniframes(structure, 4)
```

### 1. Original Titles (Default)

|                                |                         |                                       |
|--------------------------------|-------------------------|---------------------------------------|
| 1. General                     | 2. Scientific           | 3. Preliminary                        |
| Introduction to<br>the Project | Methodology<br>and Data | Results                               |
| 1.1 Background<br>Context      | • •                     | • •                                   |
| 1.2 Objectives<br>and Goals    | •                       | 2.1 Raw Data<br>2.2 Analysis<br>Tools |

```
render-miniframes(  
  structure, 4,  
  max-length: 12  
)
```

### 2. Automatic Truncation

|                 |                 |                       |
|-----------------|-----------------|-----------------------|
| General Intr... | Scientific M... | Preliminary ...       |
| 1.1 Backgrou... | • •             | 2.1 Raw Data          |
| 1.2 Objectiv... | •               | 2.2 Analysis<br>Tools |

```
render-miniframes(  
  structure, 4,  
  use-short-title: true  
)
```

### 3. Manual Short Titles

|             |            |              |
|-------------|------------|--------------|
| 1. Intro    | 2. Methods | 3. Results   |
| 1.1 Context | • •        | 2.1 Raw Data |
| 1.2 Goals   | •          | 2.2 Tools    |

```
render-miniframes(  
  structure, 4,  
  use-short-title: true,  
  max-length: 8  
)
```

#### 4. Combined: Short Titles + Truncation

| Intro          | Methods         | Results |
|----------------|-----------------|---------|
| 1.1 Cont... ●● | 2.1 Raw ... ●●● | ●●      |
| 1.2 Goal... ●  | 2.2 Tool... ●   | ●●      |

## 6 Layout Styles

### 6.1 Compact Mode

In "compact" mode, all slide markers of a section are grouped on a single line, regardless of subsections. This is useful for saving space in the header or footer.

```
render-miniframes(  
  structure, 4,  
  style: 'compact',  
  use-short-title: true  
)
```

#### Compact Mode

| 1. Intro | 2. Methods | 3. Results |
|----------|------------|------------|
| ●●●      | ●●●●       | ●●         |

### 6.2 Grid Mode

The "grid" style is ideal for presentations with many subsections, as it aligns them vertically.

```
render-miniframes(  
  structure, 4,  
  style: 'grid',  
  show-level2-titles: true,  
  use-short-title: true  
)
```

#### Grid Mode with Titles

| 1. Intro       | 2. Methods       | 3. Results |
|----------------|------------------|------------|
| 1.1 Context ●● | 2.1 Raw Data ●●● | ●●●        |
| 1.2 Goals ●    | 2.2 Tools ●      | ●●         |

### 6.3 Hiding Titles

You can hide titles at different levels to obtain a minimalist bar.

```
render-miniframes(  
  structure, 4,  
  style: 'grid',  
  show-level2-titles: false,  
  use-short-title: true  
)
```

#### Hiding Subsection Titles (Grid)

| 1. Intro | 2. Methods | 3. Results |
|----------|------------|------------|
| ●●       | ●●●        | ●●         |

```
render-miniframes(  
  structure, 4,  
  show-level1-titles: false,  
  use-short-title: true  
)
```

#### Hiding Section Titles (Dots Only)

|                |                  |    |
|----------------|------------------|----|
| 1.1 Context ●● | 2.1 Raw Data ●●● | ●● |
| 1.2 Goals ●    | 2.2 Tools ●      | ●  |

## 7 Customization

### 7.1 Markers

Change the shape and size of the progress indicators.

```
render-miniframes(
  structure, 4,
  marker-shape: 'square',
  marker-size: 6pt,
  use-short-title: true
)
```

## Square Markers

|             |            |            |
|-------------|------------|------------|
| 1. Intro    | 2. Methods | 3. Results |
| 1.1 Context | ■ ■        | ■ ■ ■      |
| 1.2 Goals   | ■          | ■ ■        |

## 7.2 Colors & Typography

Fine-tune the appearance of markers and labels.

```
render-miniframes(
  structure, 4,
  active-color: yellow,
  inactive-color: gray,
  text-color: luma(200),
  text-size: 8pt,
  fill: rgb('#2d3436'),
  use-short-title: true
)
```

## Colors & Fonts

|             |            |            |
|-------------|------------|------------|
| 1. Intro    | 2. Methods | 3. Results |
| 1.1 Context | ■ ■        | ■ ■ ■      |
| 1.2 Goals   | ■ ■        | ■ ■ ■      |

## 7.3 Alignment & Spacing

Control the rhythm and positioning of the navigation elements.

```
render-miniframes(
  structure, 4,
  align-mode: 'center',
  dots-align: 'center',
  gap: 3em,
  line-spacing: 8pt,
  use-short-title: true
)
```

## Centered & Airy

|             |            |            |
|-------------|------------|------------|
| 1. Intro    | 2. Methods | 3. Results |
| 1.1 Context | ● ●        | ● ● ●      |
| 1.2 Goals   | ●          | ● ●        |

## 7.4 Advanced Layout

Use inset and width to integrate the bar into specific layout zones.

```
render-miniframes(
  structure, 4,
  width: 60%,
  align-mode: 'center',
  inset: 15pt,
  show-level1-titles: false,
  use-short-title: true
)
```

## Compact Centered Bar



```
render-miniframes(
  structure, 4,
  radius: 10pt,
  fill: rgb('#34495e'),
  inset: (x: 2em, y: 1em),
  use-short-title: true
)
```

## Rounded Corners

|             |            |            |
|-------------|------------|------------|
| 1. Intro    | 2. Methods | 3. Results |
| 1.1 Context | ● ●        | ● ● ●      |
| 1.2 Goals   | ●          | ● ●        |