

Business Logic Summary

Box Generation:

- User enters a number **N (5–25)**.
- On `onSubmitted`, the input is validated.

A `List<BoxModel>` of size `N` is created, each with:

```
dart
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BoxModel(id: int, isActive: false)
```

- - The `Cubit` emits a new state with the generated box list.
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Box Tap Logic:

- When a red box is tapped:
 - It turns green (`isActive: true`).
 - Its `id` is added to `tapOrder`.
 - When **all boxes are green**, reverse animation begins.
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Reverse Animation:

- Uses `Future.delayed(Duration(seconds: 1))` to:
 - Turn boxes back to red **one at a time**, in **reverse tap order**.
- After all are red:

- tapOrder is cleared.
 - User can start a new interaction cycle.
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3. C Shape Layout Strategy

- Boxes are visually arranged in a **"C" shape**:
 - **Top Row**: First $\text{ceil}(N / 3)$ boxes
 - **Left Side Column**: Middle boxes
 - **Bottom Row**: Remaining boxes
- Top & bottom rows are wrapped in `SingleChildScrollView(horizontal)` to prevent overflow.

Box size is dynamically calculated using `LayoutBuilder`:

```
boxSize = ((maxWidth - spacing * (rowLength - 1)) /  
rowLength).clamp(20.0, 70.0)
```