



Orchestrate your
business logic
reliably with
workflow as code



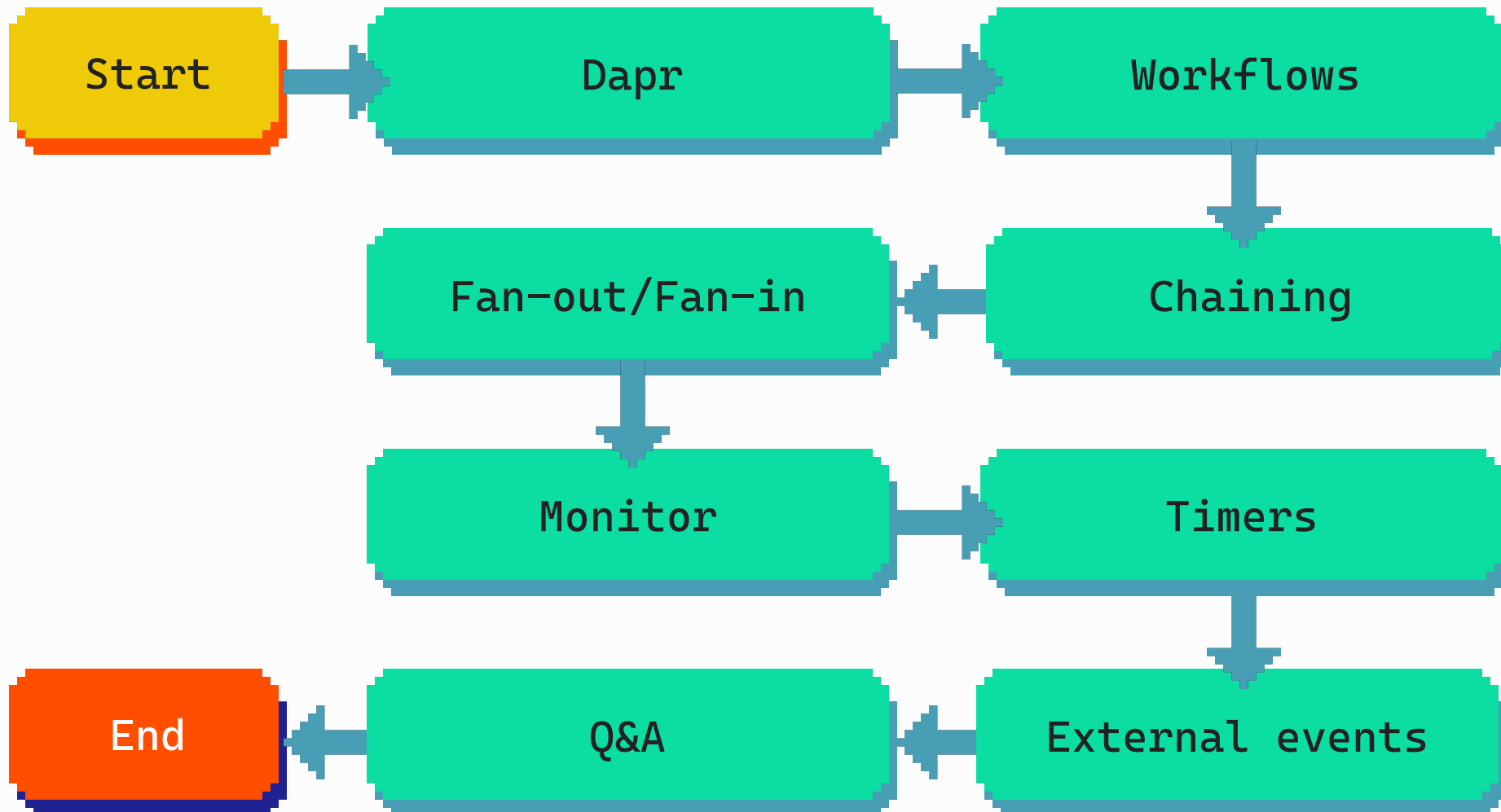
@marcdviker

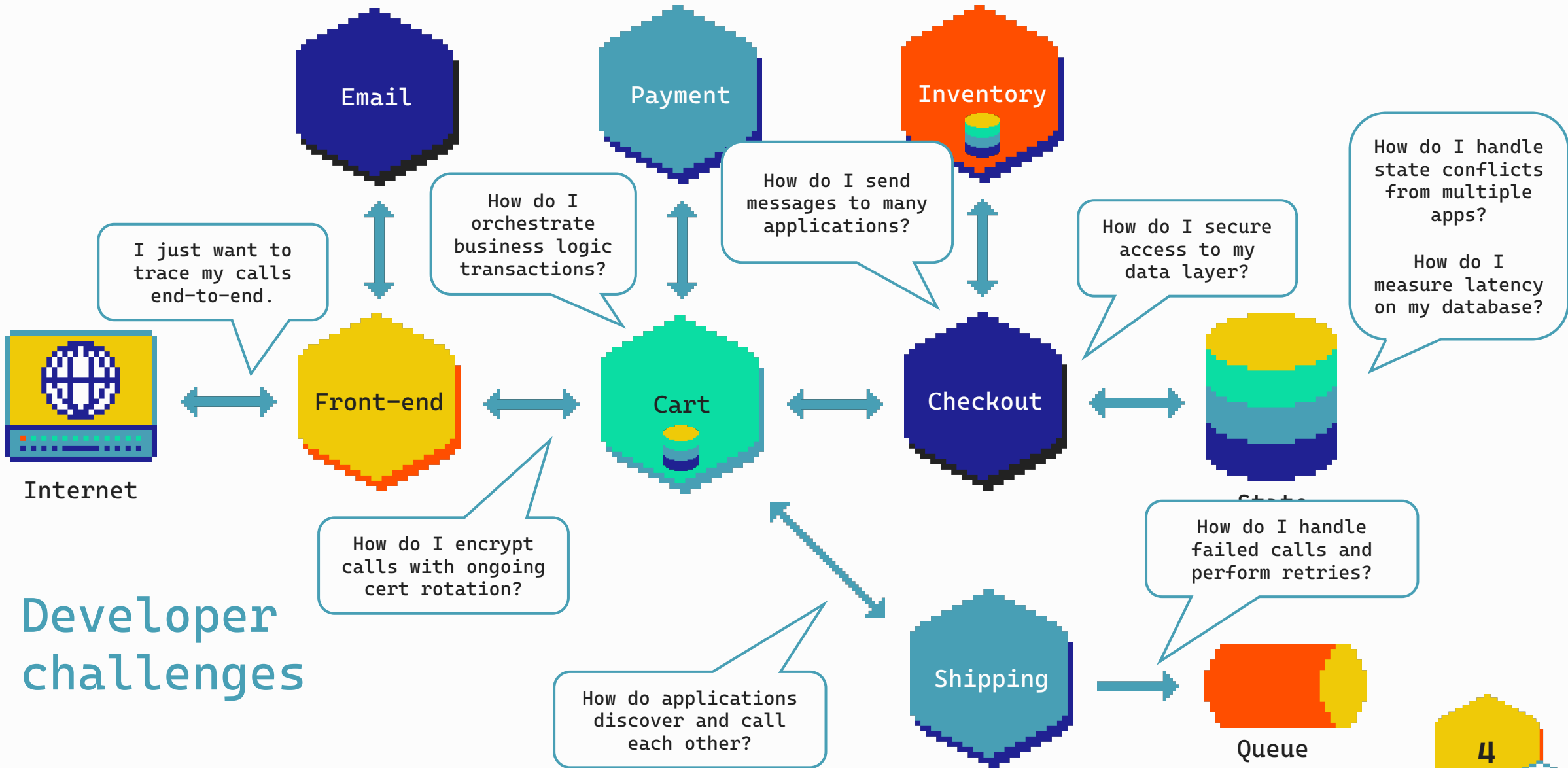




Marc Duiker
Sr Dev Advocate
Diagrid
marc@diagrid.io

Azure MVP
Dapr Community
Manager
❤️ pixel art





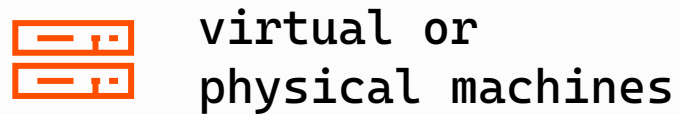
Developer challenges

Distributed
application
runtime

dapr

Speeds up microservice development by providing an integrated set of APIs for communication, state, and workflow.

Built-in **security**,
resiliency and **observability**
capabilities.

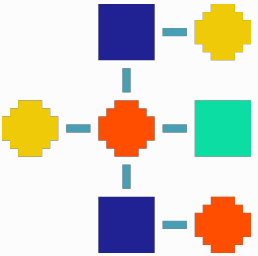


virtual or
physical machines

Contributing organizations



Dapr APIs



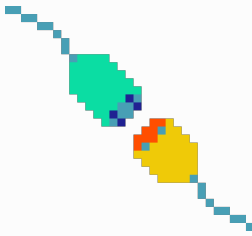
Service invocation



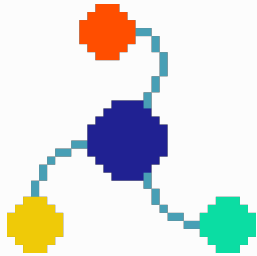
State Management



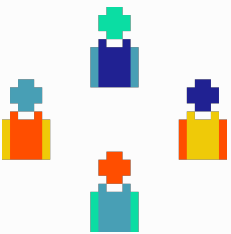
Publish & subscribe



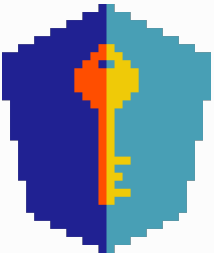
Bindings (input & output)



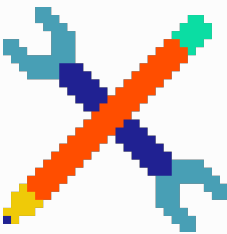
Observability



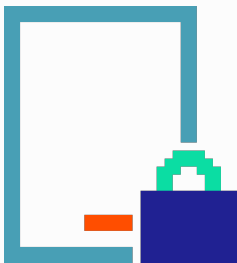
Actors



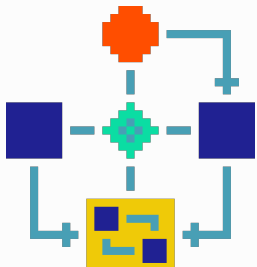
Secret Stores



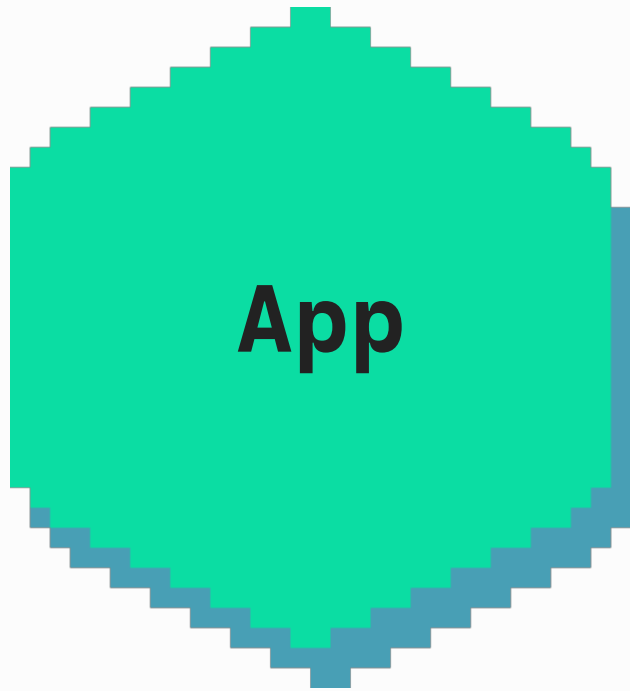
External Configuration



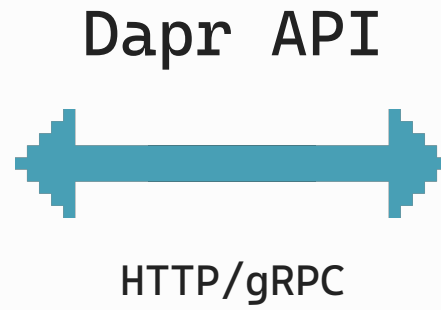
Distributed Lock



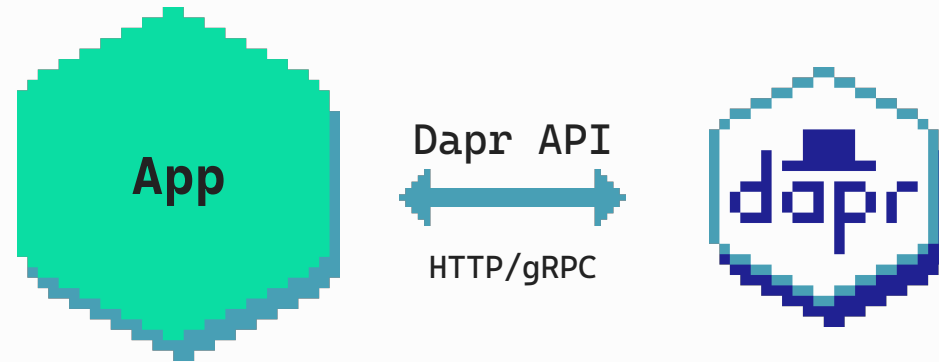
Workflows



Application



Dapr sidecar



POST `http://localhost:3500/v1.0/invoke/cart/method/order`

GET `http://localhost:3500/v1.0/state/inventory/item50`

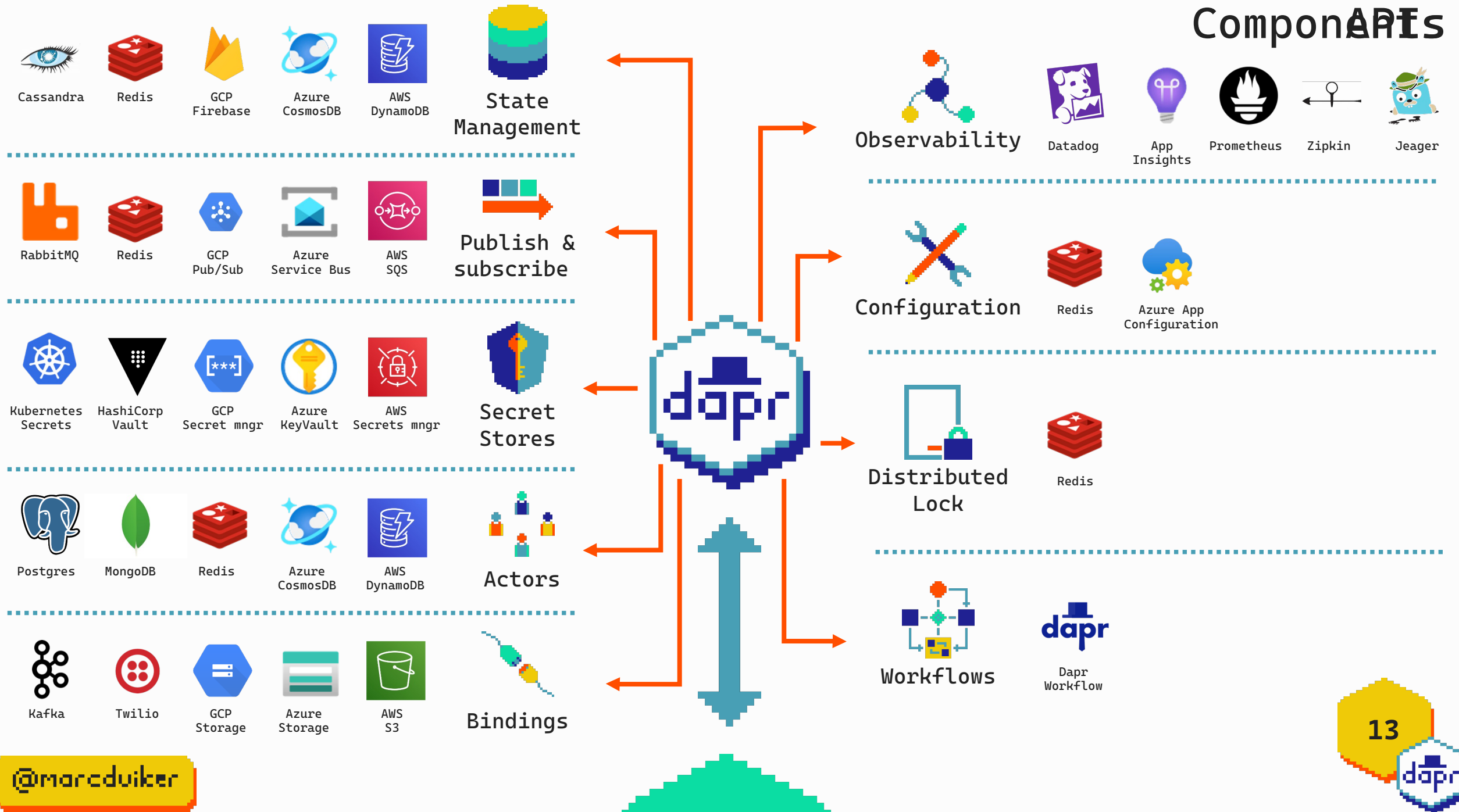
POST `http://localhost:3500/v1.0/publish/mybroker/order-messages`

GET `http://localhost:3500/v1.0/secrets/vault/password42`

POST `http://localhost:3500/v1.0-beta1/workflows/dapr/businessprocess/start`



Component



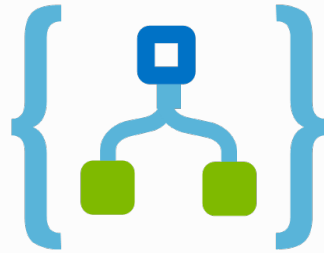
Workflows

A **sequence** of tasks or **activities** that are performed to accomplish a **specific goal**.

Business Process Automation



Microsoft®
BizTalk Server



Logic Apps



Durable



Power Automate



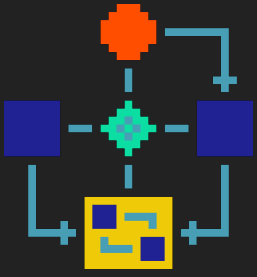
CAMUNDA



Temporal

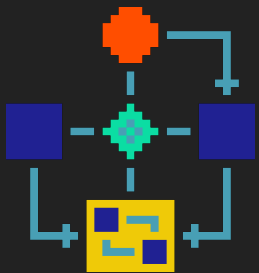


Dapr workflow works with all the
other **integrated APIs** 🎉



Workflows

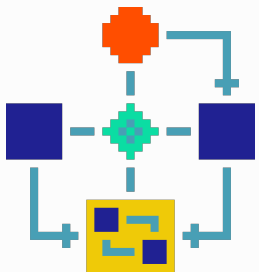
Workflow patterns



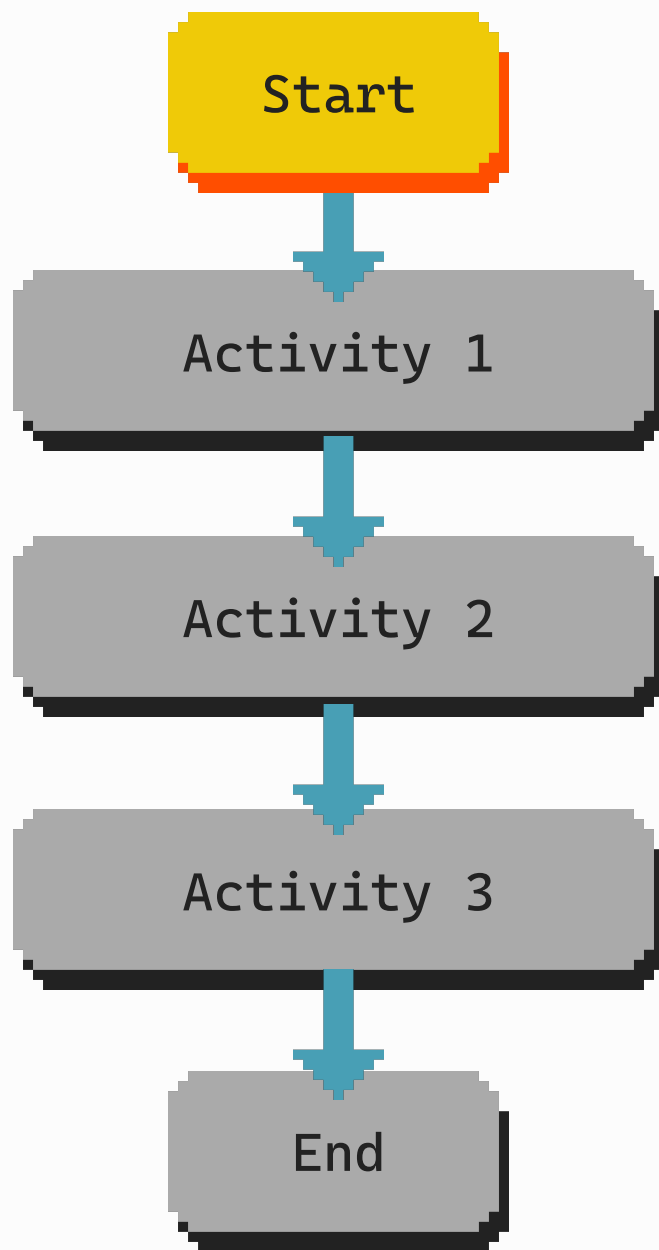
Workflows

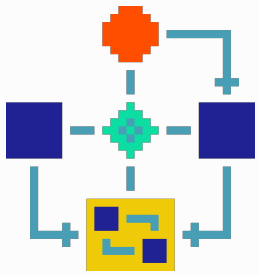
Chaining



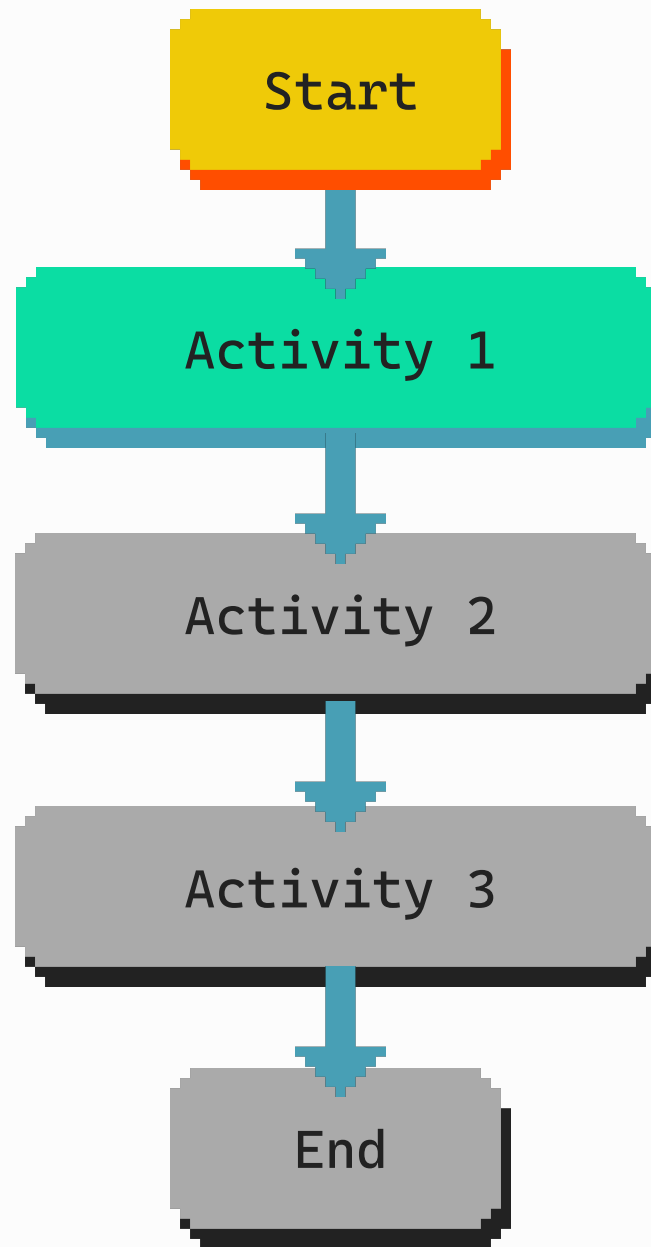


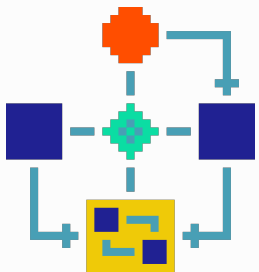
Chaining



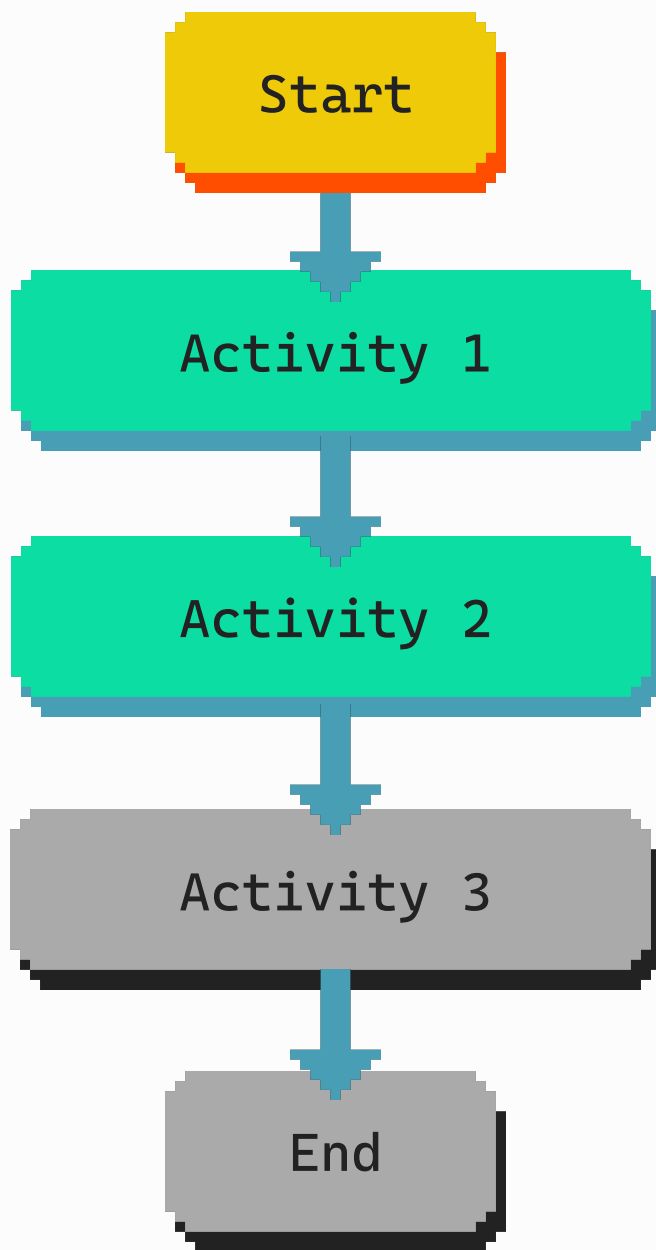


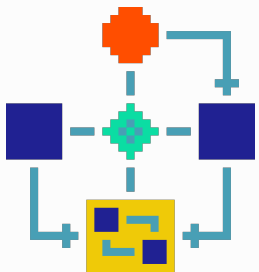
Chaining



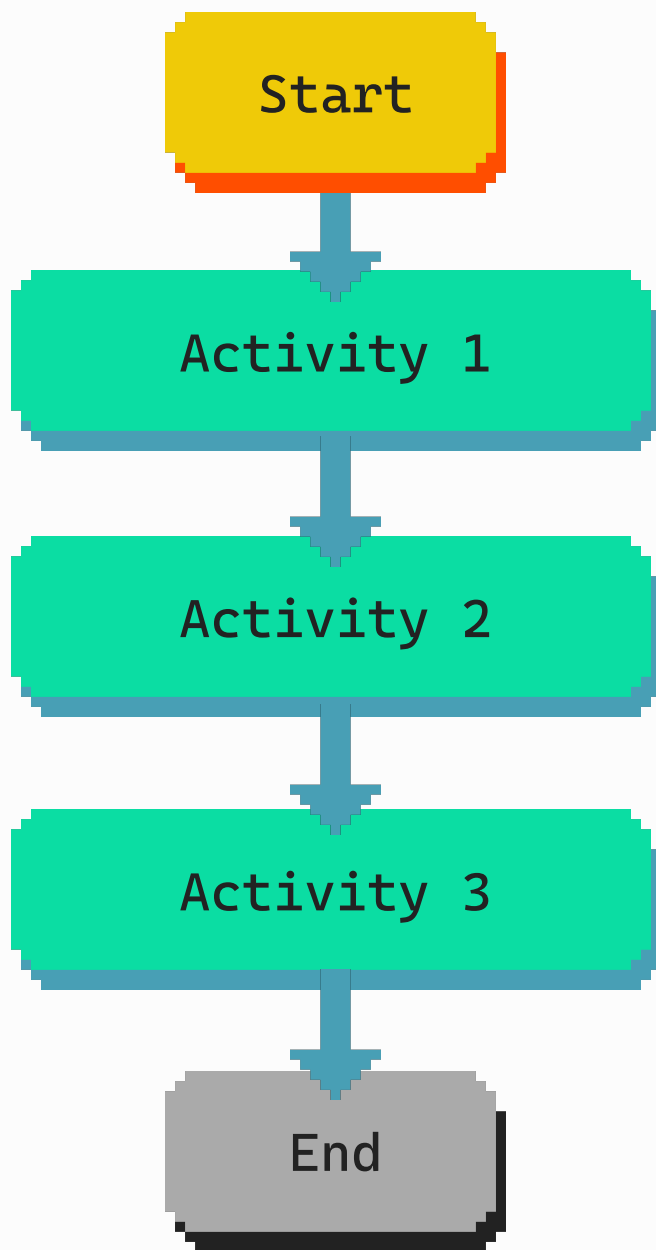


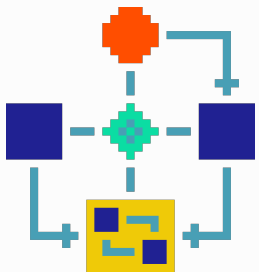
Chaining



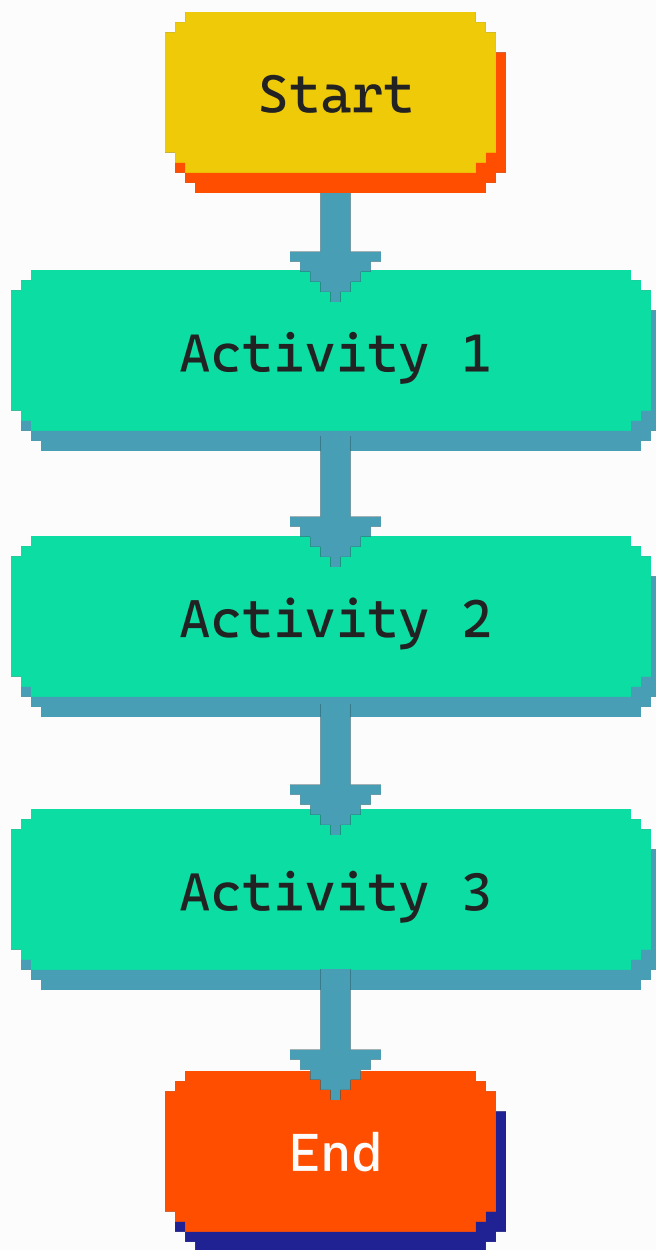


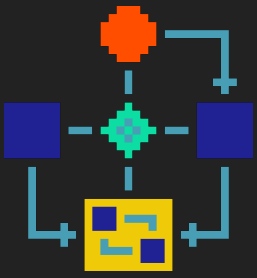
Chaining





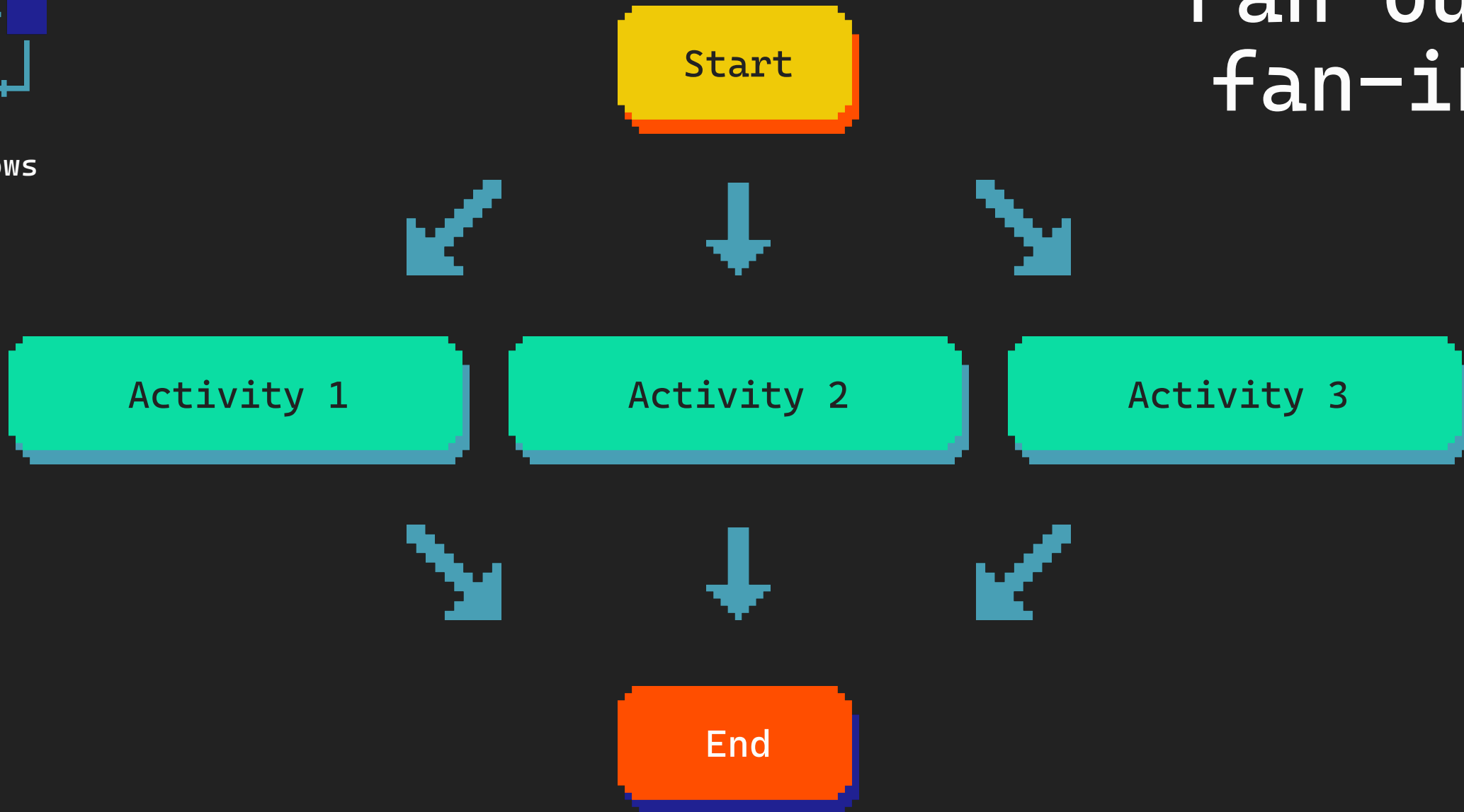
Chaining

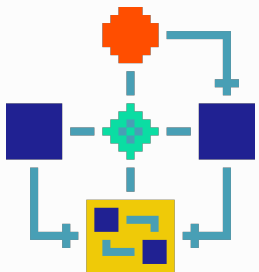




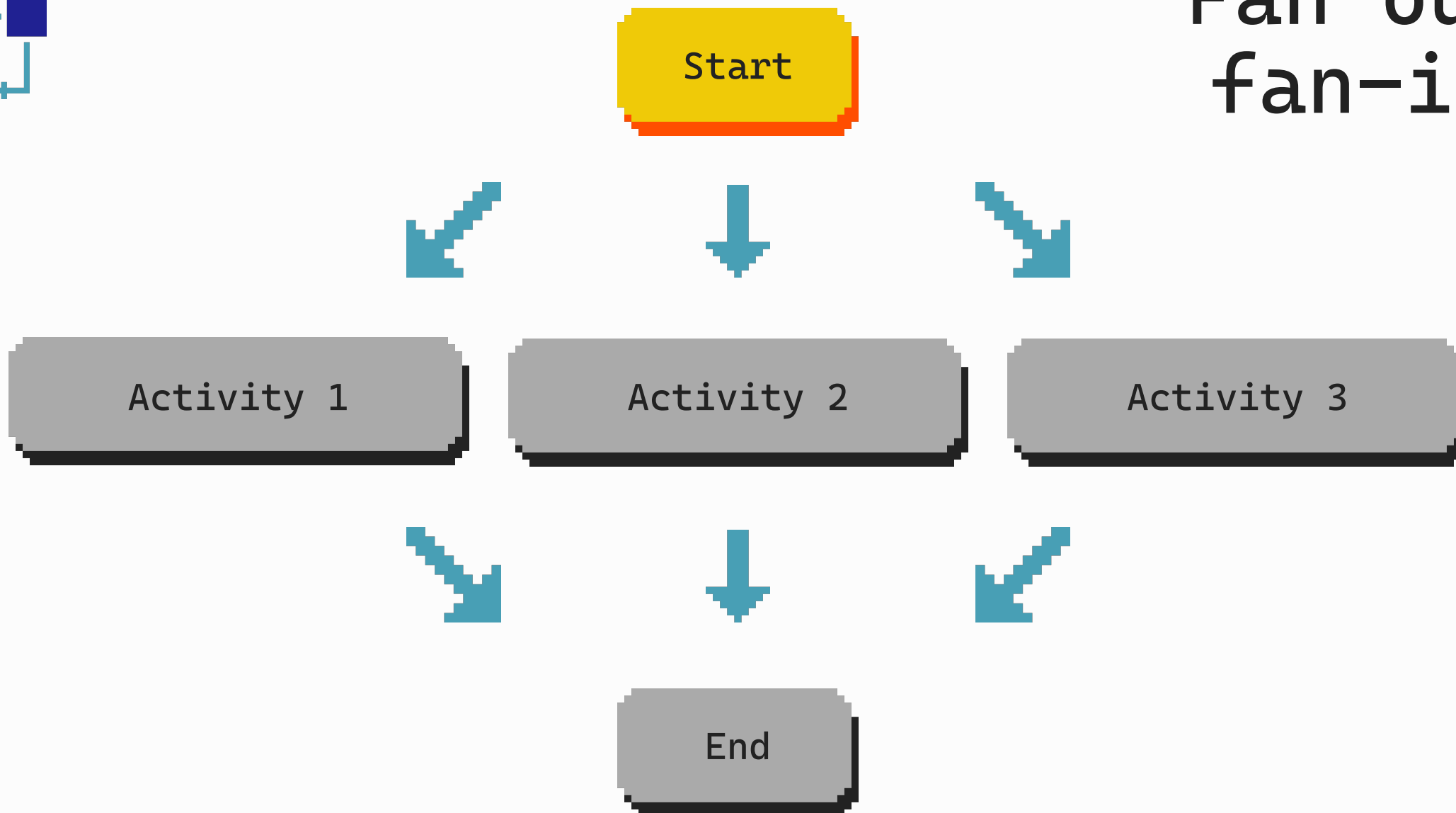
Workflows

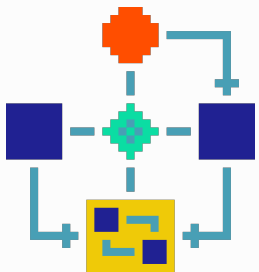
Fan-out fan-in



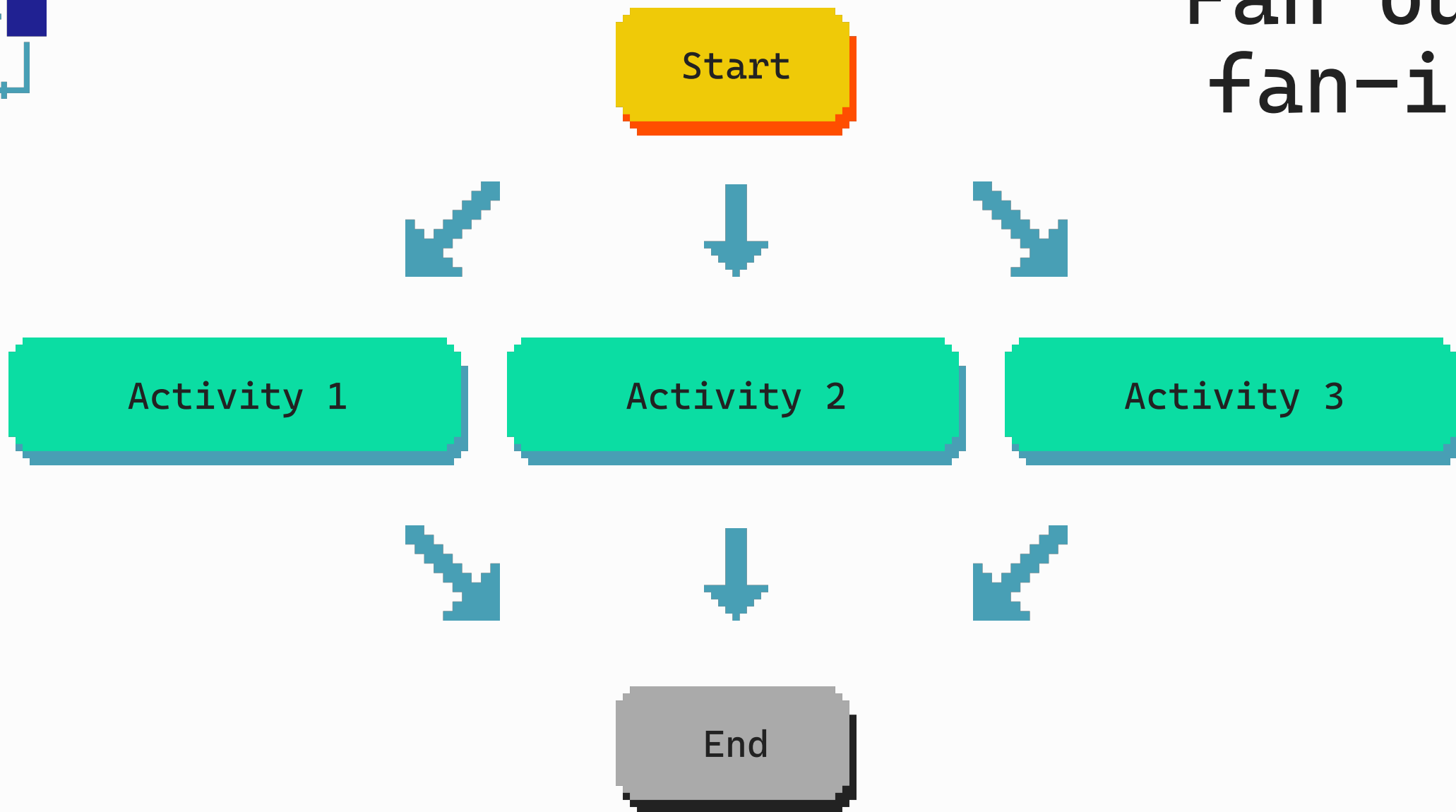


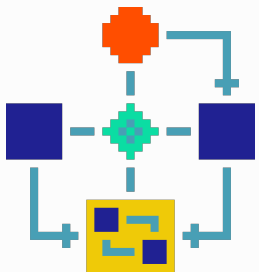
Fan-out fan-in



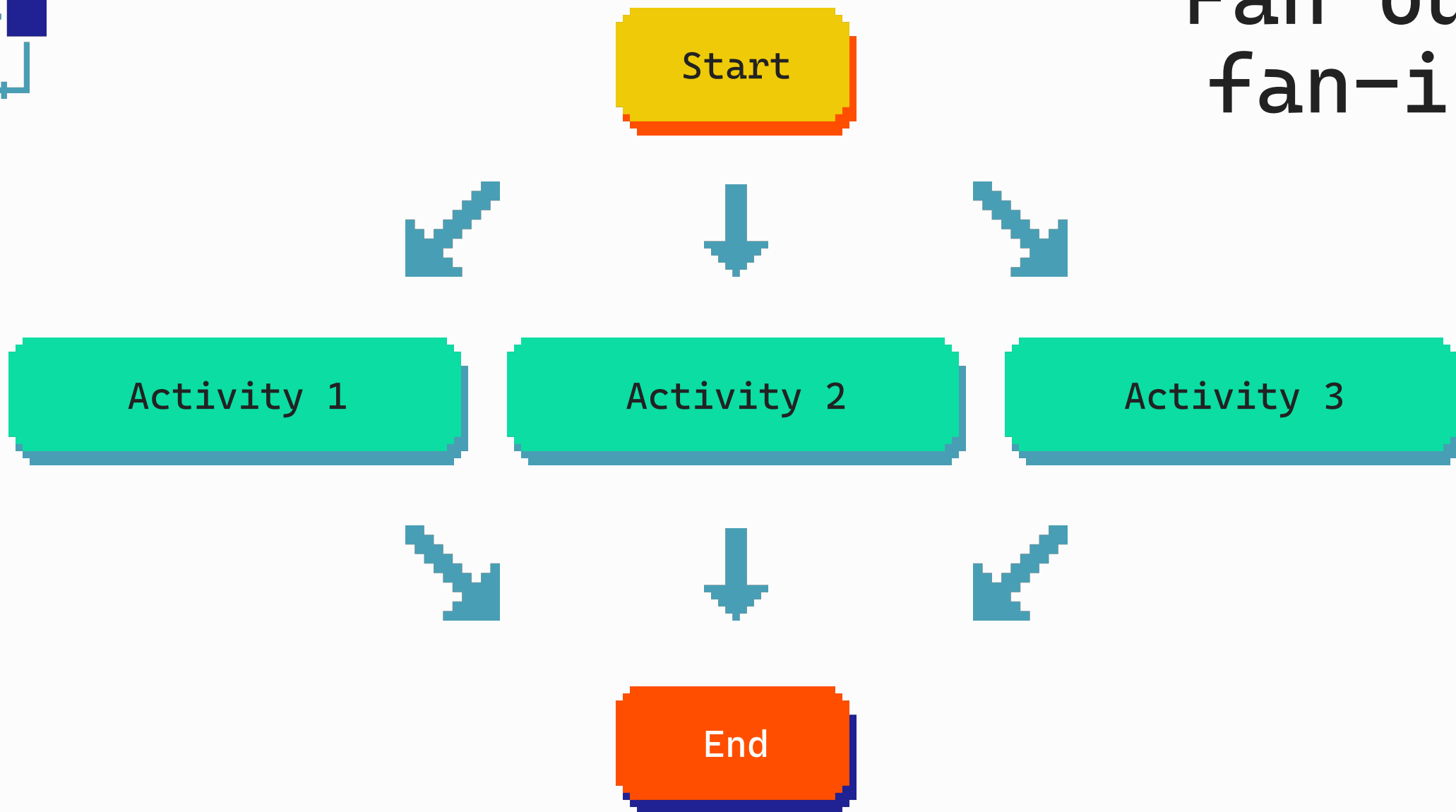


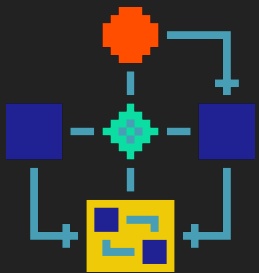
Fan-out fan-in





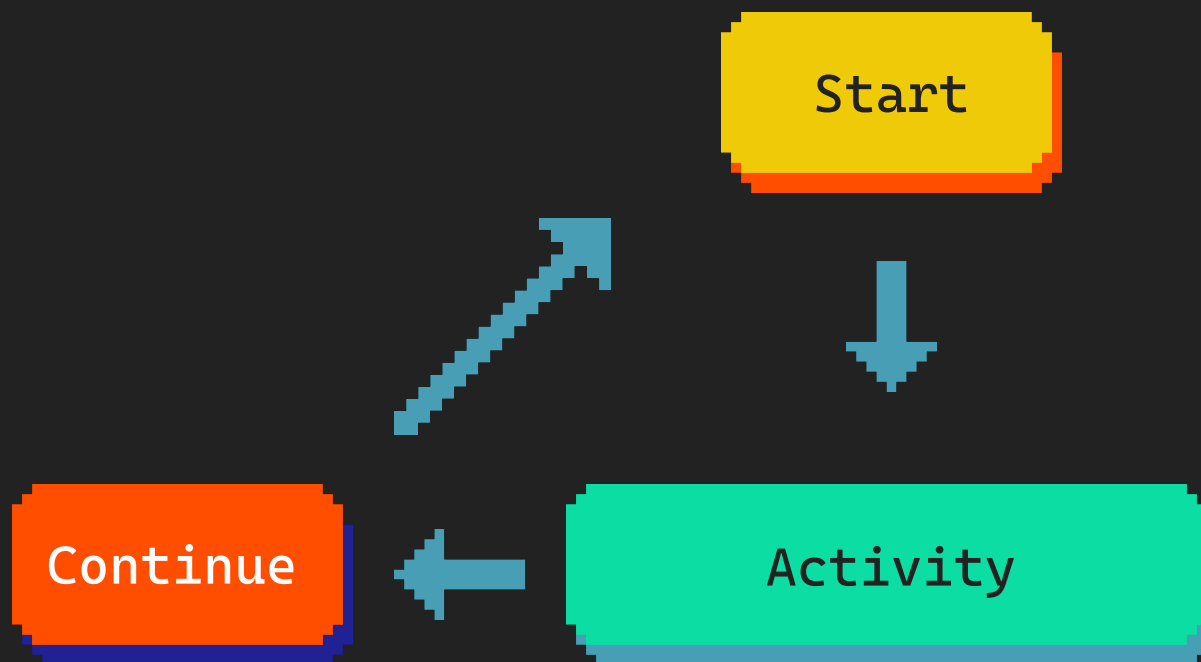
Fan-out fan-in

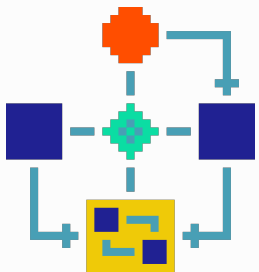




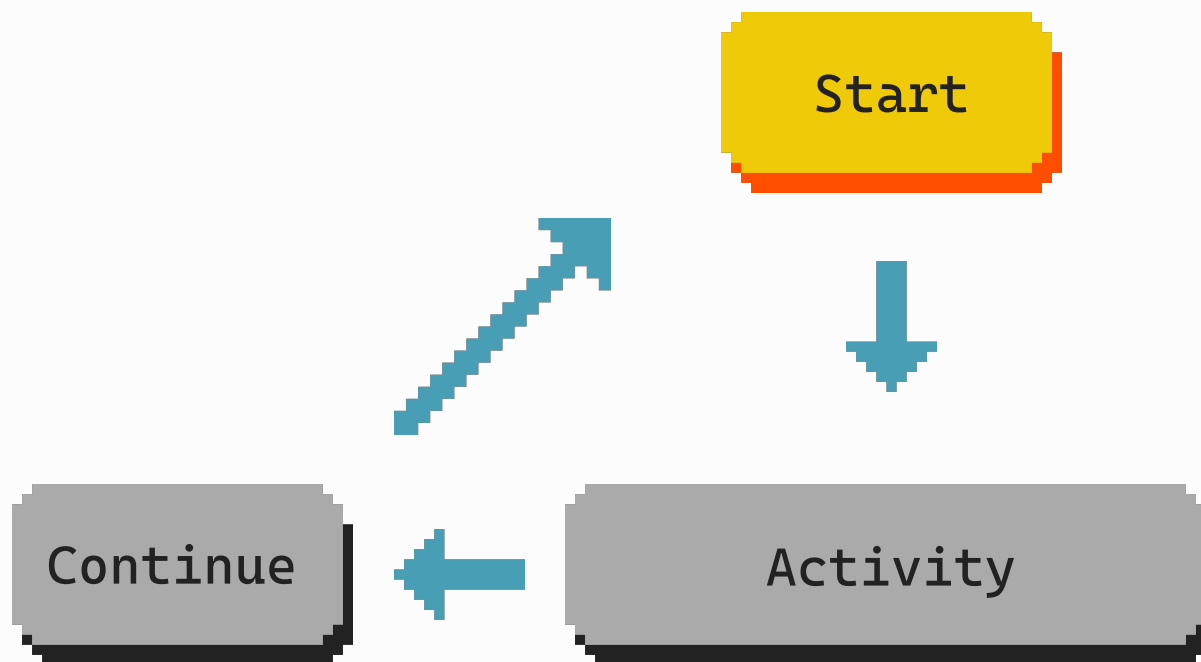
Workflows

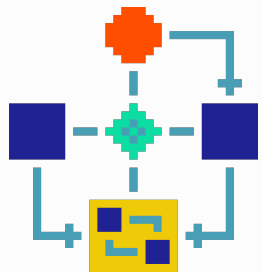
Monitor



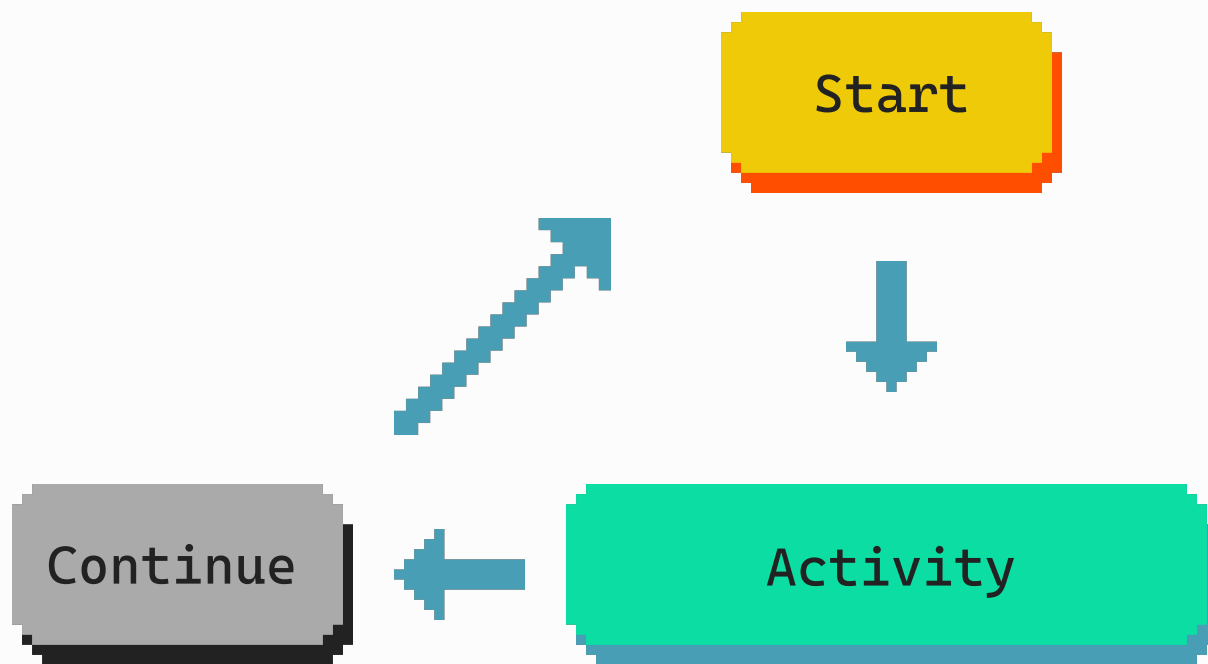


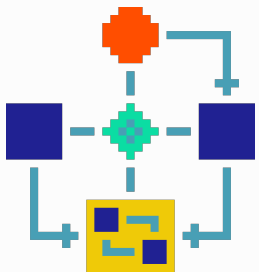
Monitor



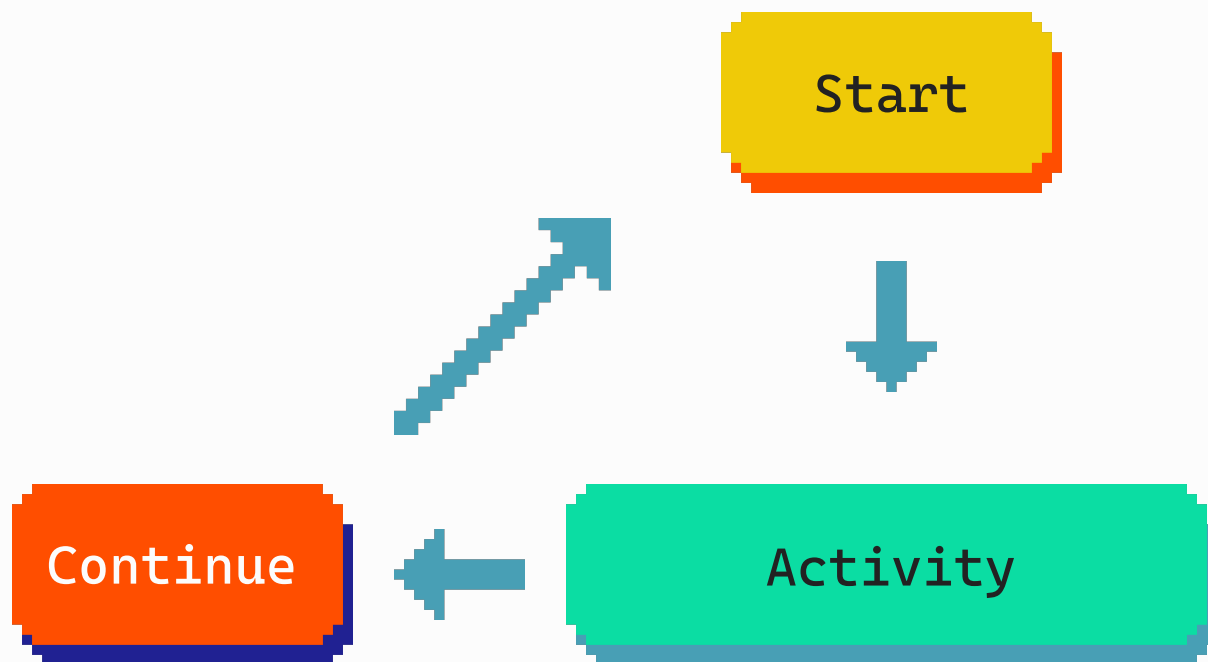


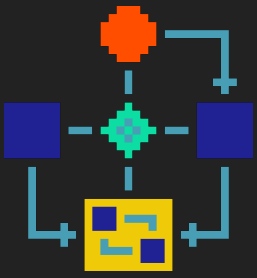
Monitor





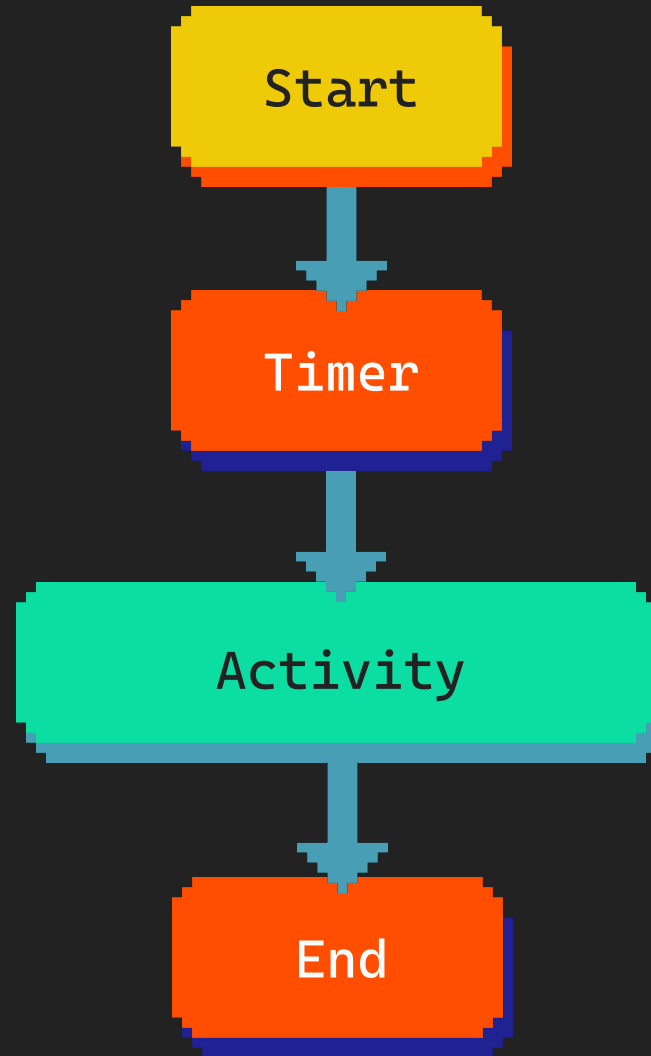
Monitor

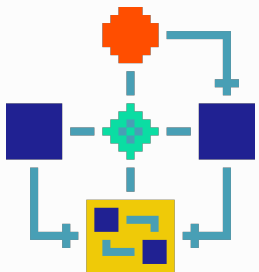




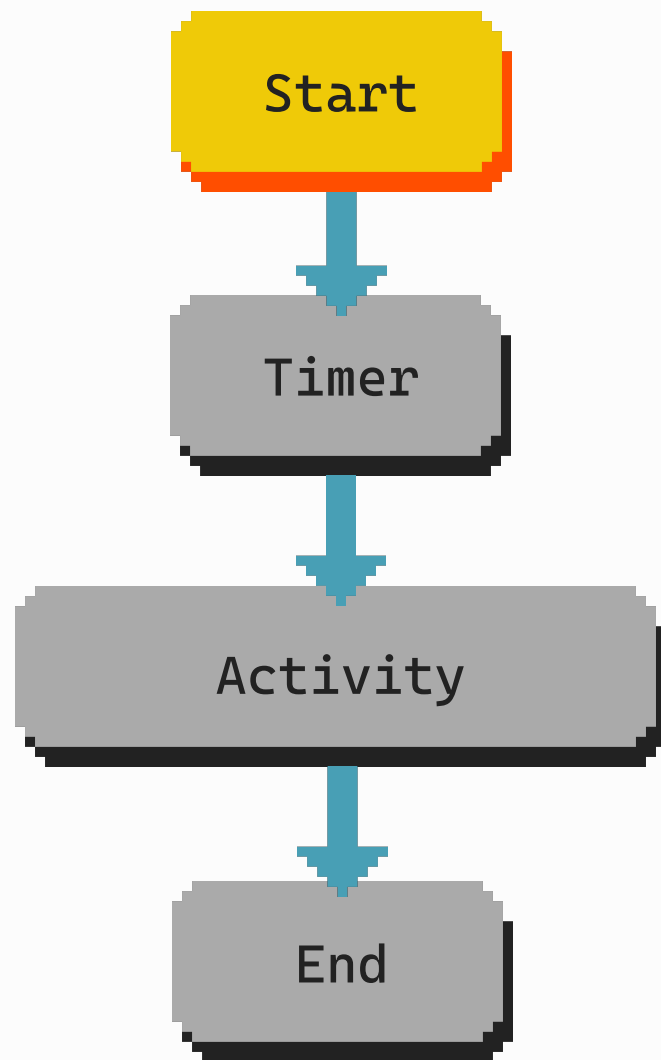
Workflows

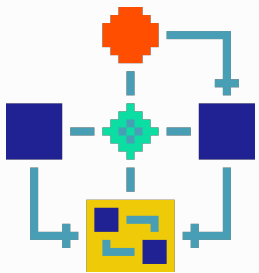
Timer



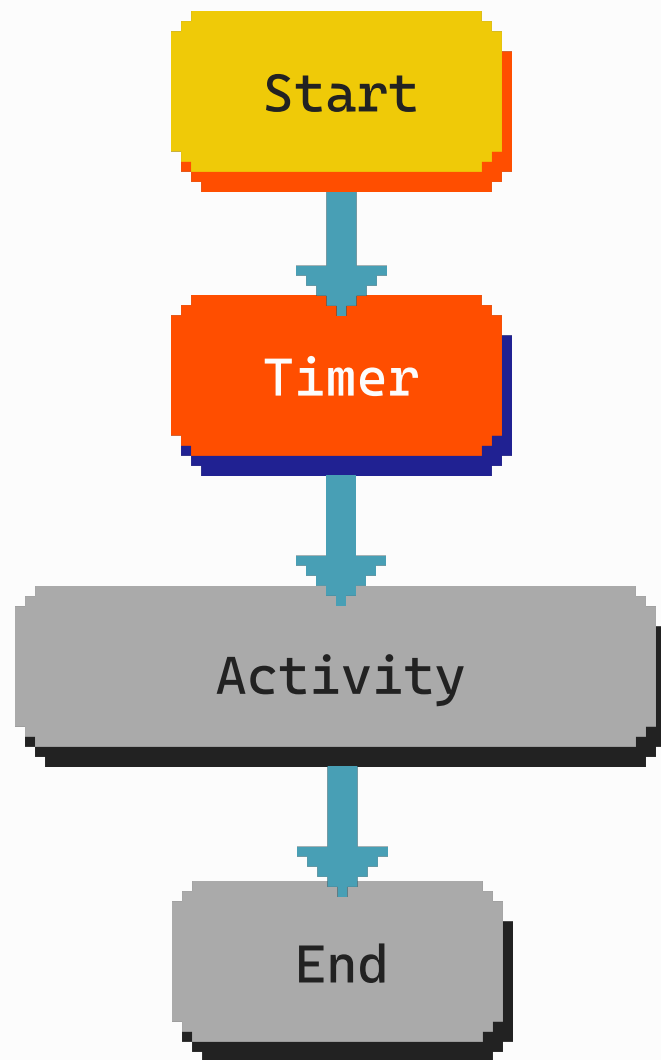


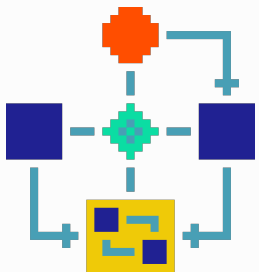
Timer



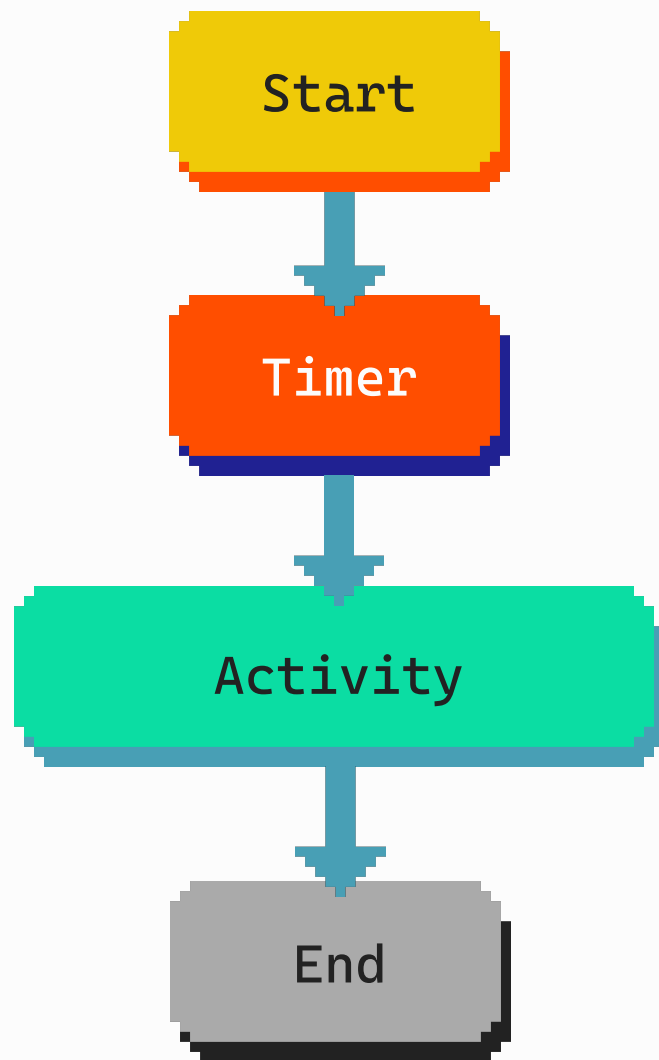


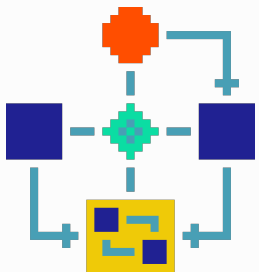
Timer



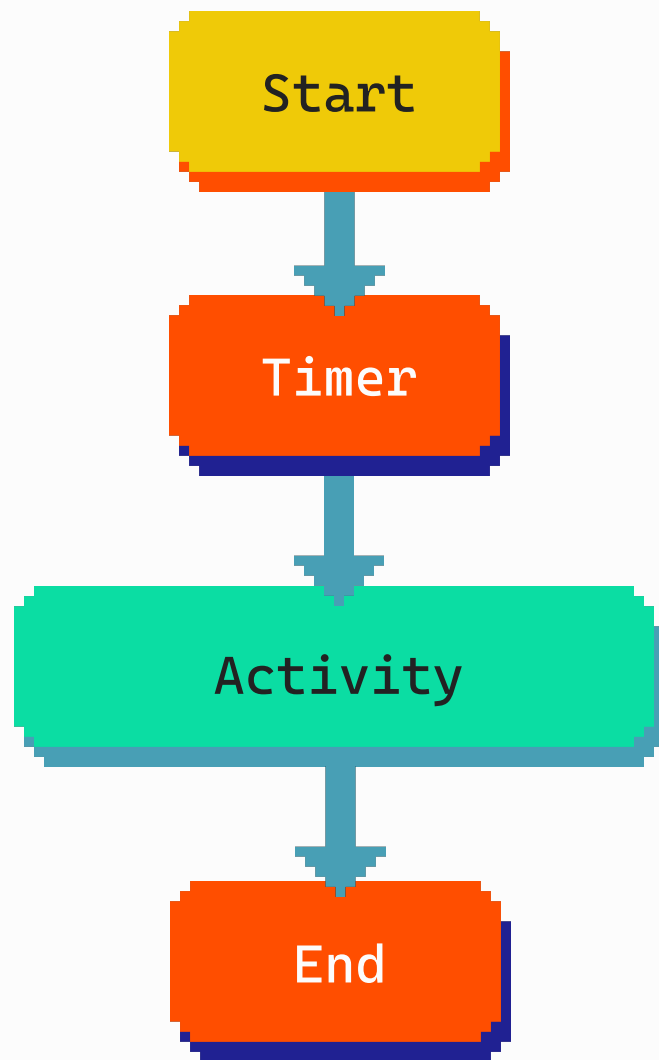


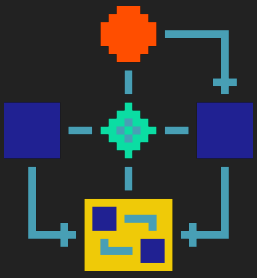
Timer





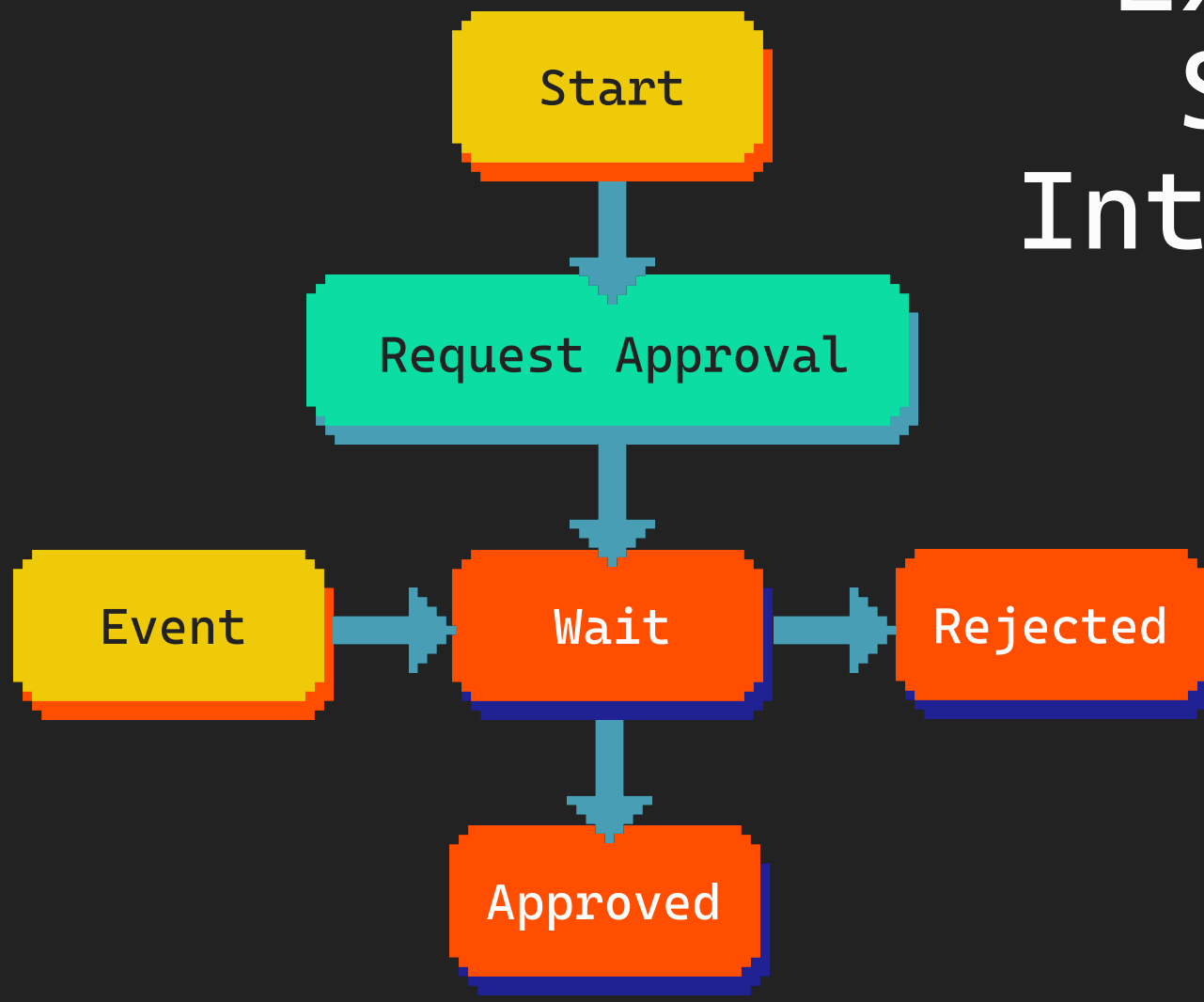
Timer

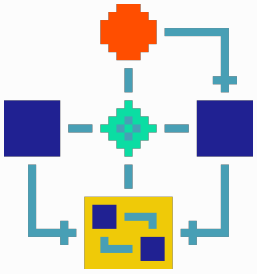




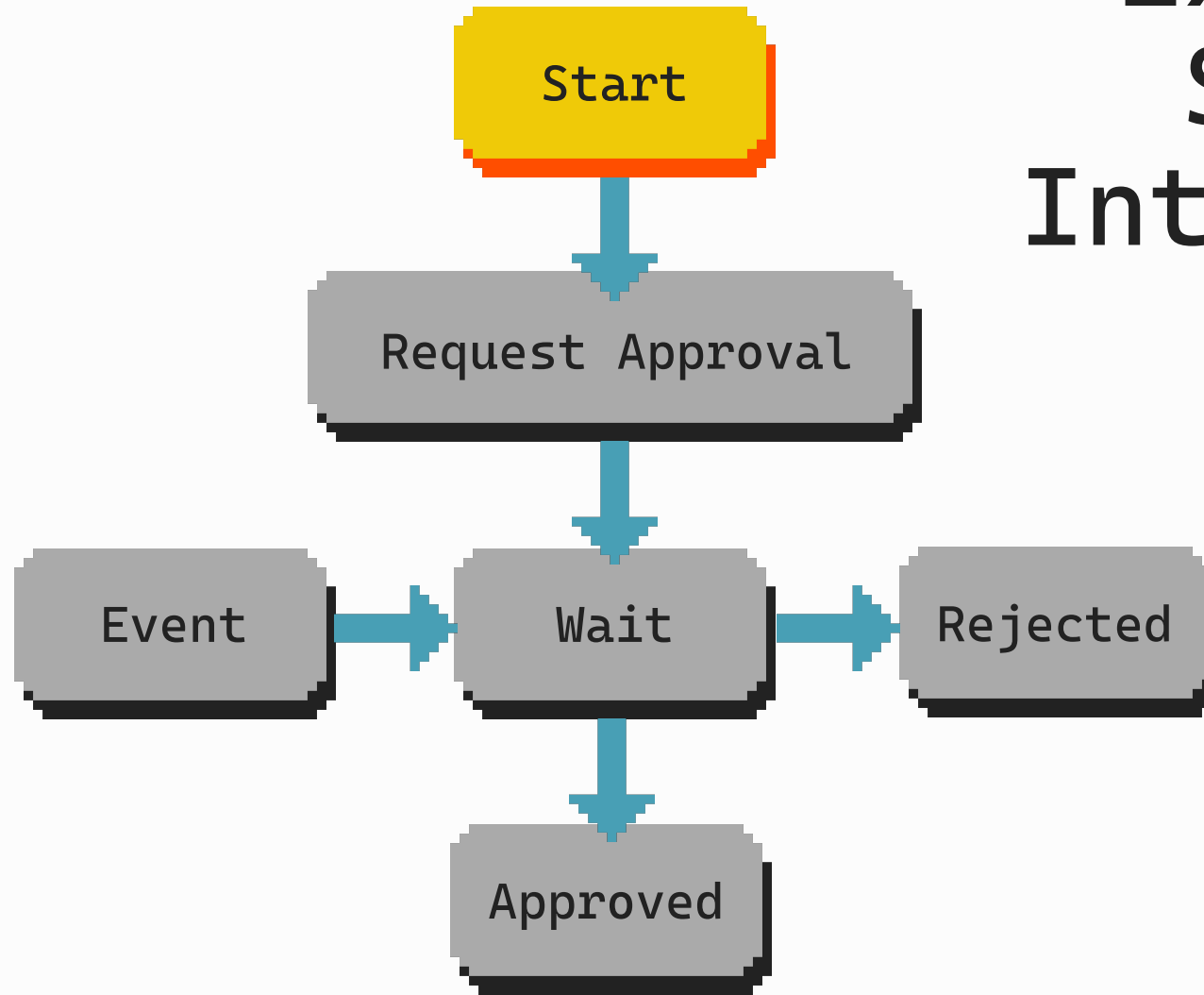
Workflows

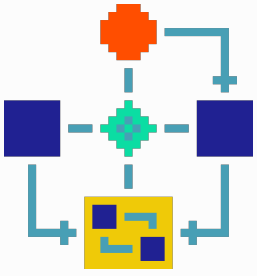
External System Interaction



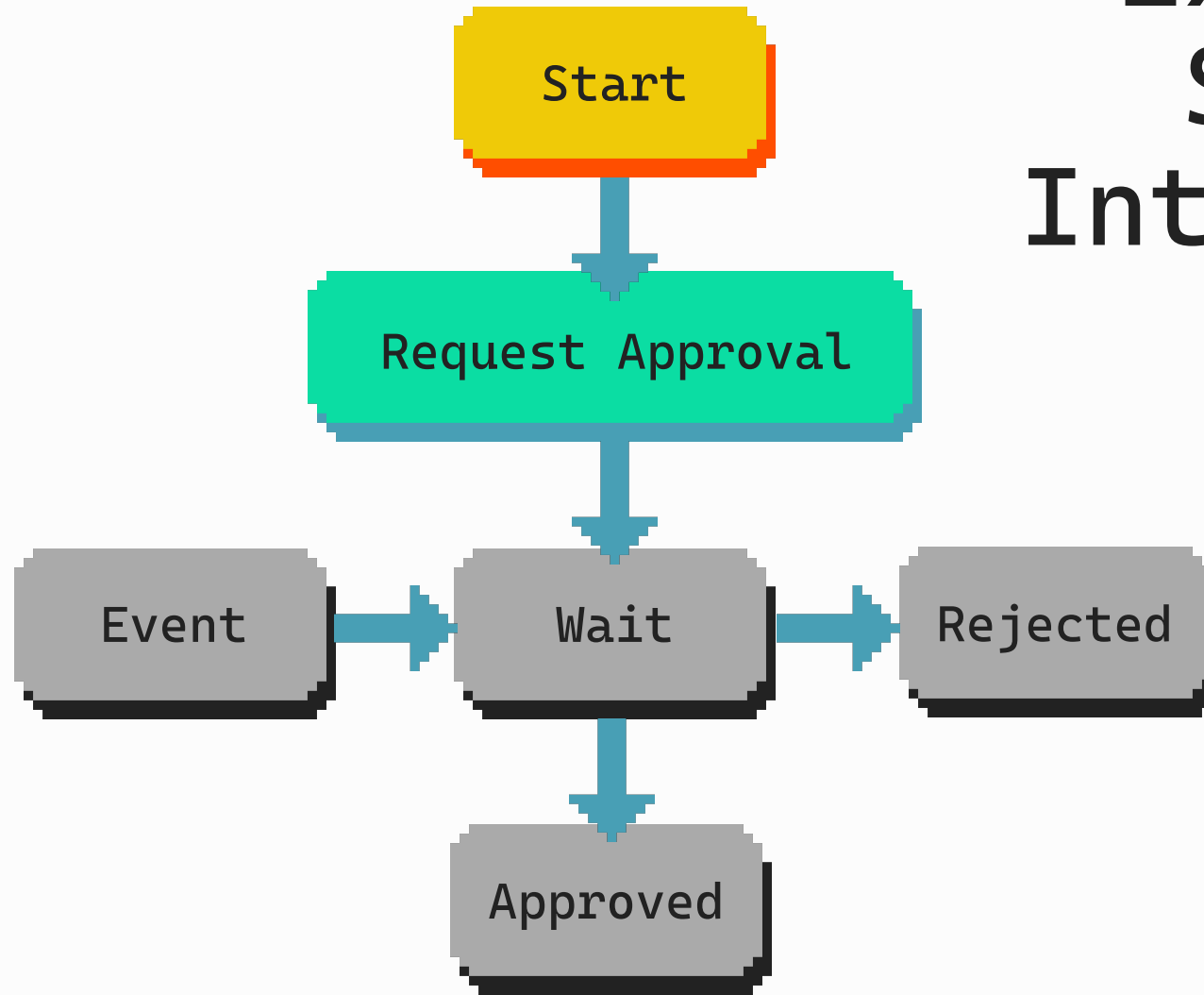


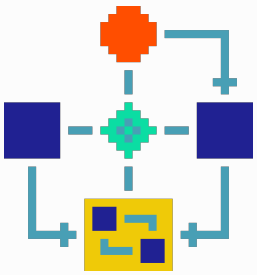
External System Interaction



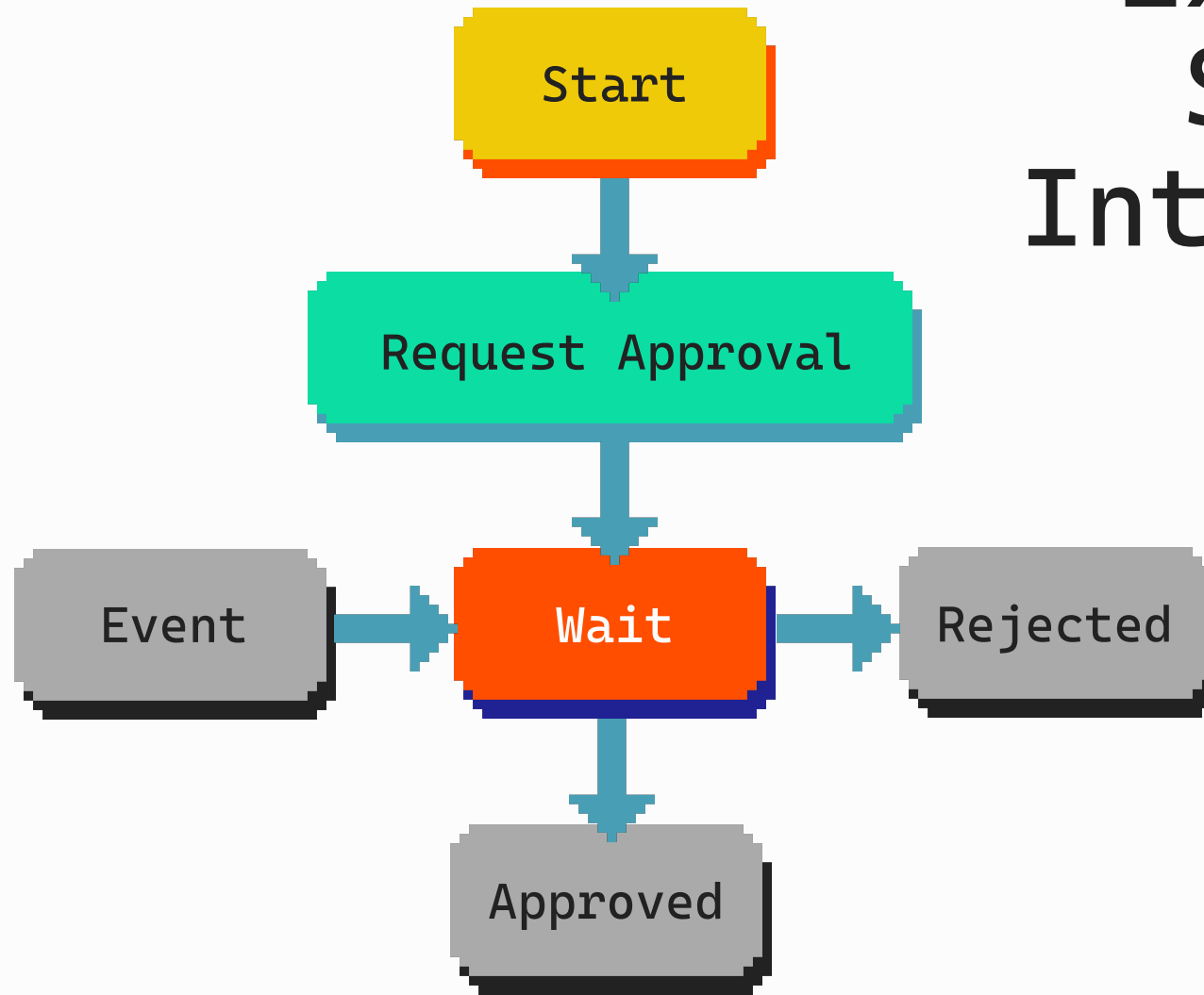


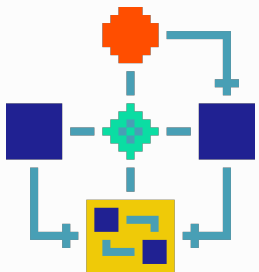
External System Interaction



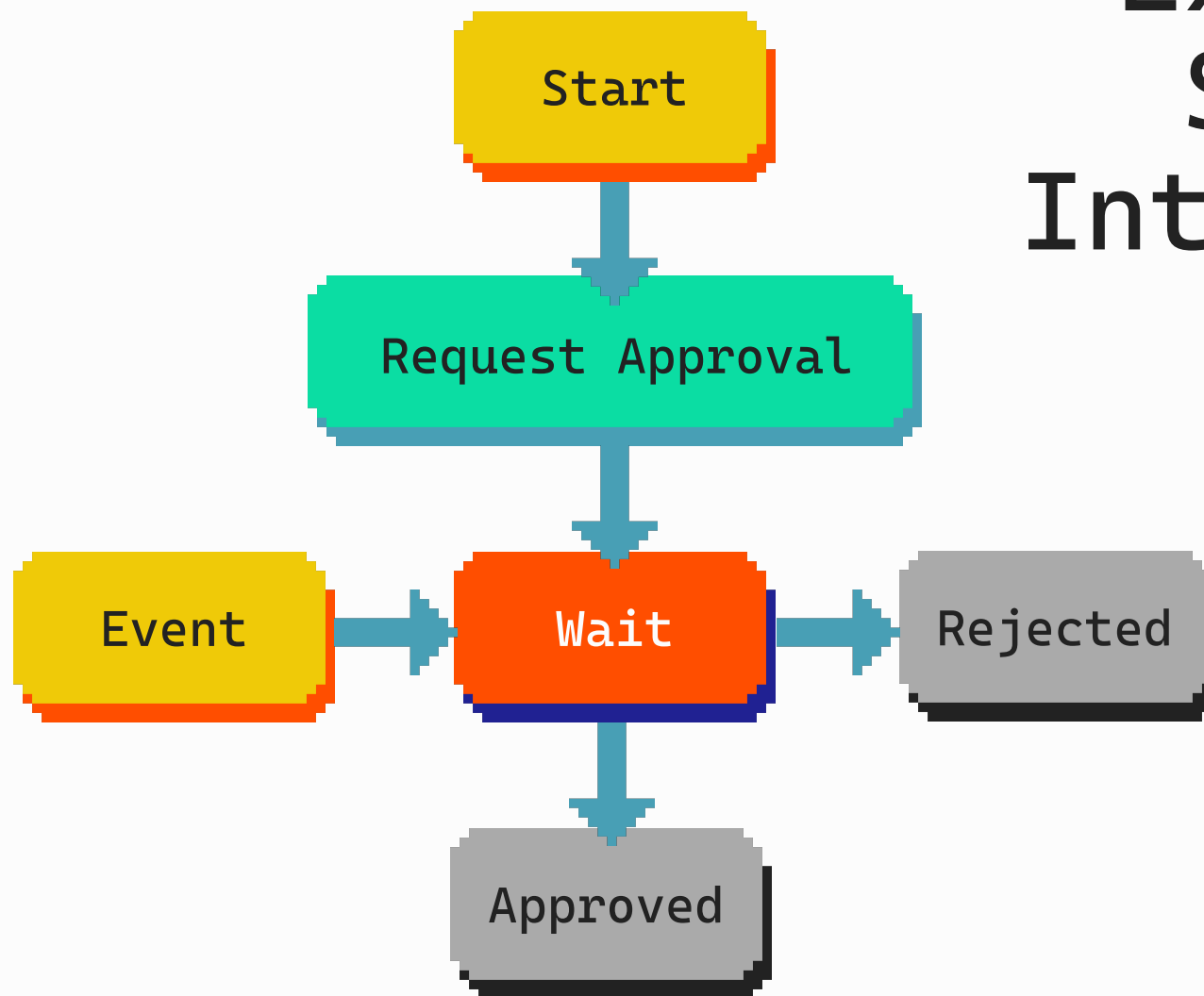


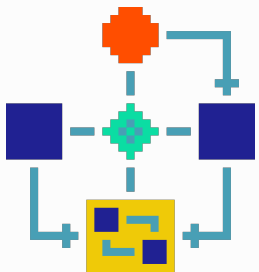
External System Interaction



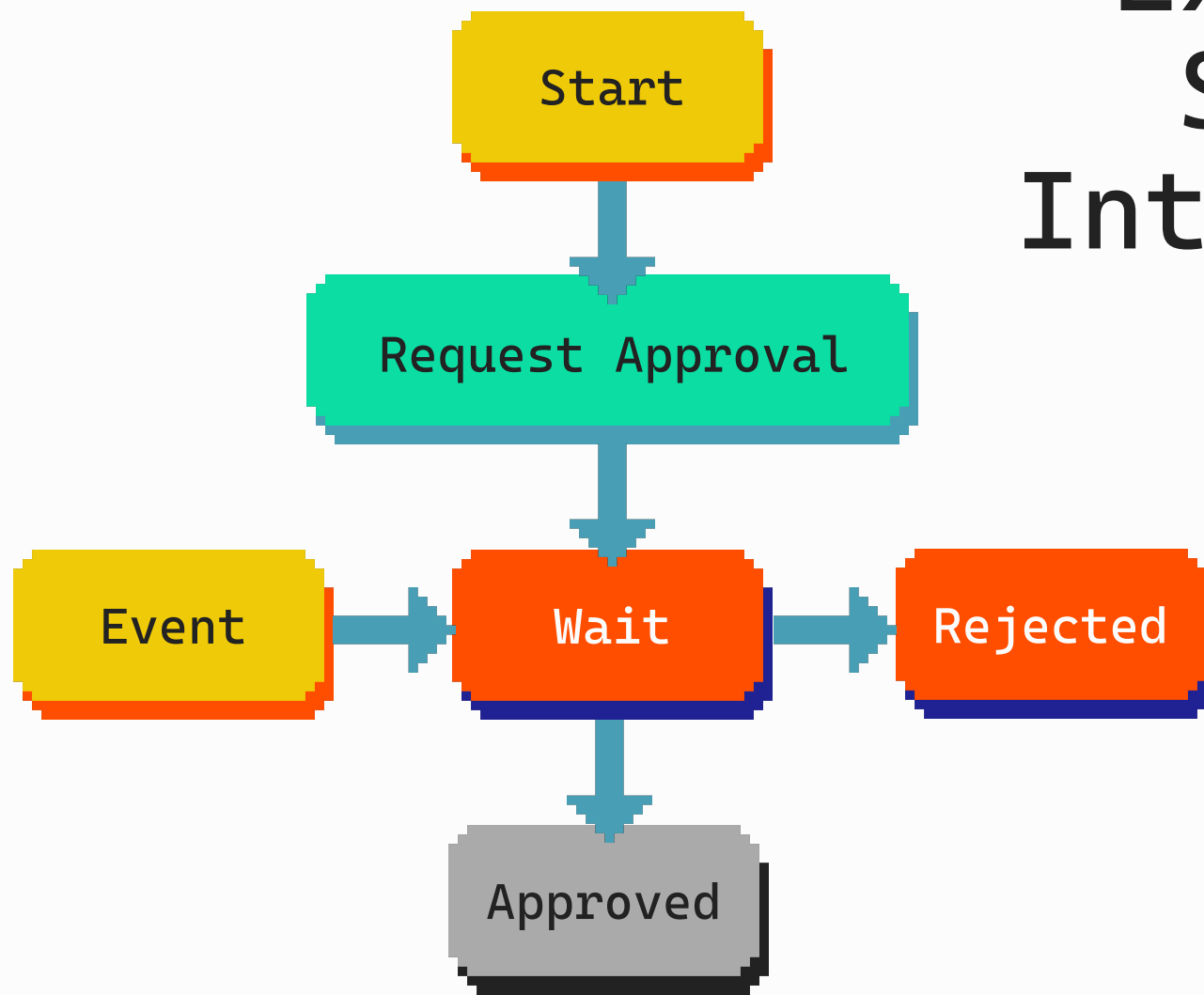


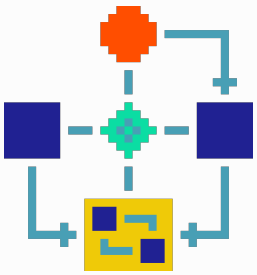
External System Interaction



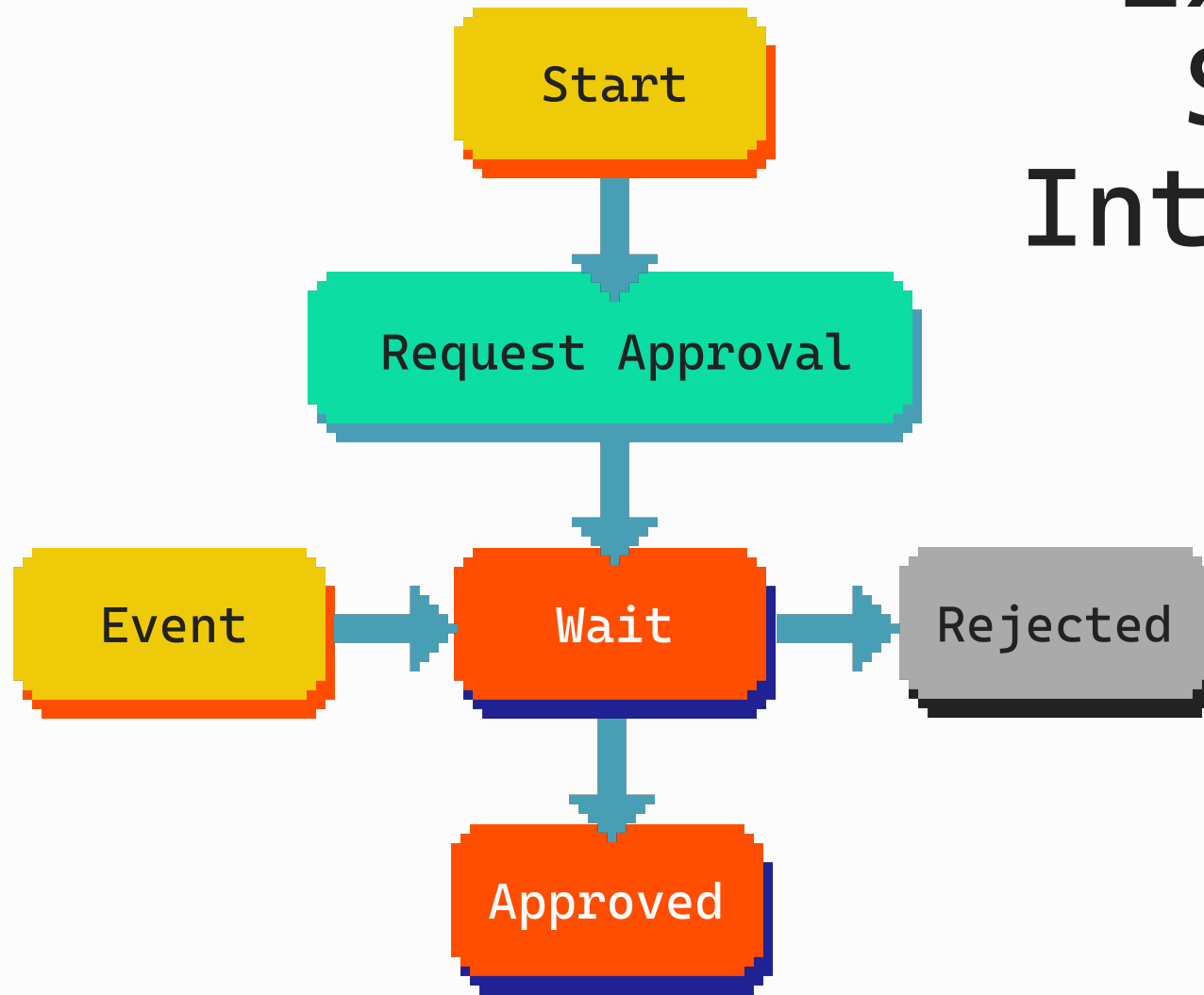


External System Interaction





External System Interaction



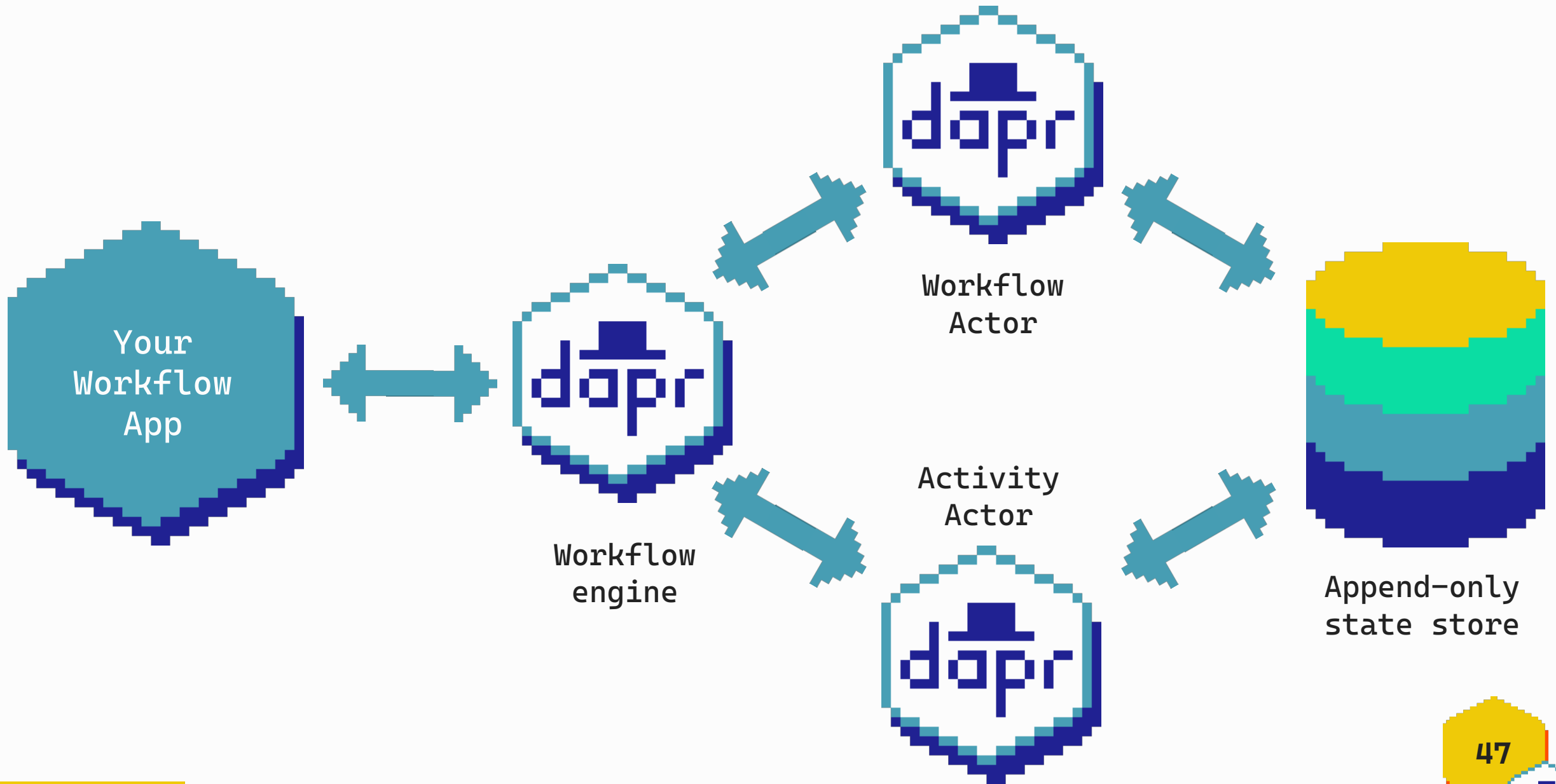
The workflow engine



Workflow engine



Append-only state store

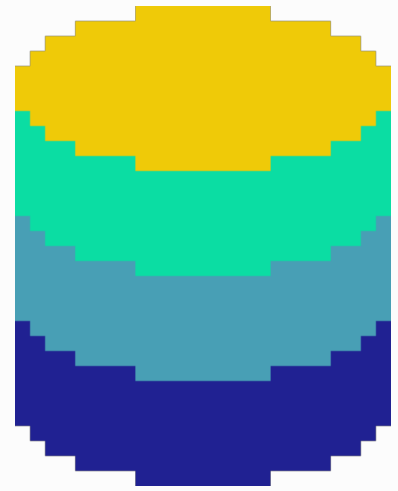




Contains definition of a sequence of activities

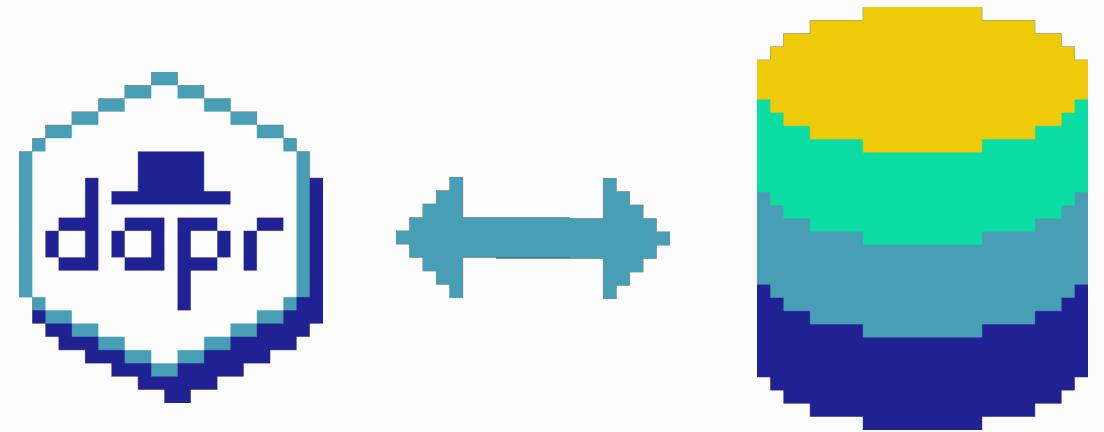
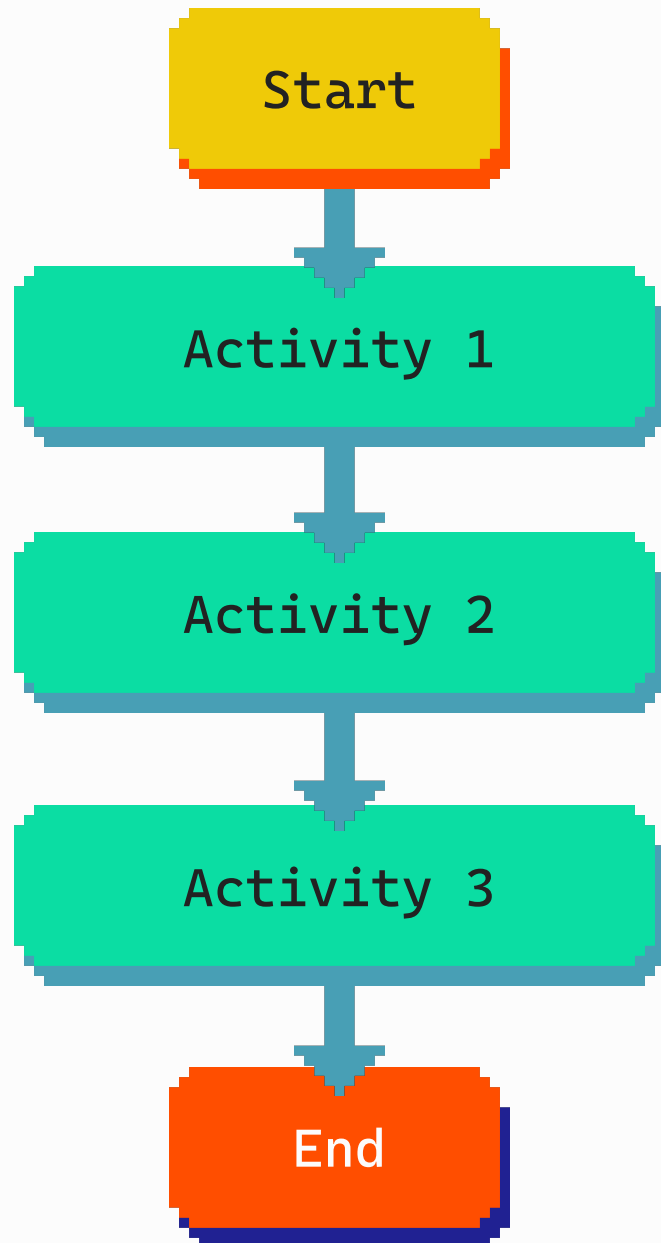


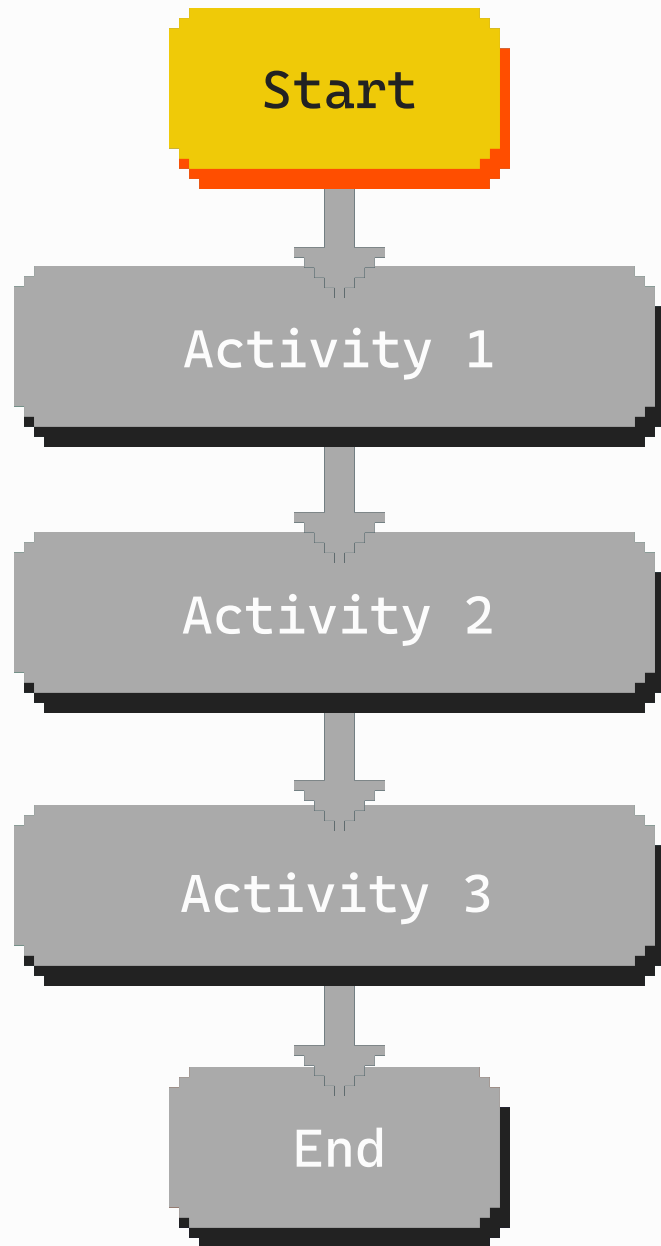
Schedules and manages activity executions (incl resiliency)



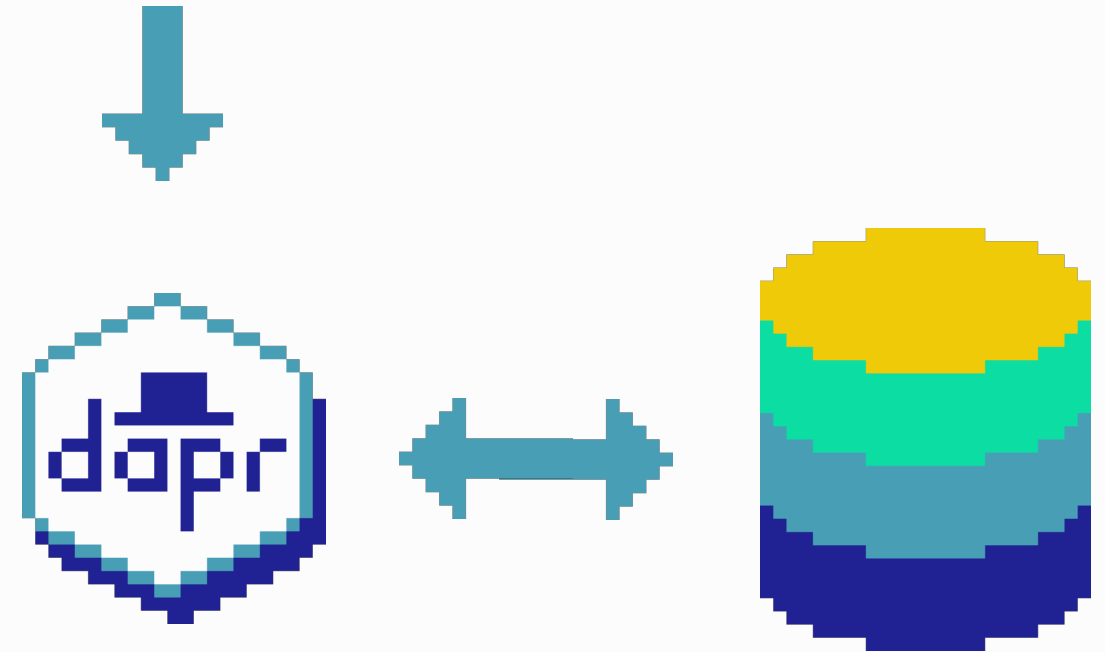
Contains workflow state, input and outputs of activities

Replay & checkpointing

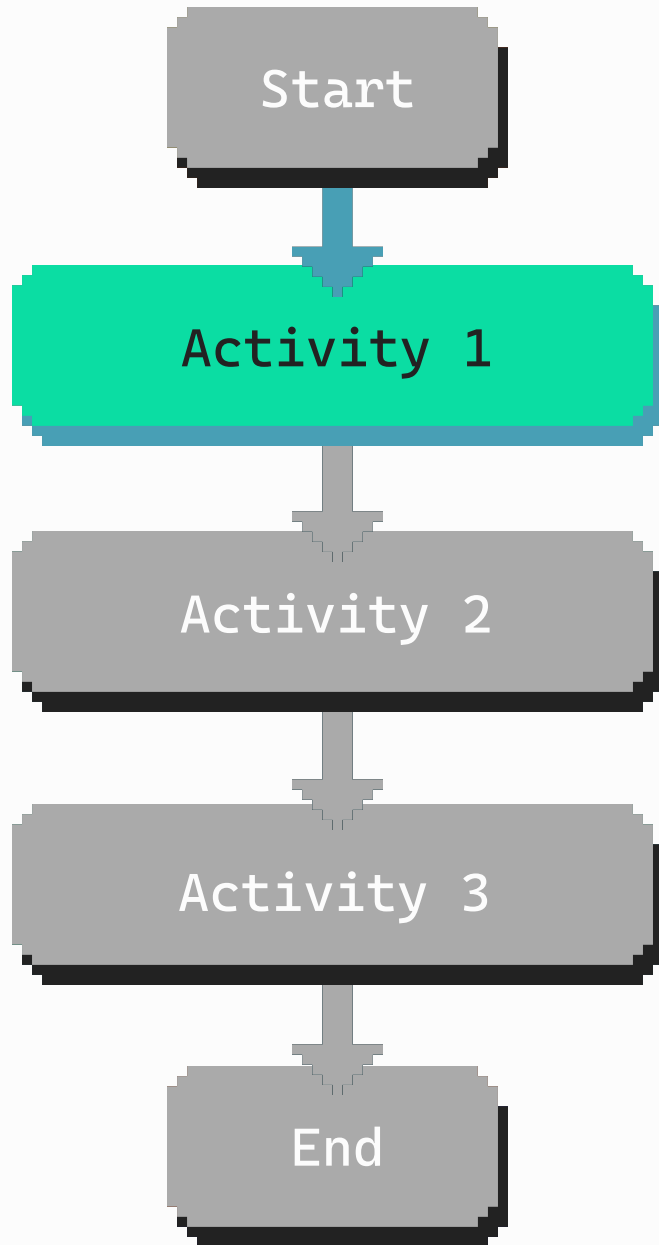




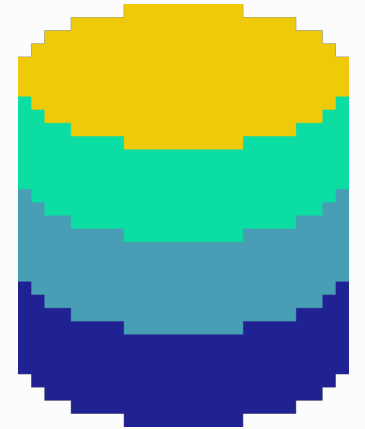
Start Workflow



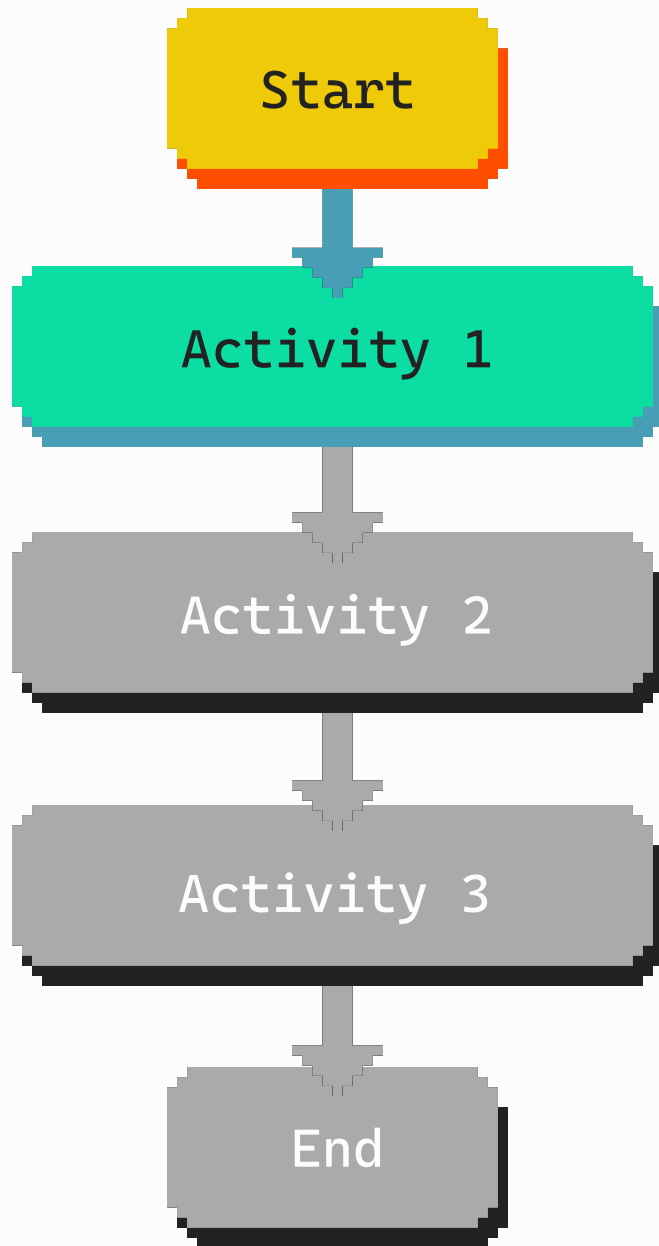
Store start & input



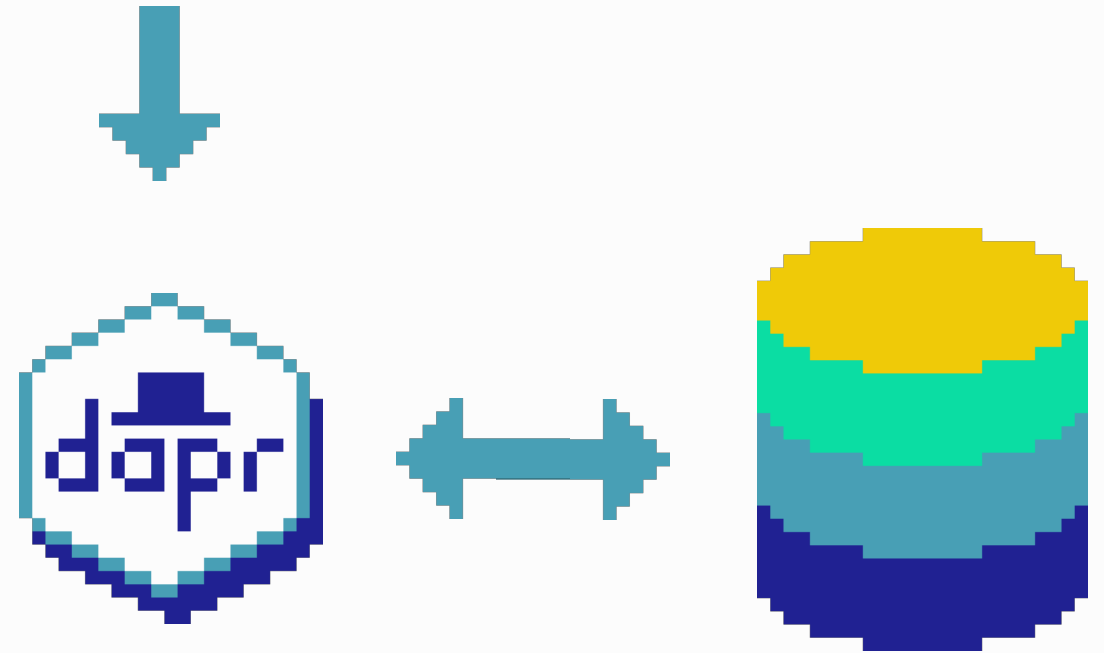
Schedule & execute
Activity 1



Store input
& output

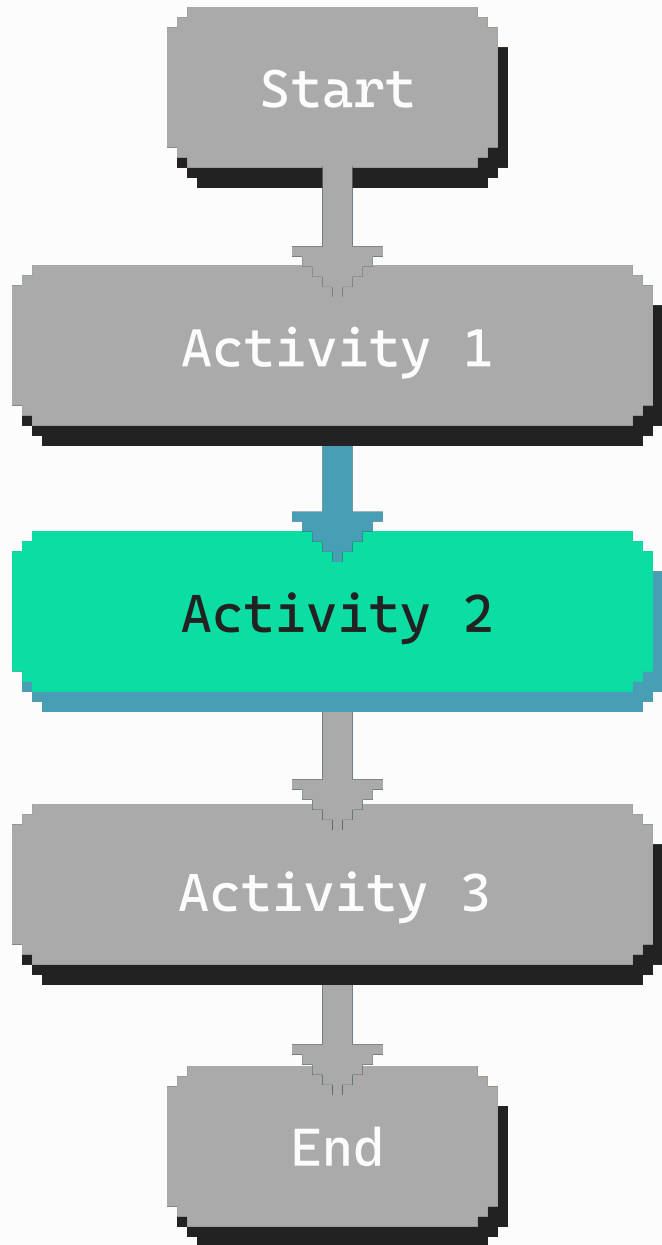


Replay Workflow

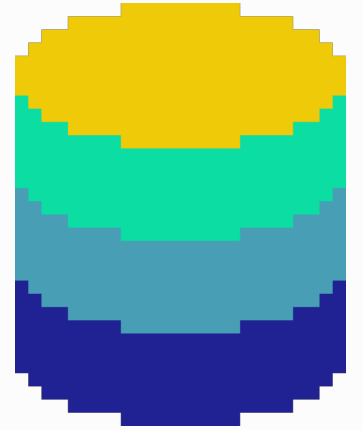


Activity 1 has been executed already



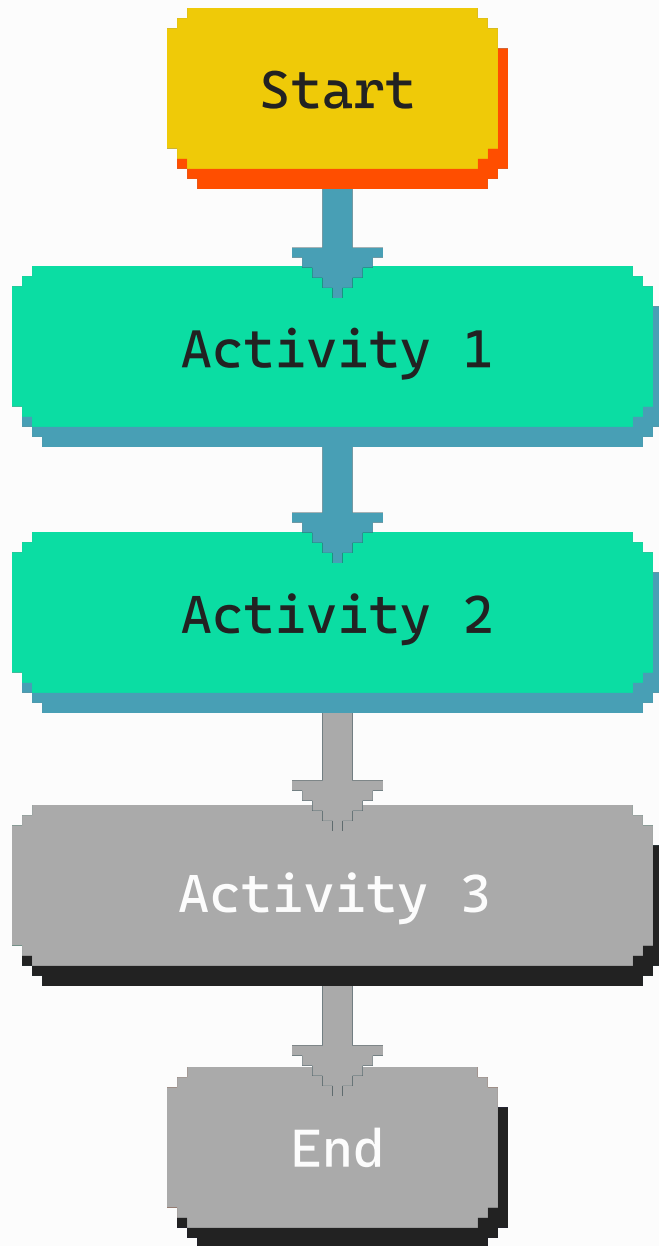


Schedule & execute
Activity 2

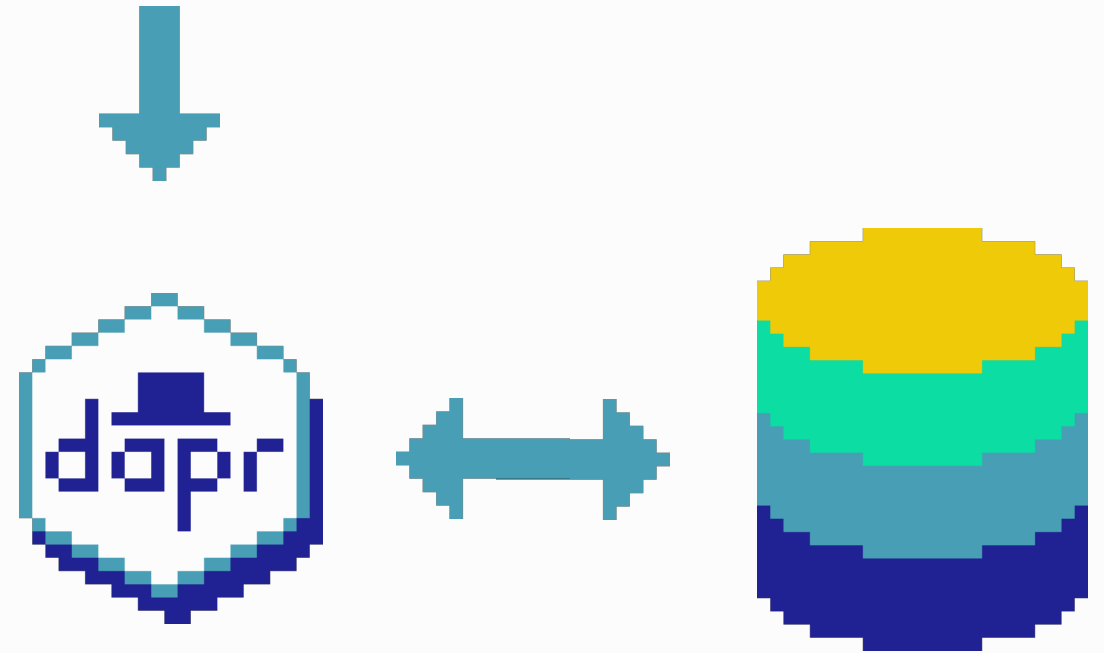


Store input
& output



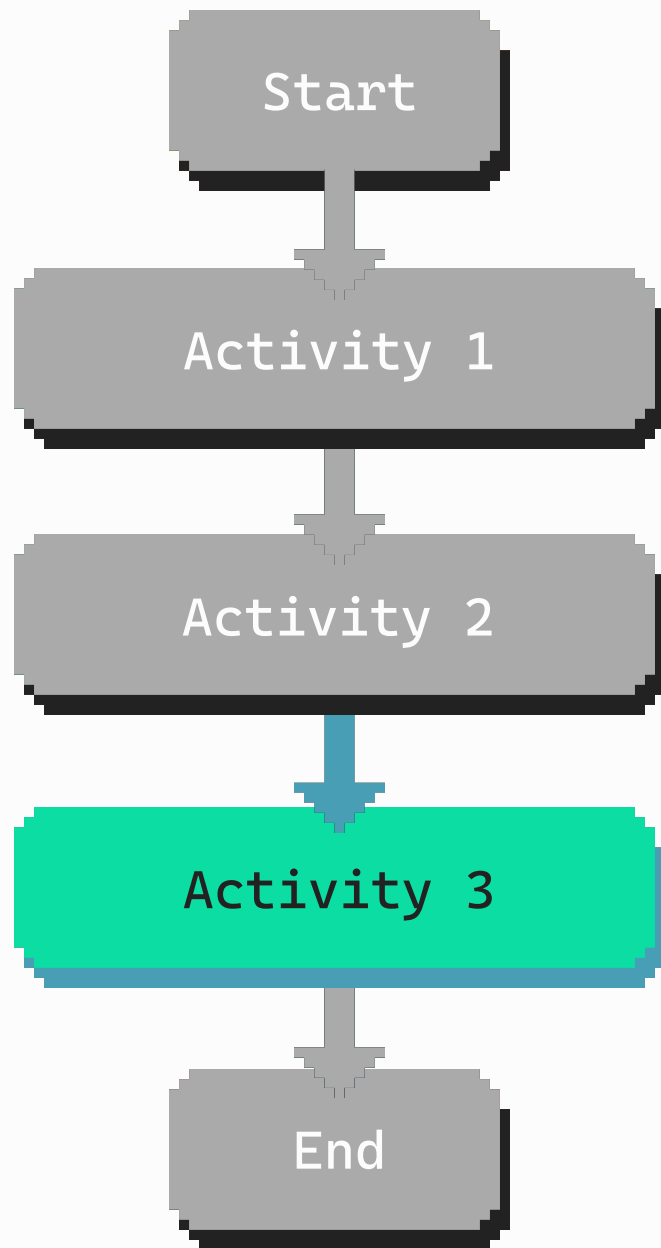


Replay Workflow



Activity 1 & 2 have been executed already

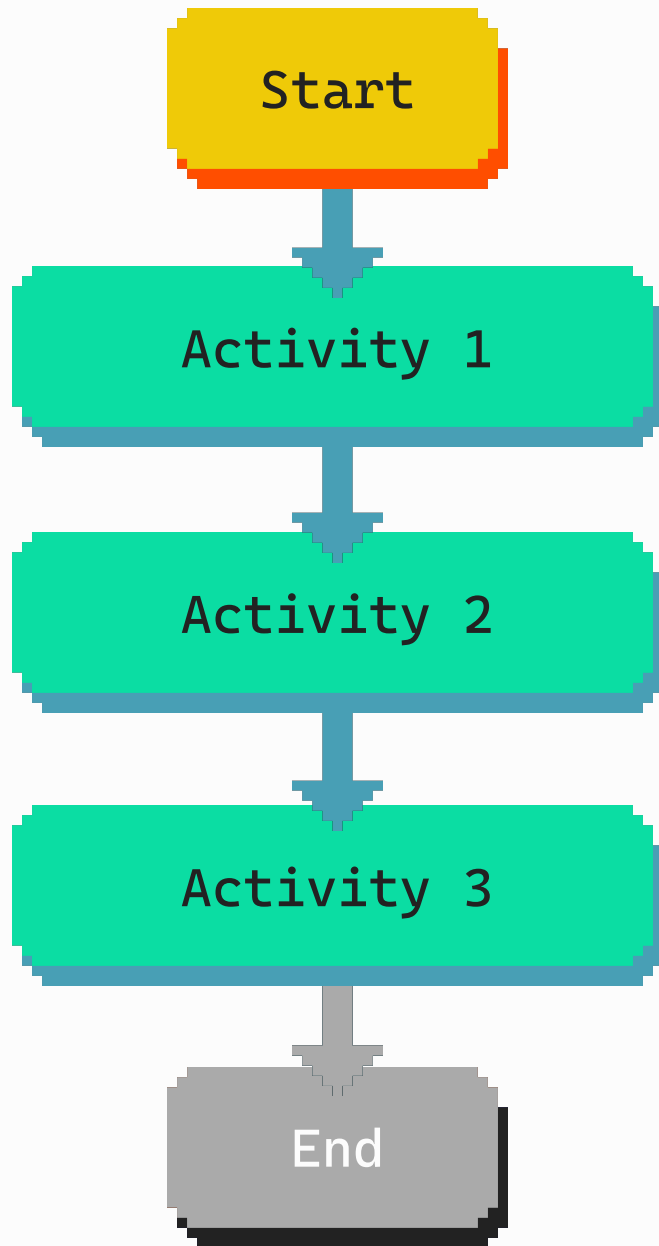




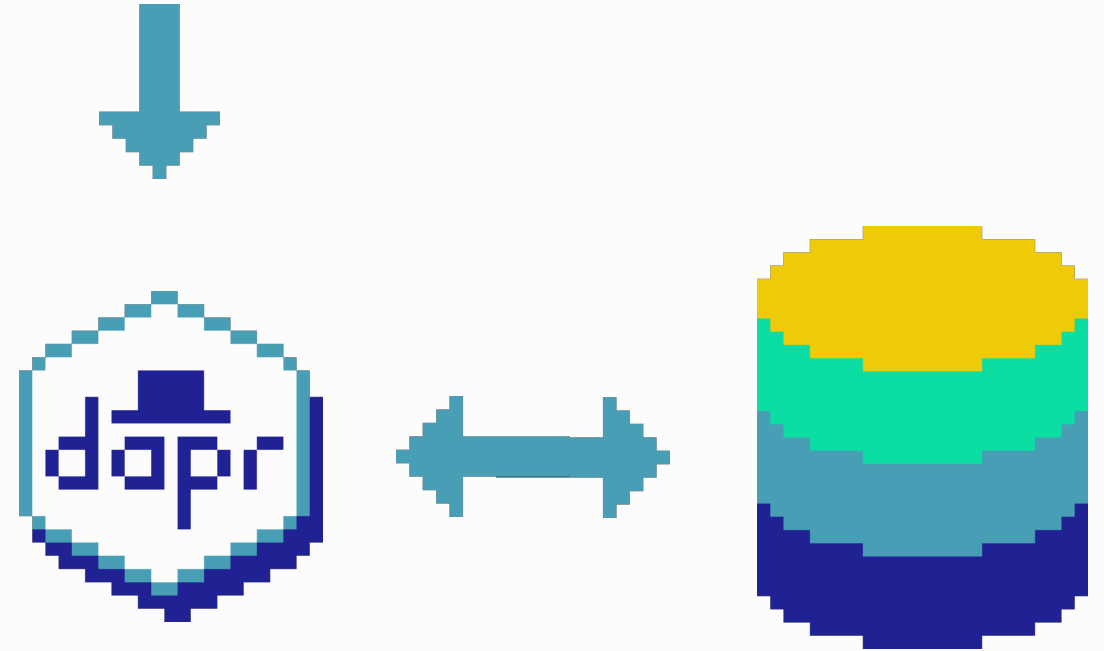
Schedule & execute
Activity 3



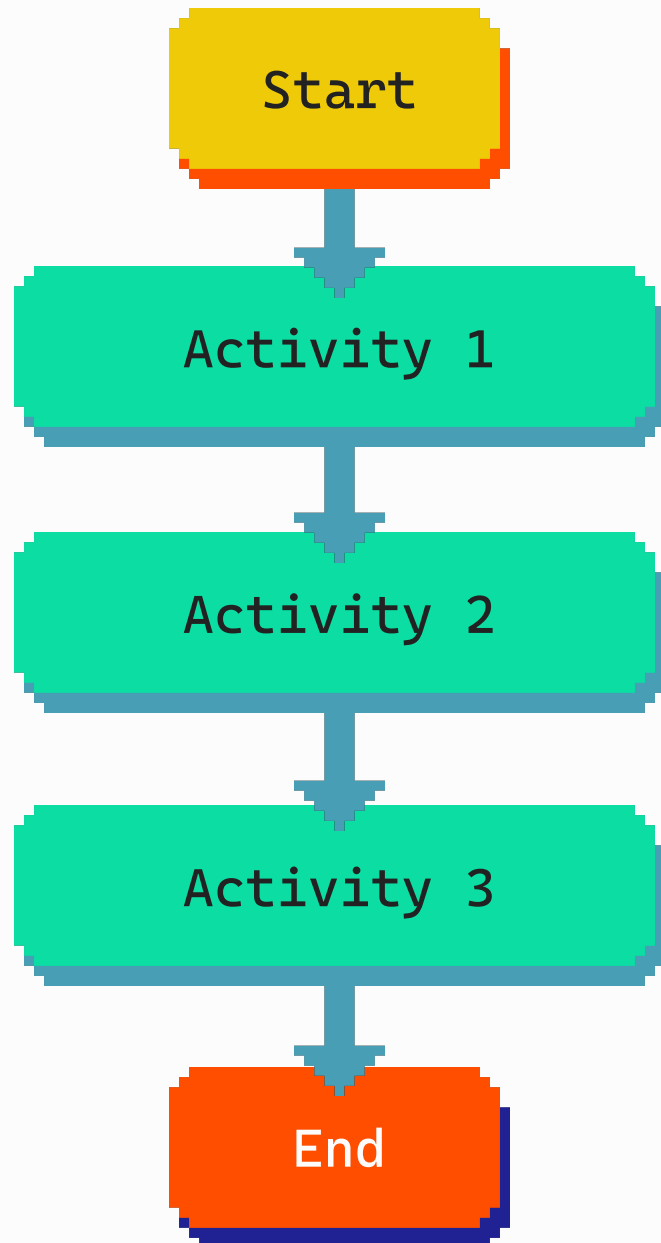
Store input
& output



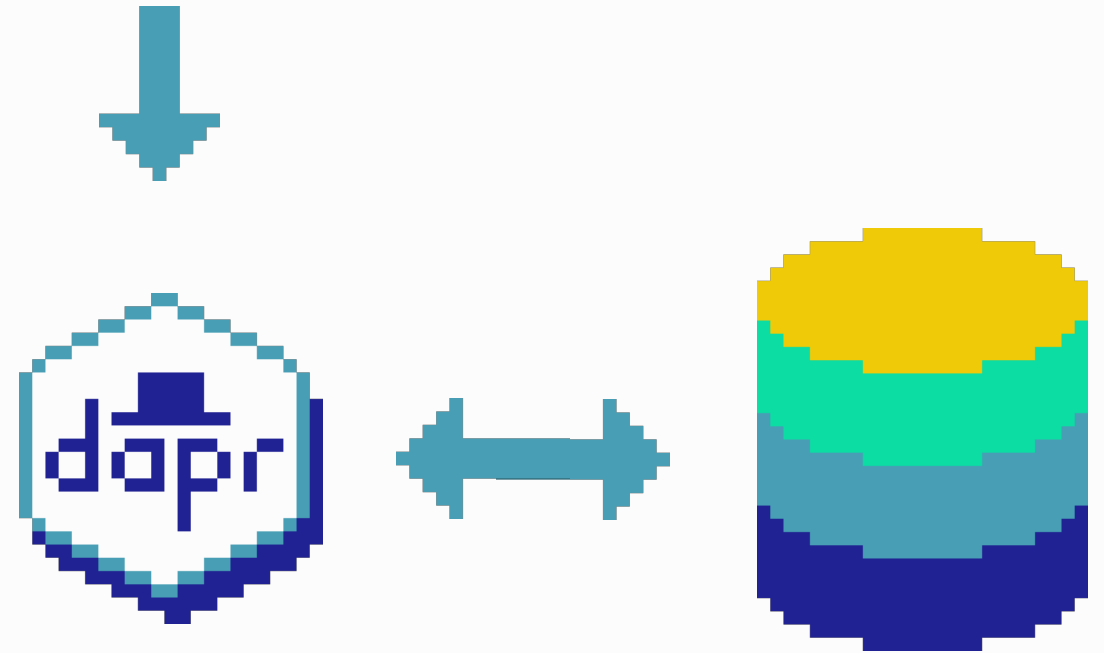
Replay Workflow



Activity 1,2 & 3 have been executed already



Workflow is completed



Store completion & output



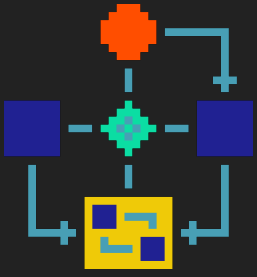
Workflow demos

@marcdiiker

<https://github.com/diagrid-labs/dapr-workflow-demos>

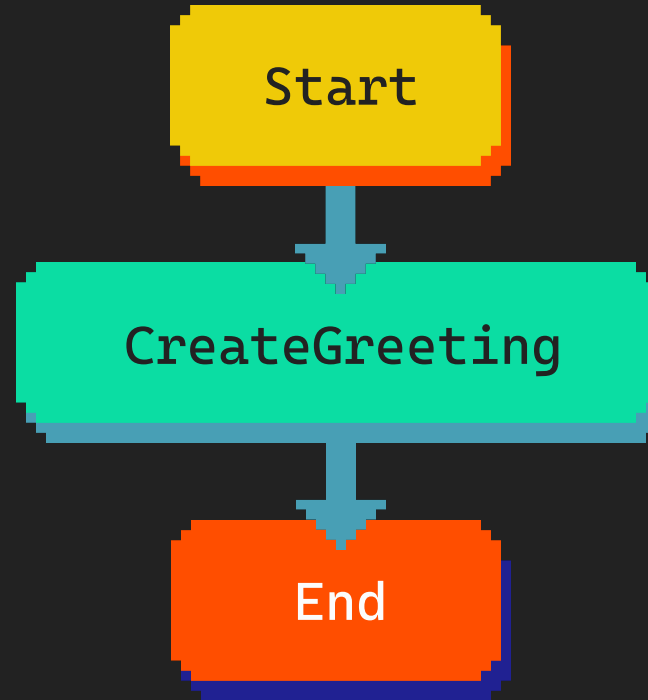
58

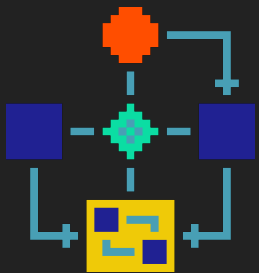




Workflows

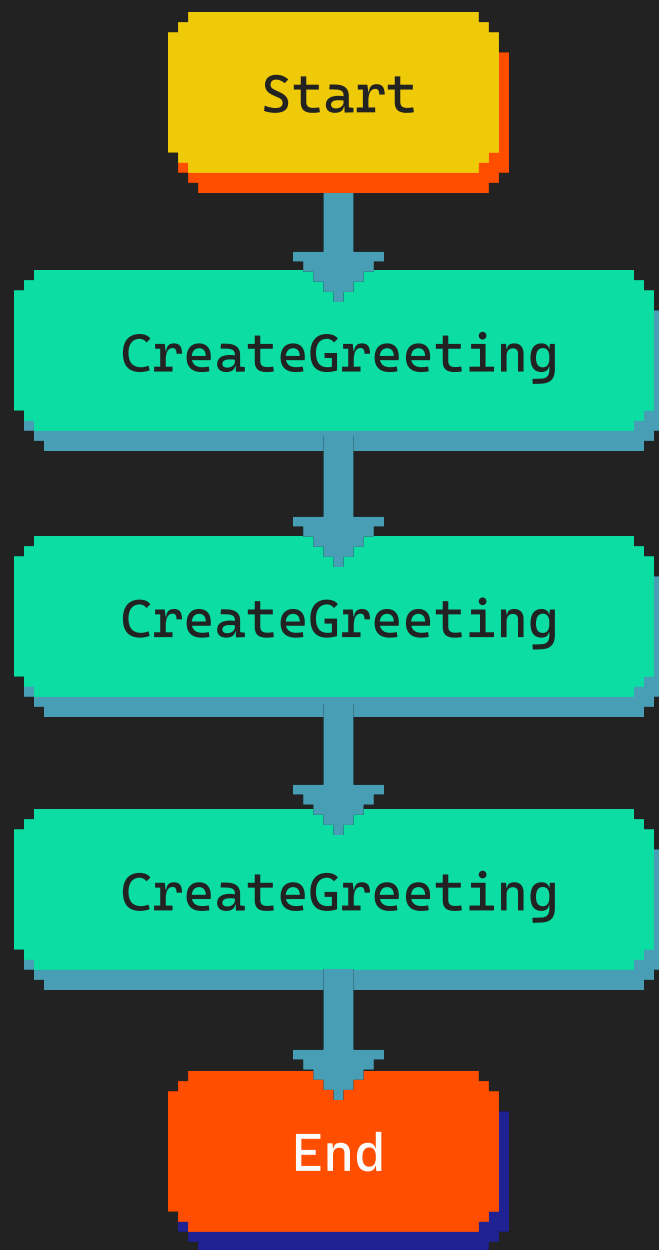
Hello World

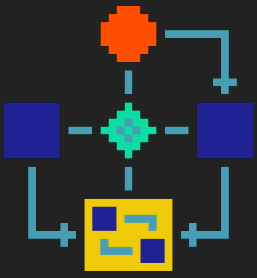




Workflows

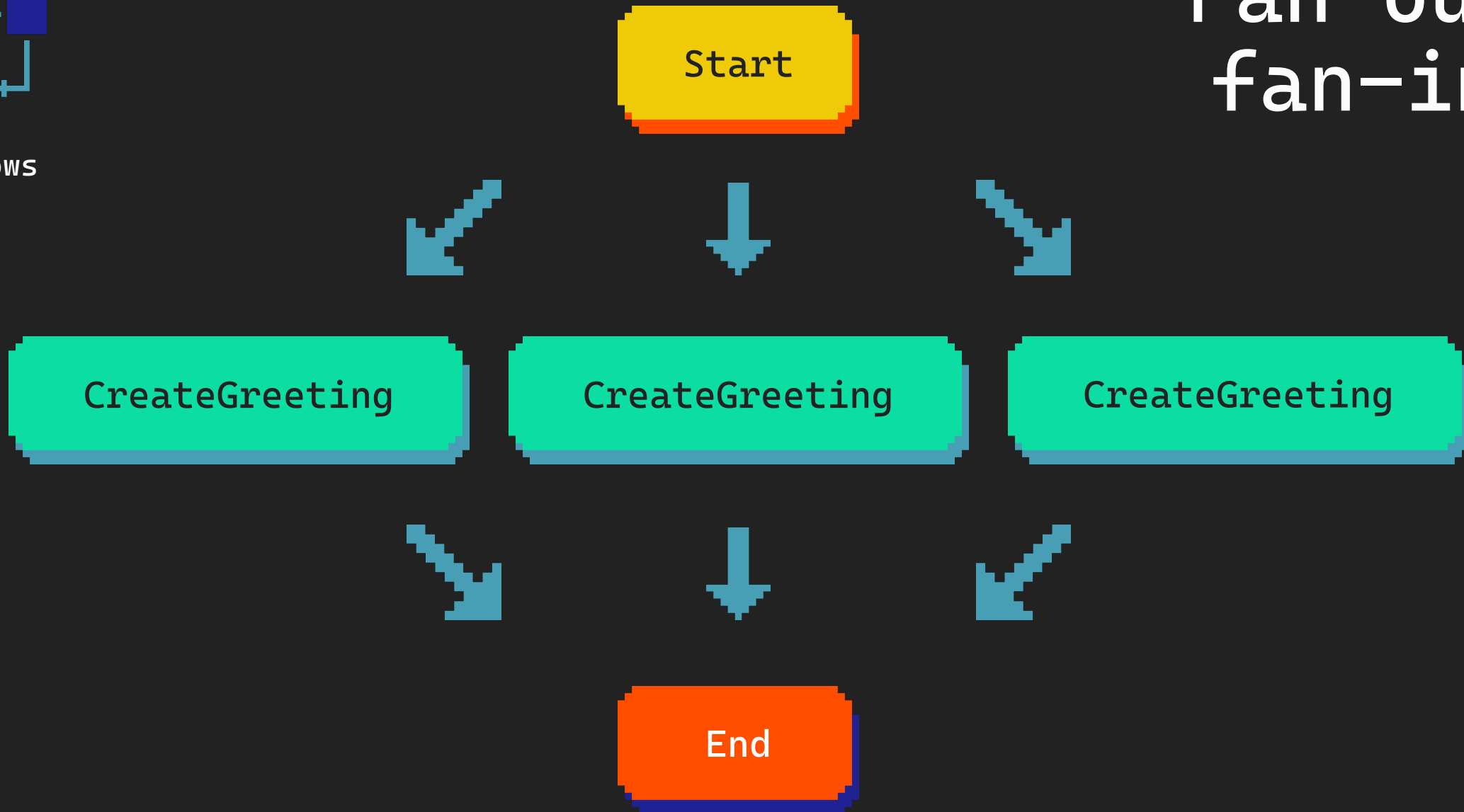
Chaining

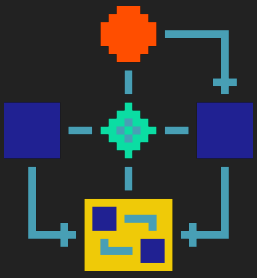




Workflows

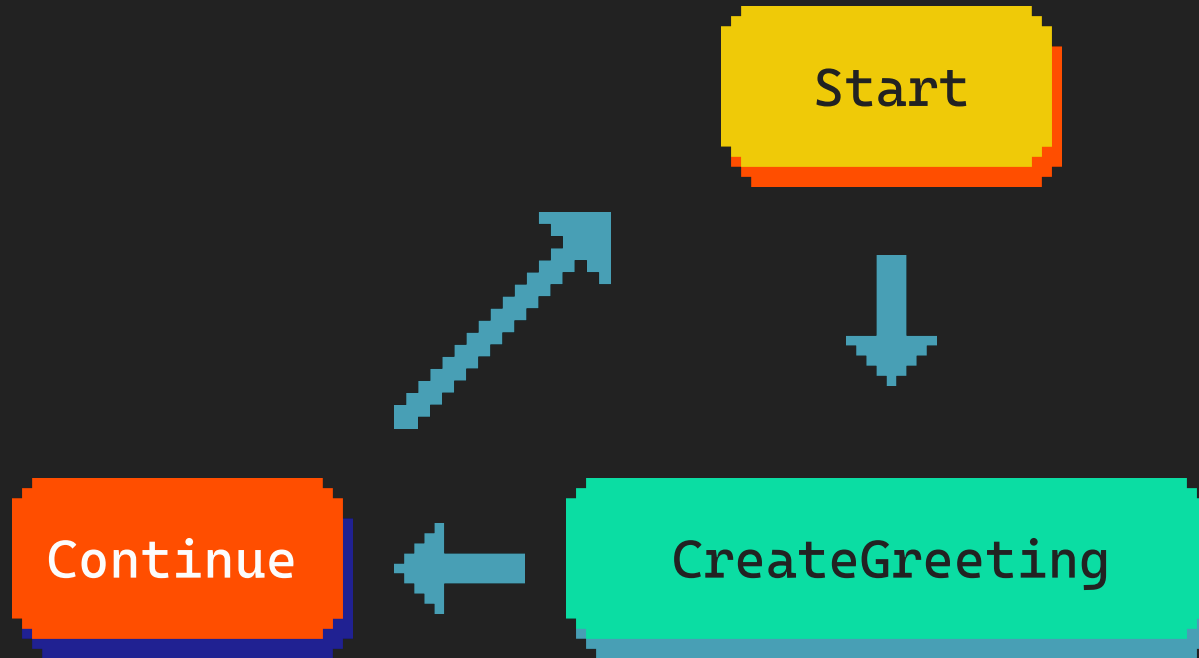
Fan-out fan-in

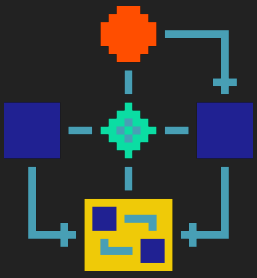




Workflows

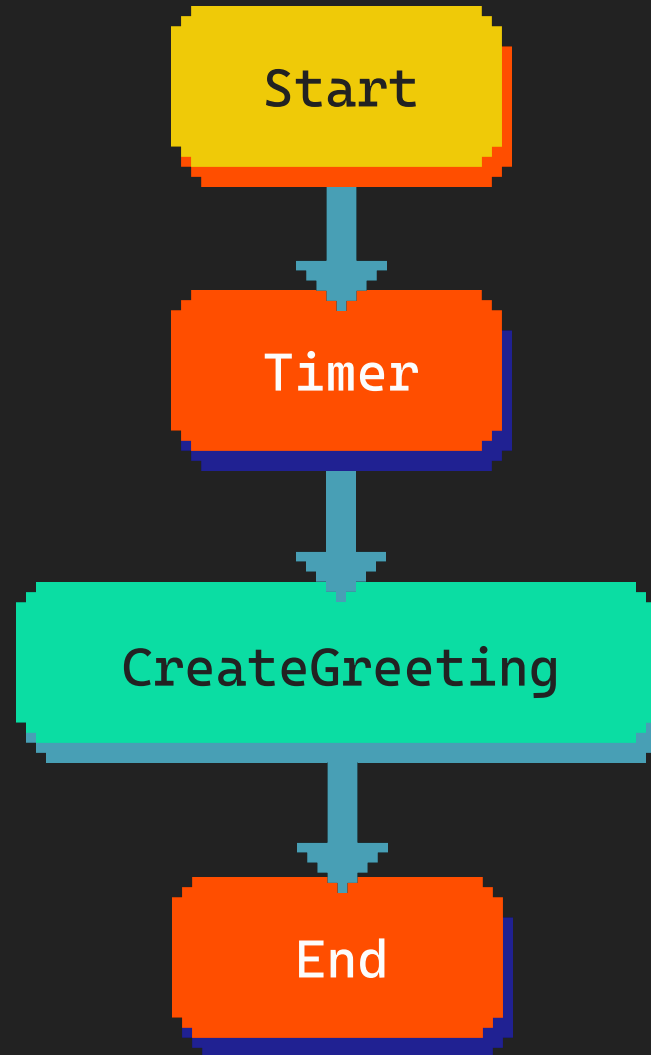
Monitor

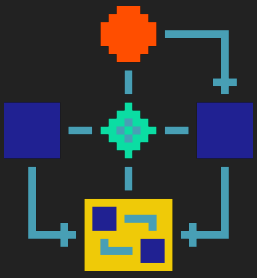




Workflows

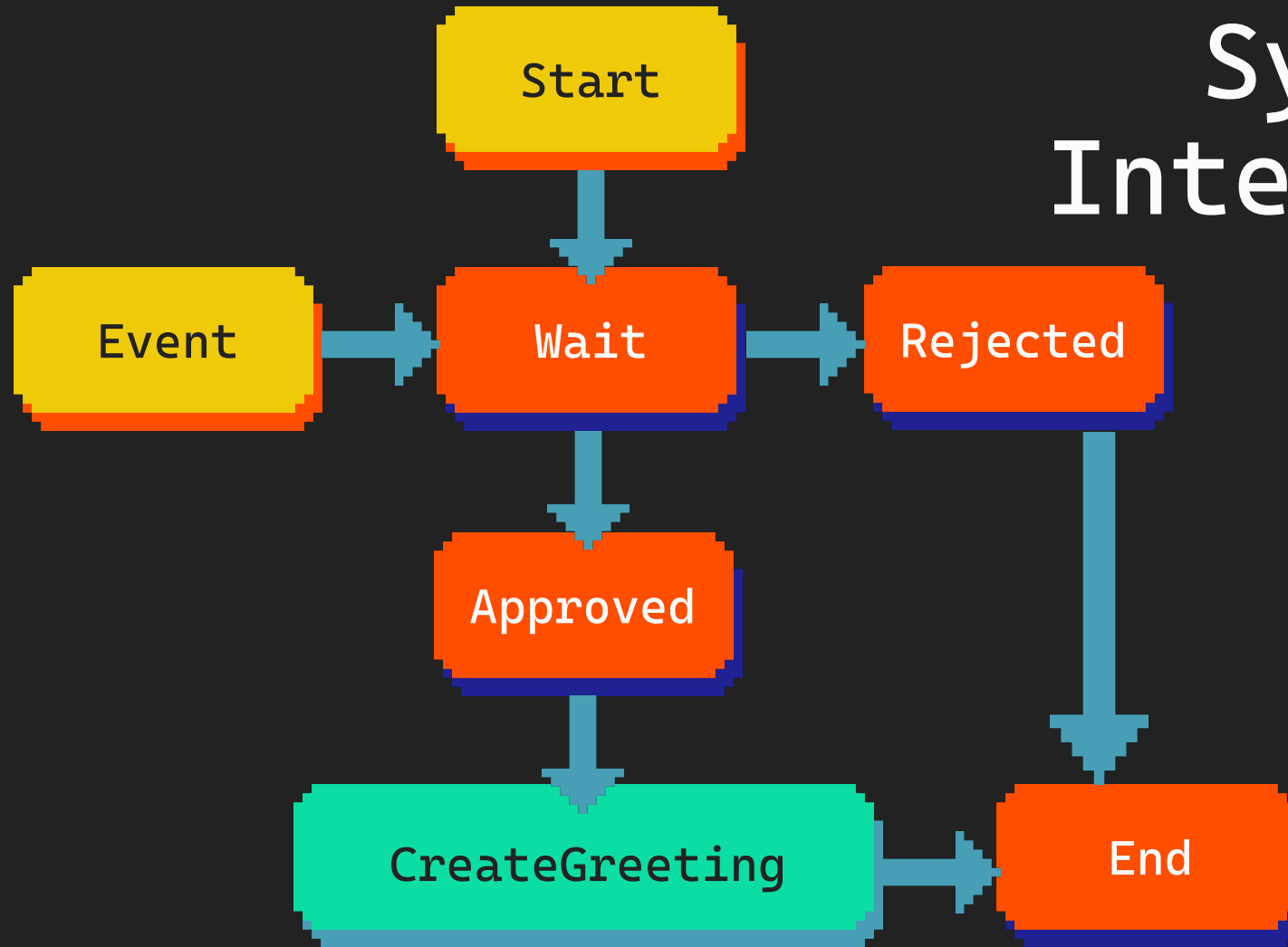
Timer

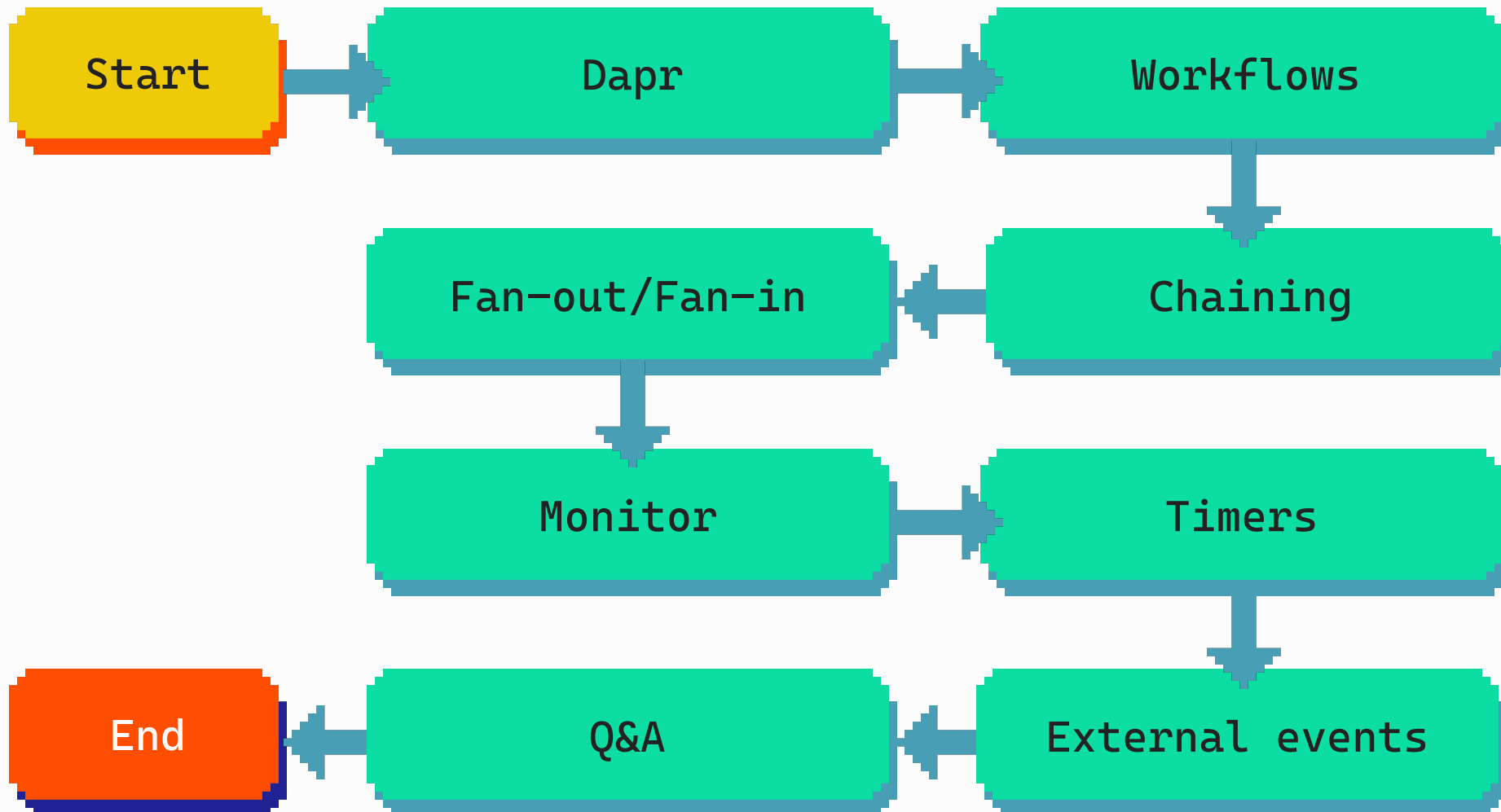




Workflows

External System Interaction





github.com/diagrid-labs/dapr-workflow-demos



Join the Dapr Discord!

bit.ly/dapr-discord

marcdruiker.dev



@marcdruiker