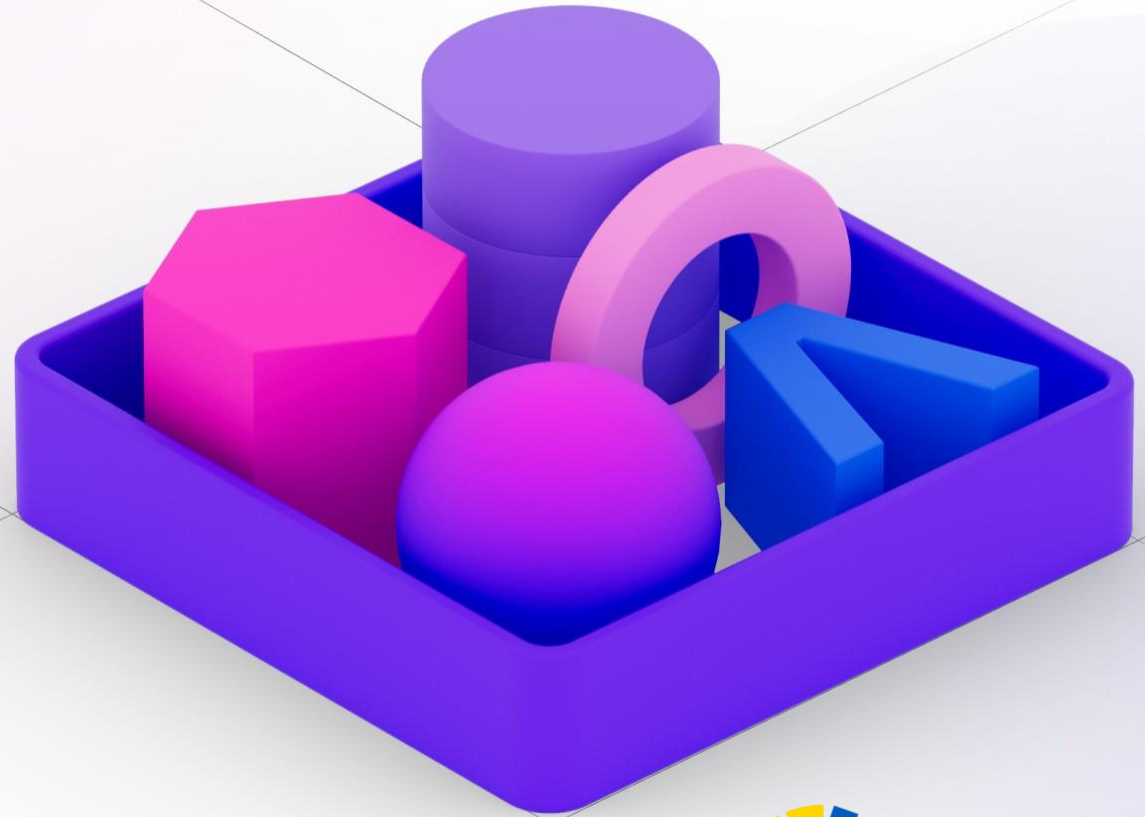


.NET Conf 2023





State Management in Blazor

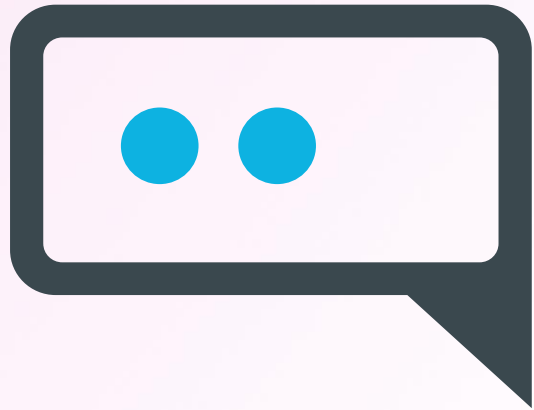


Diego Zunino
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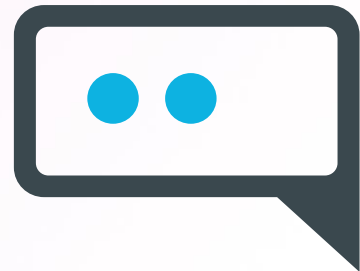


elly

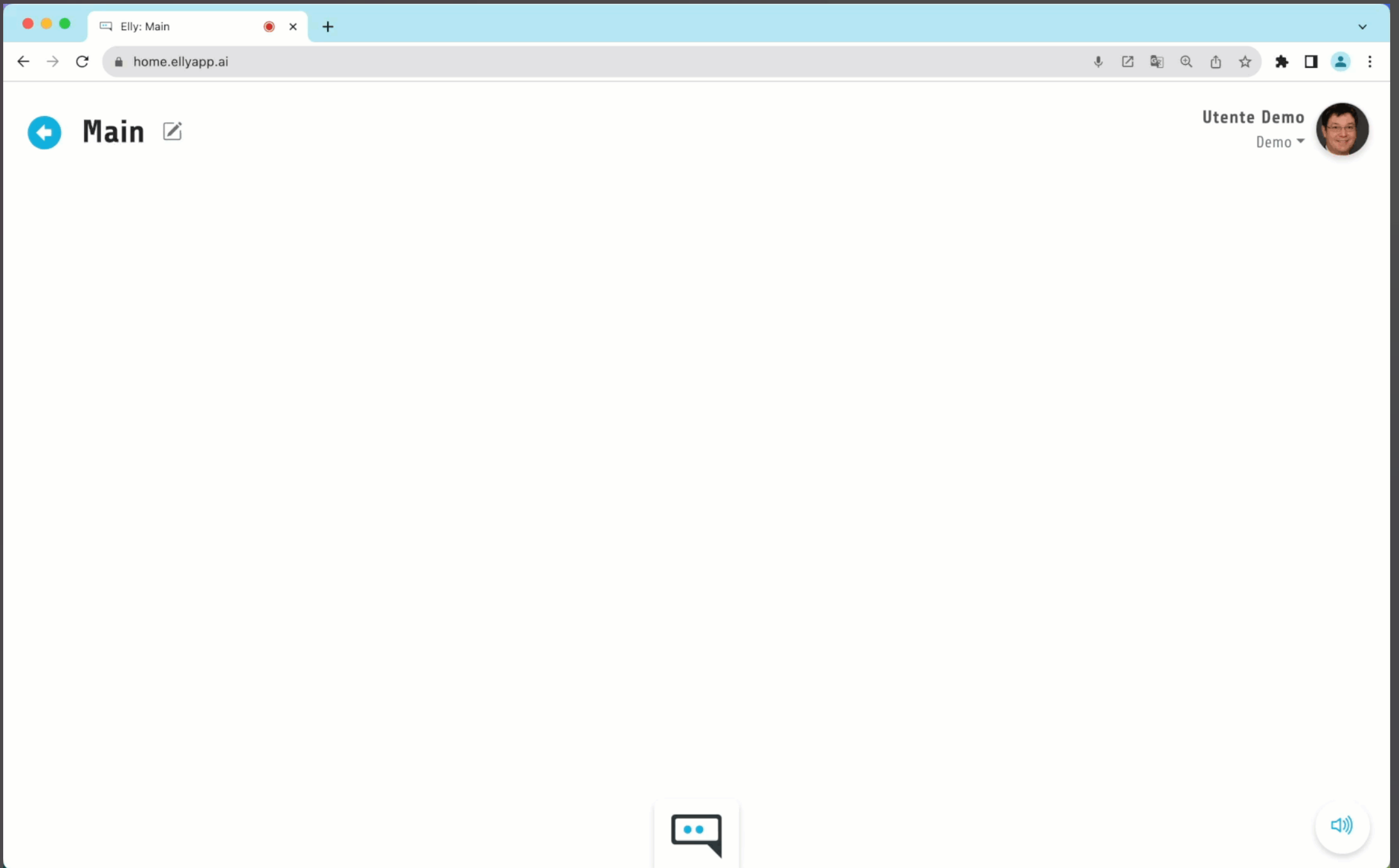
WHAT DO YOU NEED?

Che cos'è Elly?

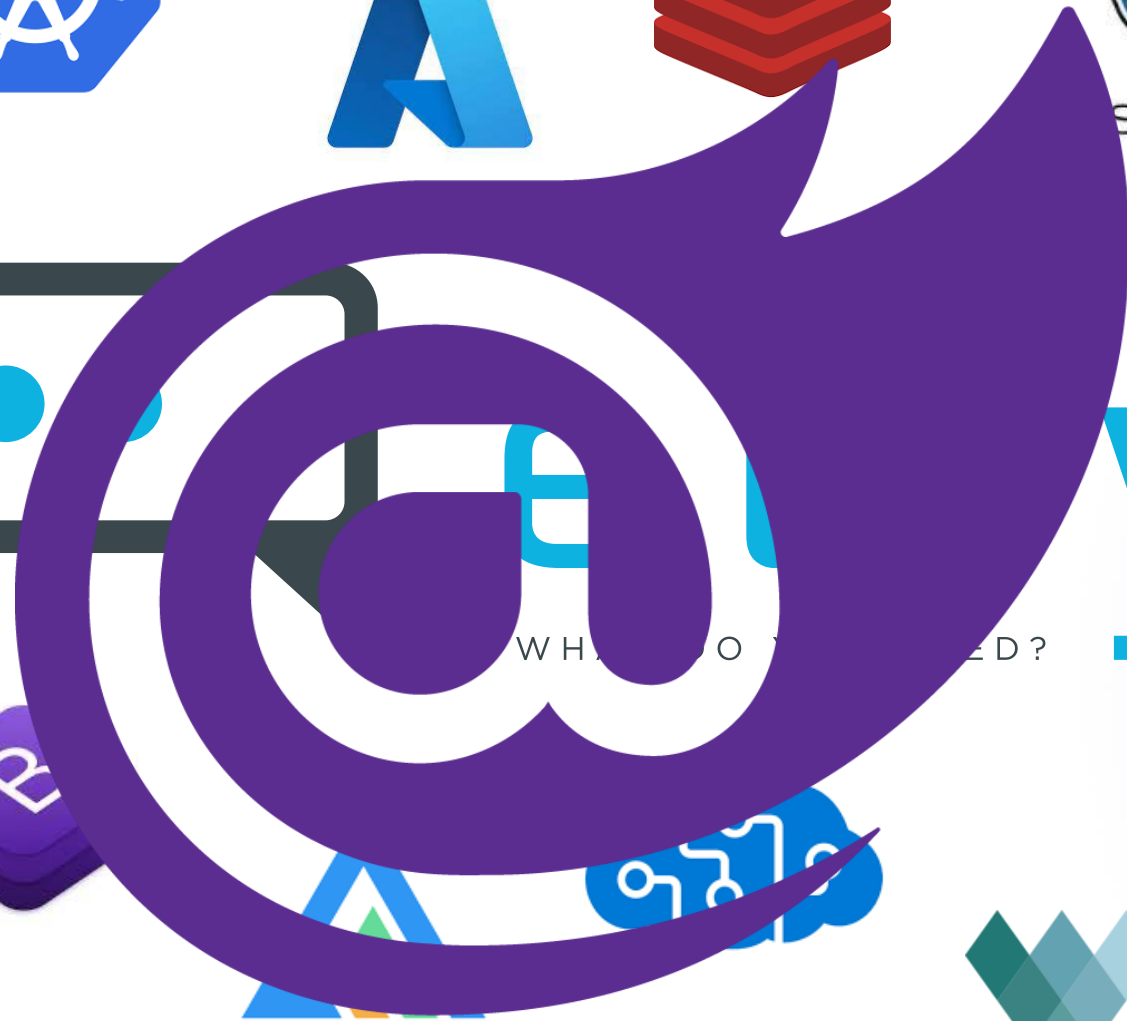
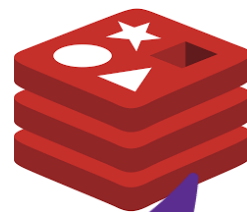
Elly è una piattaforma per l'**accesso**, la **manipolazione**, la **visualizzazione** e la **condivisione di dati aziendali** utilizzando una **User eXperience** basata sul **riconoscimento del linguaggio naturale**



elly
WHAT DO YOU NEED?



KEDA



WHY DO WE NEED?

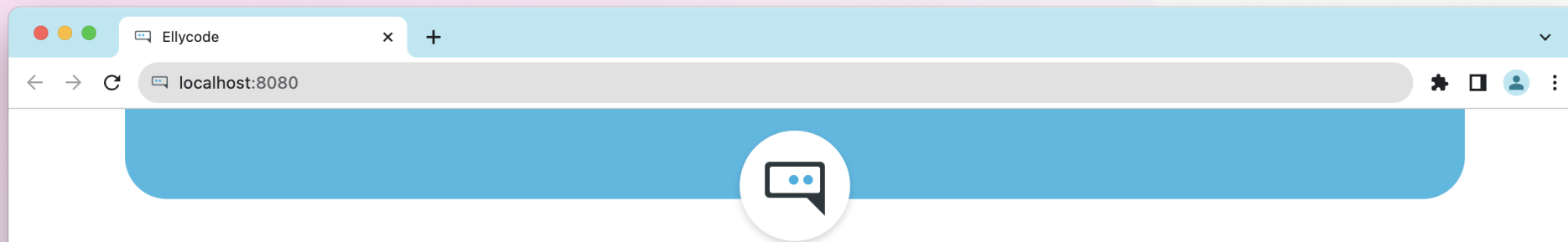
ity



Perché Blazor?

- C# e .NET
- Onboarding sviluppatori backend
- Riutilizzo e condivisione codice
- Framework full stack e completo





Ciao Salvatore,
cosa posso fare per te oggi?





Feedback

Assistenza

Bug

Funzionalità

Analytics

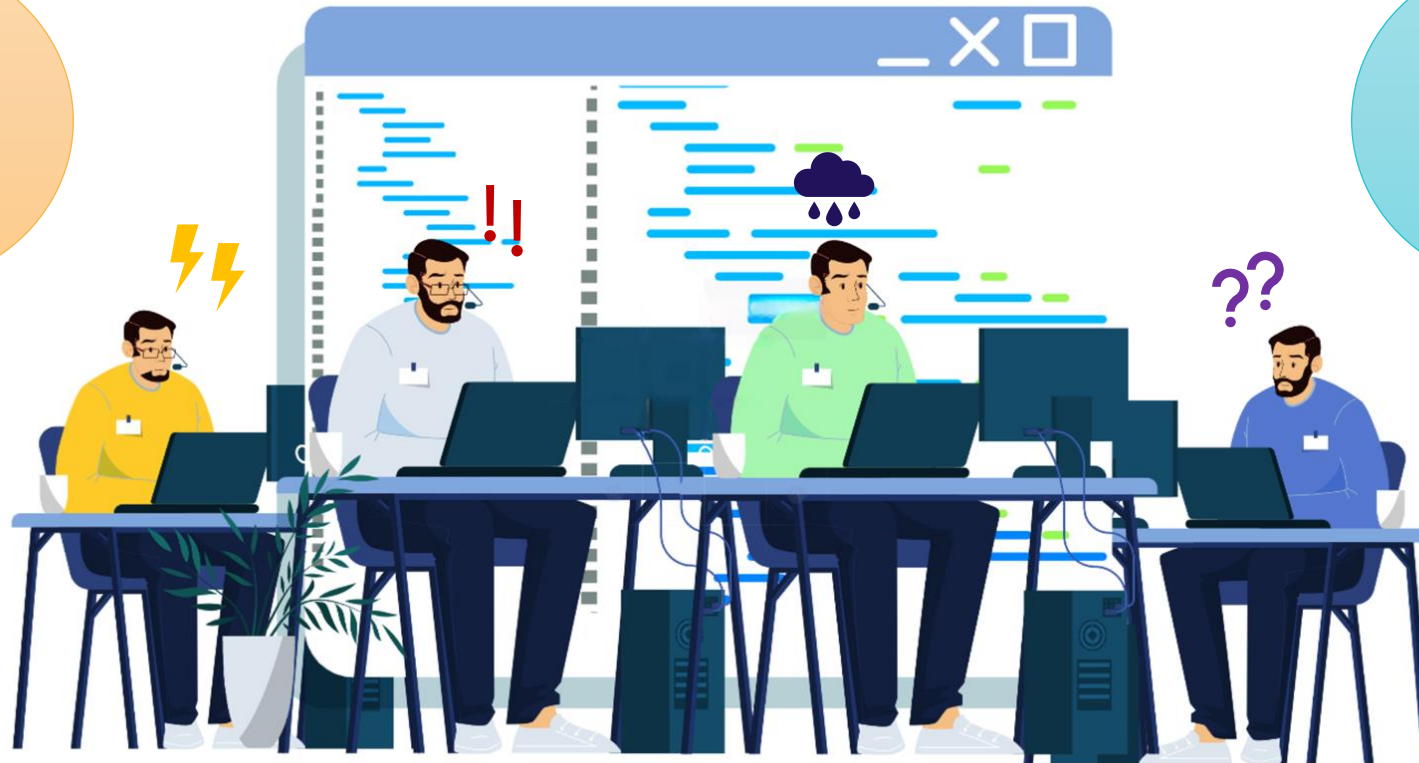


Debug

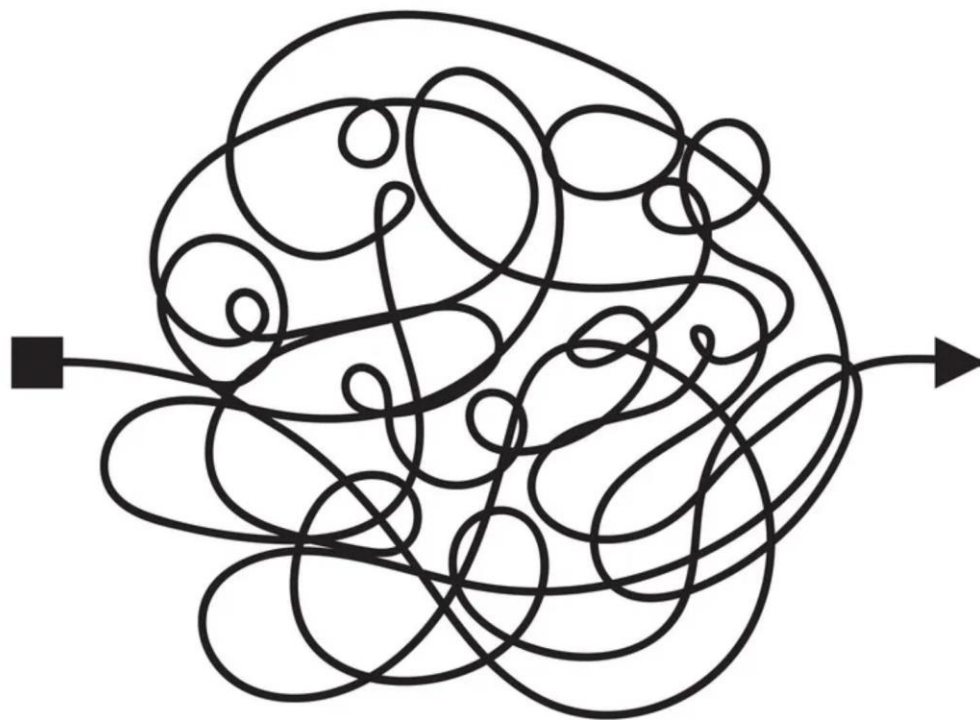
Onboarding

Regressioni

Rigidità



Complessità





Development Dashboard

Fabio Spaziani
Ellycode Srl



Cosa posso fare per te?





Development Dashboard

Fabio Spaziani

Ellycode Srl



Cosa posso fare per te?



Registra



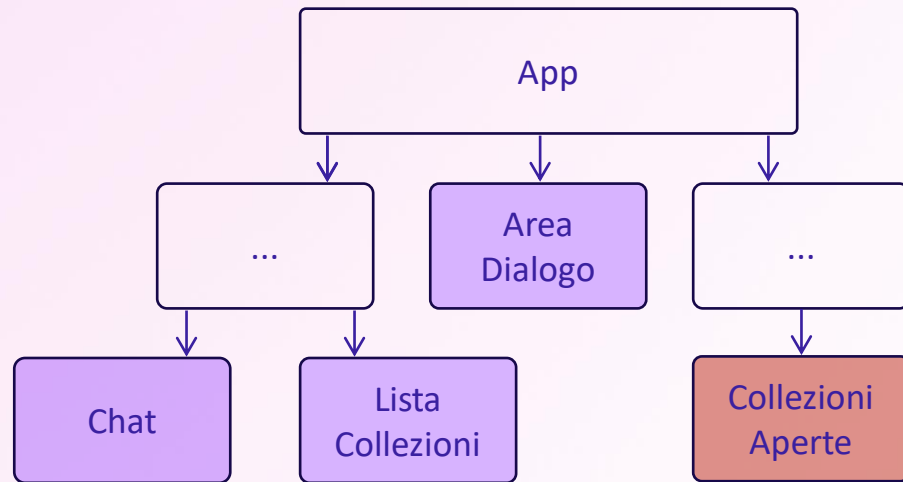
Development Dashboard

Fabio Spaziani

Ellycode Srl



Schematizzazione

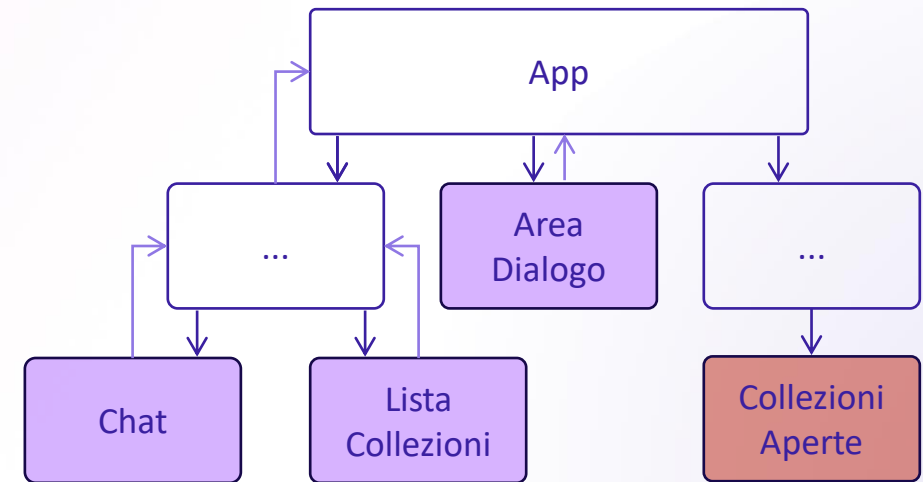
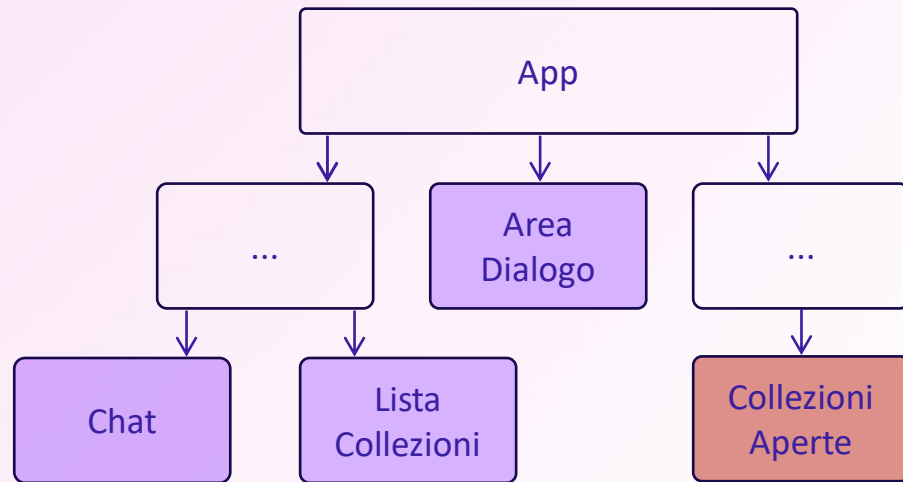


Componenti che leggono lo stato



Componenti che aggiornano lo stato

Schematizzazione

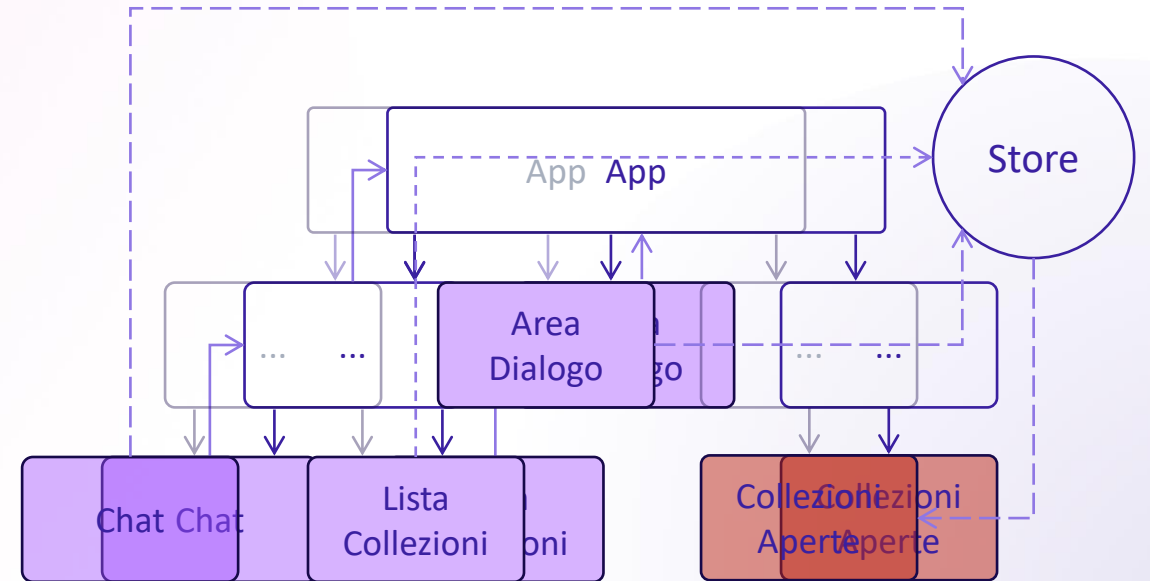


Componenti che leggono lo stato



Componenti che aggiornano lo stato

Schematizzazione



Componenti che leggono lo stato



Componenti che aggiornano lo stato

```
public class CollectionStateService(ICollectionService collectionService) : ICollectionStateService
{
    public event Action CollectionsChanged;
    public List<Collection> AvailableCollections { get; } = new();
    public List<CollectionDetails> DashboardCollections { get; } = new();

    public async Task OpenCollection(string collectionId)
    {
        var currentCollection = await collectionService.Get(collectionId);
        DashboardCollections.Add(currentCollection);
        OnCollectionsChanged();
    }
}
```

```
builder.Services.AddScoped<ICollectionStateService, CollectionStateService>();
```

```
{
    CollectionsChanged?.Invoke();
}

public async Task LoadAvailableCollections()
{
    var collections:Collection[] = await collectionService.GetAll();
    AvailableCollections.Clear();
    AvailableCollections.AddRange(collections);
    OnCollectionsChanged();
}
}
```

State container service

```
@code
{
    protected override void OnInitialized()
    {
        <div class="container-fluid d-flex flex-wrap overflow-y-scroll">
            @foreach (var currentCollection in CollectionStateService.DashboardCollections)
            {
                <CollectionCard CollectionDetails="currentCollection"/>
            }
        </div>

        CollectionStateService.CollectionsChanged -= StateHasChanged;
    }
}
```

Demo

State container service

State container service



PRO

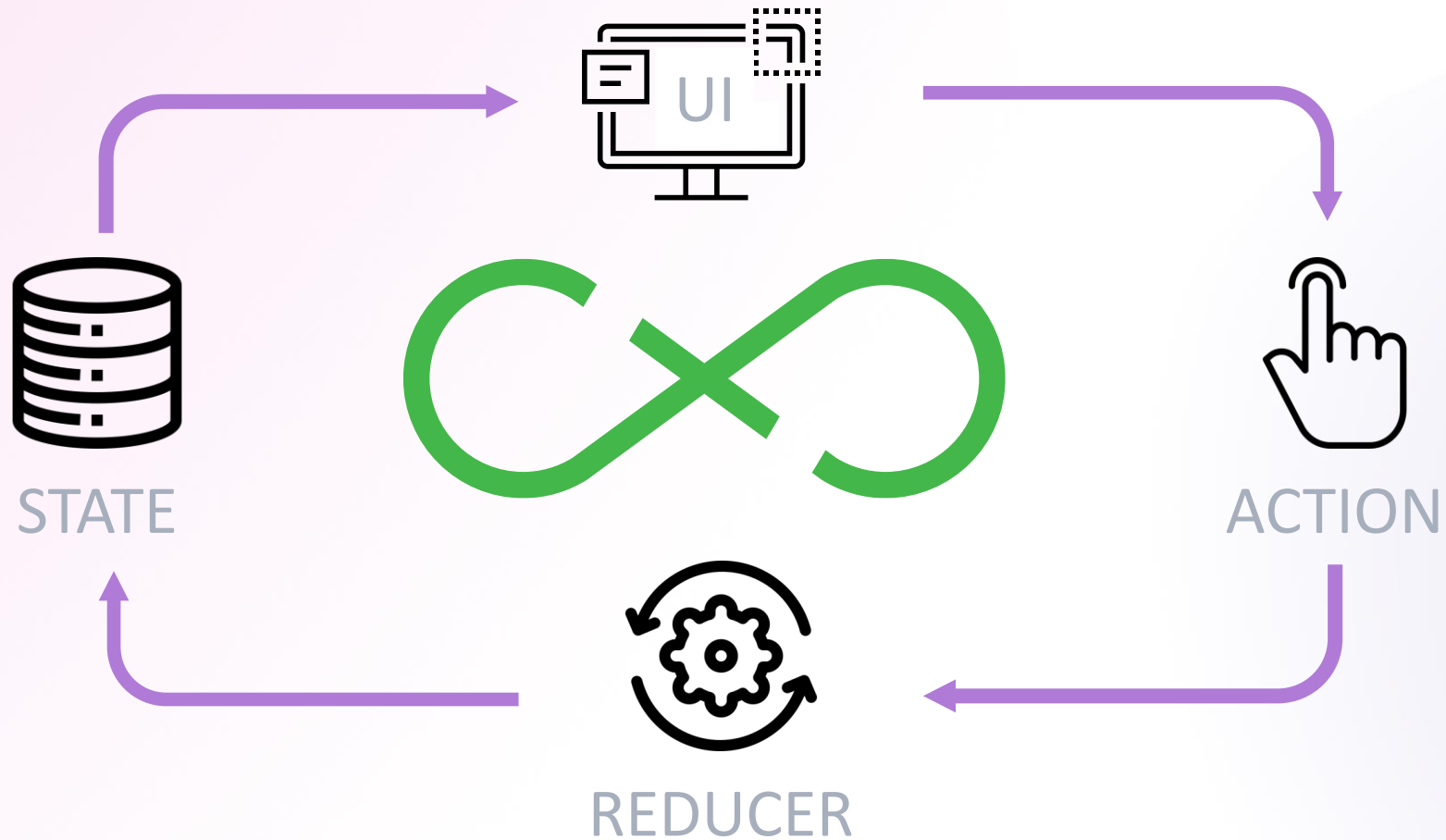
- ✓ Tutto ciò che serve è già incorporato nel framework
- ✓ Chiara separazione delle responsabilità
- ✓ Altamente testabile

CONTRO

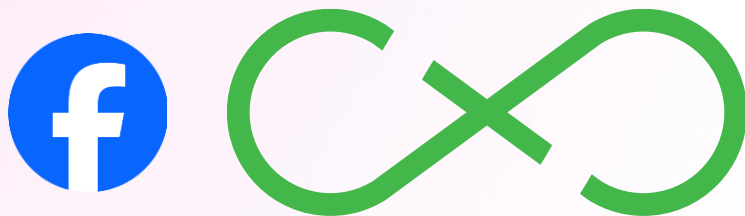
- ✗ Incline agli errori
- ✗ Può creare confusione su codebase grandi e complesse



Una soluzione ad un problema noto



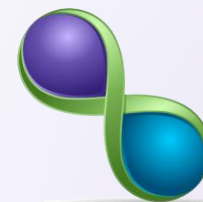
Flux?



X STATE



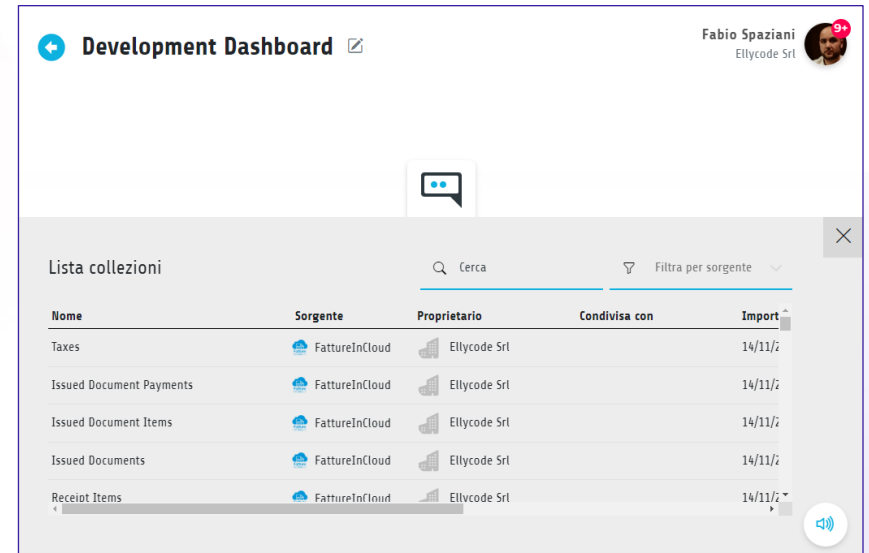
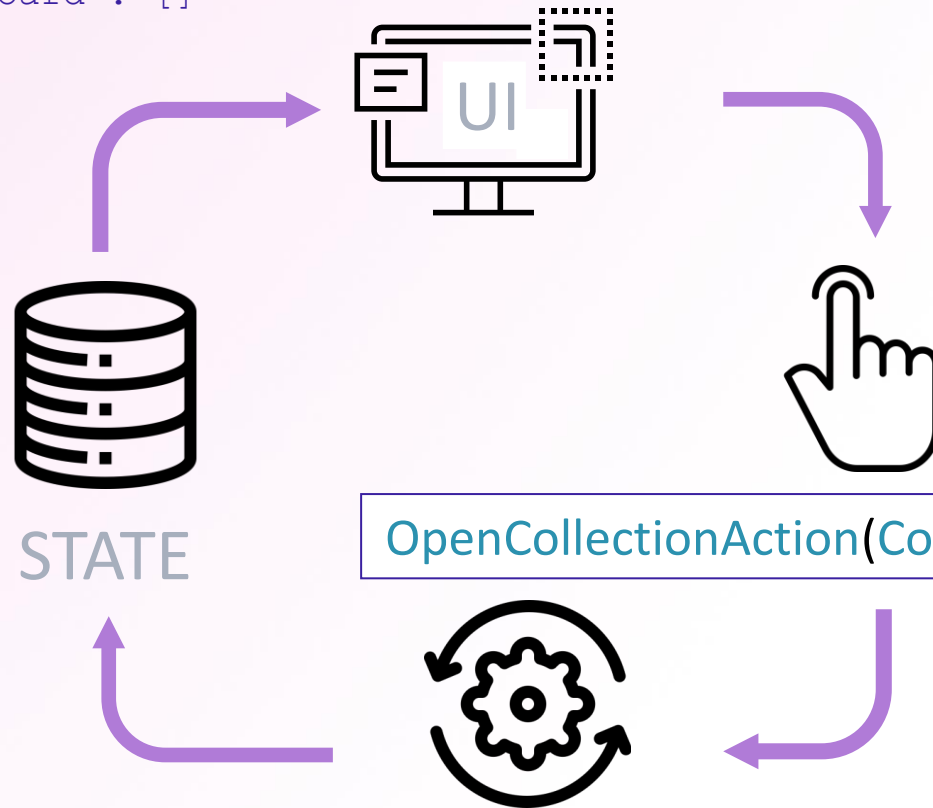
Stl. Fusion



$f(\frac{L}{uxo})R$

Un esempio applicato

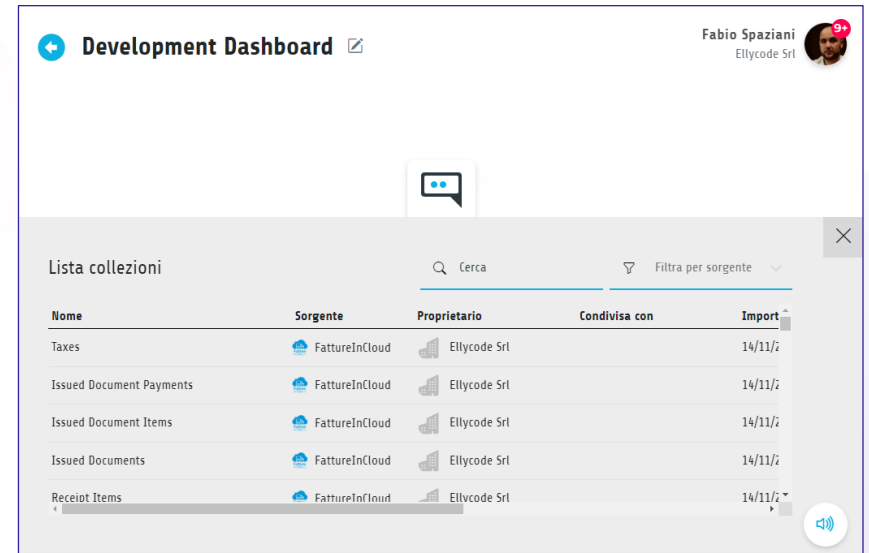
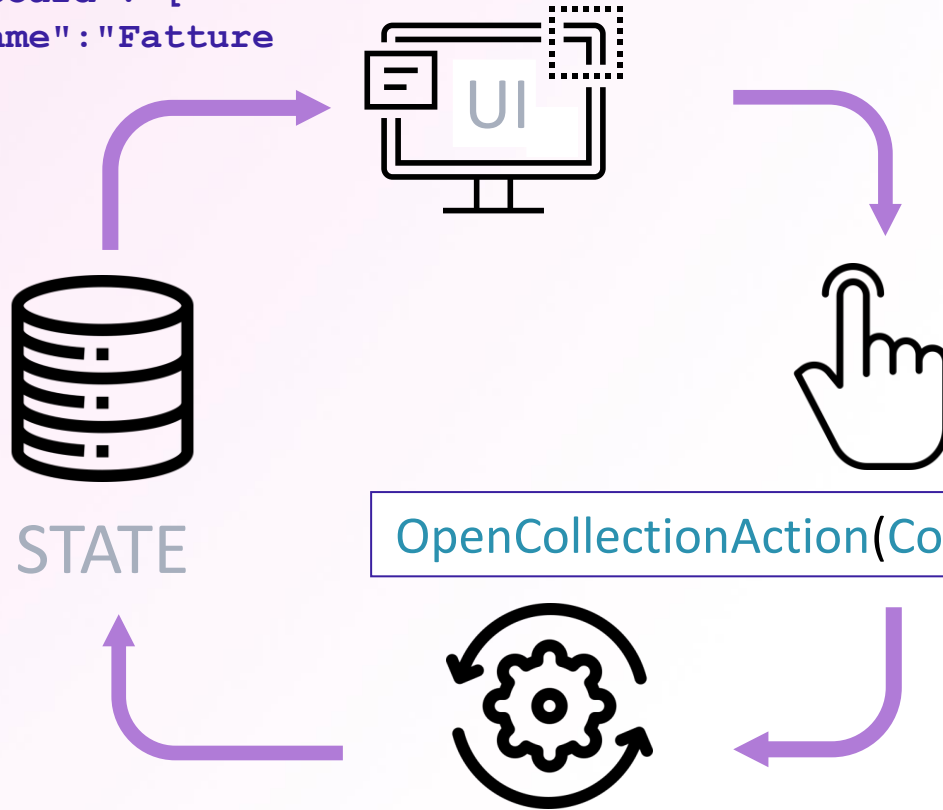
```
{  
  "CollectionsInDashboard": []  
}
```



```
(State state, OpenCollectionAction action) =>  
state with { CollectionsInDashboard = state.CollectionsInDashboard.Add(action.Collection) }
```

Un esempio applicato

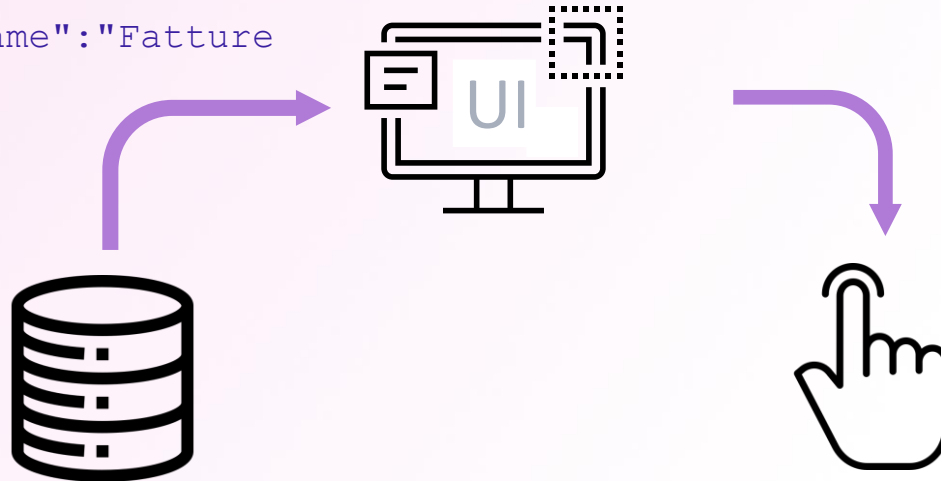
```
{  
  "CollectionsInDashboard": [  
    {"Id": "id-1", "Name": "Fatture  
Consolidate"}  
  ]  
}
```



```
(State state, OpenCollectionAction action) =>  
state with { CollectionsInDashboard = state.CollectionsInDashboard.Add(action.Collection) }
```

Un esempio applicato

```
{  
  "Collections": [  
    {"Id": "id-1", "Name": "Fatture  
Consolidate"}  
  ]  
}
```



Development Dashboard

Taxes Issued [

Fabio Spaziani
Ellycode Srl

Fatture consolidate

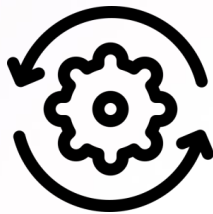
Id	Numero	Id cliente	Data	Numero Fattura	Data scadenza	Importo lordo	Importo netto	Importo netto v
20001	10010	108	15-01-2007	20001	29-01-2007	7698,25	6551,70	
20002	10014	110	15-02-2007	20002	01-03-2007	3000,00	3000,00	
20003	10016	107	15-03-2007	20003	29-03-2007	7698,25	6551,70	
20004	10011	108	15-04-2007	20004	29-04-2007	7698,25	6551,70	
20005	10015	110	15-05-2007	20005	29-05-2007	3000,00	3000,00	
20006	10017	107	15-06-2007	20006	29-06-2007	7698,25	6551,70	
20007	10012	108	15-07-2007	20007	29-07-2007	7698,25	6551,70	
20008	10018	110	15-08-2007	20008	29-08-2007	3000,00	3000,00	
20009	10019	107	15-09-2007	20009	29-09-2007	7698,25	6551,70	

Risultati: 244

STATE

OpenCollectionAction(Collection Collection)

Stato **Immutabile**

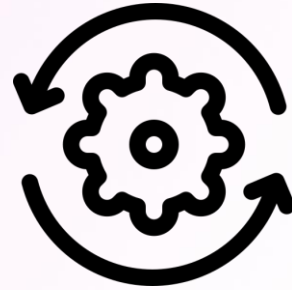


Funzioni **Pure**

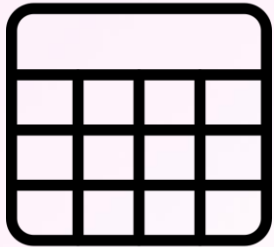
```
(State state, OpenCollectionAction action) =>  
state with { CollectionsInDashboard = state.CollectionsInDashboard.Add(action.Collection) }
```

Che vantaggio mi offre?

```
{  
  "CollectionsInDashboard": []  
}
```

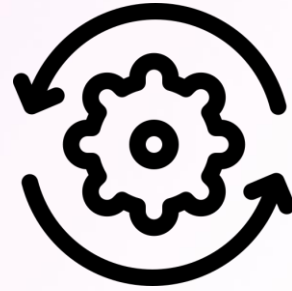


OpenCollectionAction(Collection Collection)

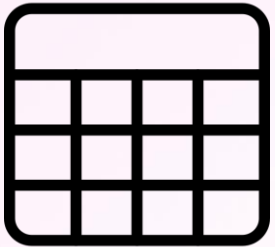


Che vantaggio mi offre?

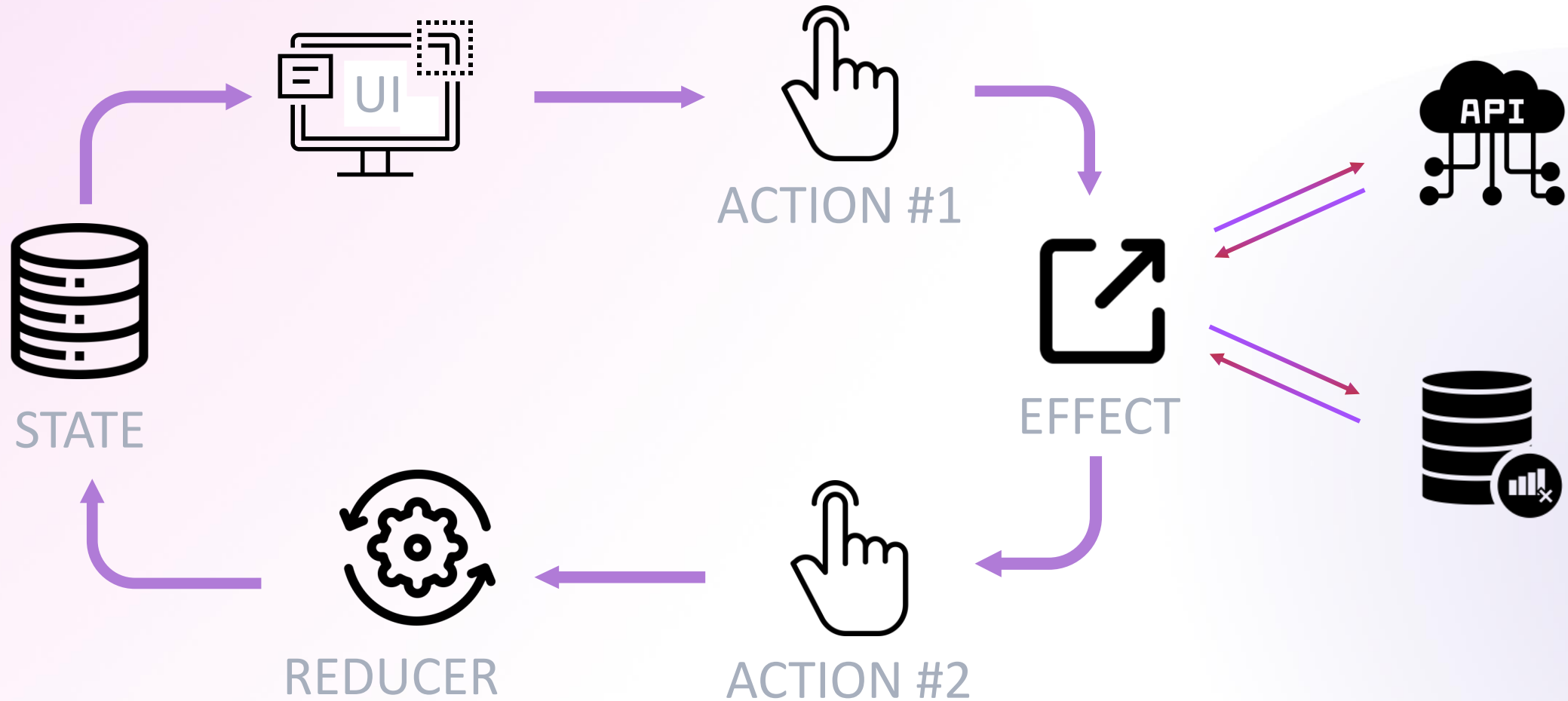
```
{  
  "CollectionsInDashboard": [  
    {"Id": "id-1", "Name": "Fatture  
Consolidate"}  
  ]  
}
```



OpenCollectionAction(Collection Collection)



Flux: tutto qui?



Demo

Fluxor

Flux pattern – Pro & Contro



PRO

- ✓ Disaccoppiamento
- ✓ Composizione
- ✓ Testabilità
- ✓ ReduxDevTools





CONTRO

- ✗ Verboso
- ✗ Curva di apprendimento
- ✗ Performance*
- ✗ Ho già detto verboso?!



Wrap Up

- Cosa è lo «Stato applicativo»
- Cosa vuole dire fare state management
- Gli state container service
- Il pattern Flux e l'implementazione Fluxor
- ...e .NET8?

Interactive Mode	State management?
Static Server	
Interactive Server	
Interactive WebAssembly	
Interactive Auto	

Domande?



Diego Zunino
Account Manager
Ellycode



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Senior Developer
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