MagnumJS Micro UI – Developer Guide

■ Why MagnumJS Micro UI?

MagnumJS Micro UI is a tiny, declarative component system that combines state, props, slots, events, lifecycle hooks, and shared stores into one minimal package. It gives developers modern reactivity and composition without framework overhead.

■ Standout Features

- Declarative Events – define events inline with clean syntax (`on: {}`).
- All-in-One Components – encapsulates state, props, events, lifecycle, slots, refs.
- Slots & Parent–Child Interaction – declarative slot system with auto-mounted children.
- Lifecycle Hooks – predictable mount/update/unmount order with async safety.
- Shared State & Context – built-in reactive stores with auto-subscription per component.
- Efficient Diffing & Caching – fine-grained DOM patching with keyed reuse.

■ API Reference

createComponent(options | function)

Create a component with render, state, props, events, and lifecycle.

Options:

- render(props, state) → returns HTML string or null
- state → initial state object
- on → declarative event map
- onBeforeMount, onMount, onUpdate(prevProps), onBeforeUnmount, onUnmount

Instance Properties:

- this.state – current local state
- this.setState(nextState) – merge + re-render (async)
- this.props – read-only props from parent
- this.update(nextProps) – update props
- this.ref(name) – lookup element by [ref]
- this.el – root element
- this.on – event map

■ Quick Reference Cheat Sheet

Create a Component

```
const Counter = createComponent({
  state: { count: 0 },
  render() {
    return `<button>Clicked ${this.state.count}</button>`;
  },
  on: {
    "click button": () => this.setState({ count: this.state.count + 1 })
  }
});
Counter.mount(document.body);
```

Events

```
on: {
  "click button": () => {...},
  "*:ping": (e) => {...},
  "::store:update": (s) => {...},
}
```

Refs

```
this.ref("btn");   // <button ref="btn">
```

Slots

```
const Parent = createComponent({
  render() {
    return `<slot name="header"></slot><slot></slot>`;
  }
});
Parent.mount(document.body, {
  slots: { header: () => `<h1>Hello</h1>`, default: () => `<p>Child</p>` }
});
```

Shared State

```
import { shared } from "@magnumjs/micro-ui/compose";
const counter = shared({ count: 0 });
counter.subscribe((s) => console.log(s));
counter.set({ count: counter.get().count + 1 });
```