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# TRAVLNDAR+

## SOFTWARE ENGINEERING II

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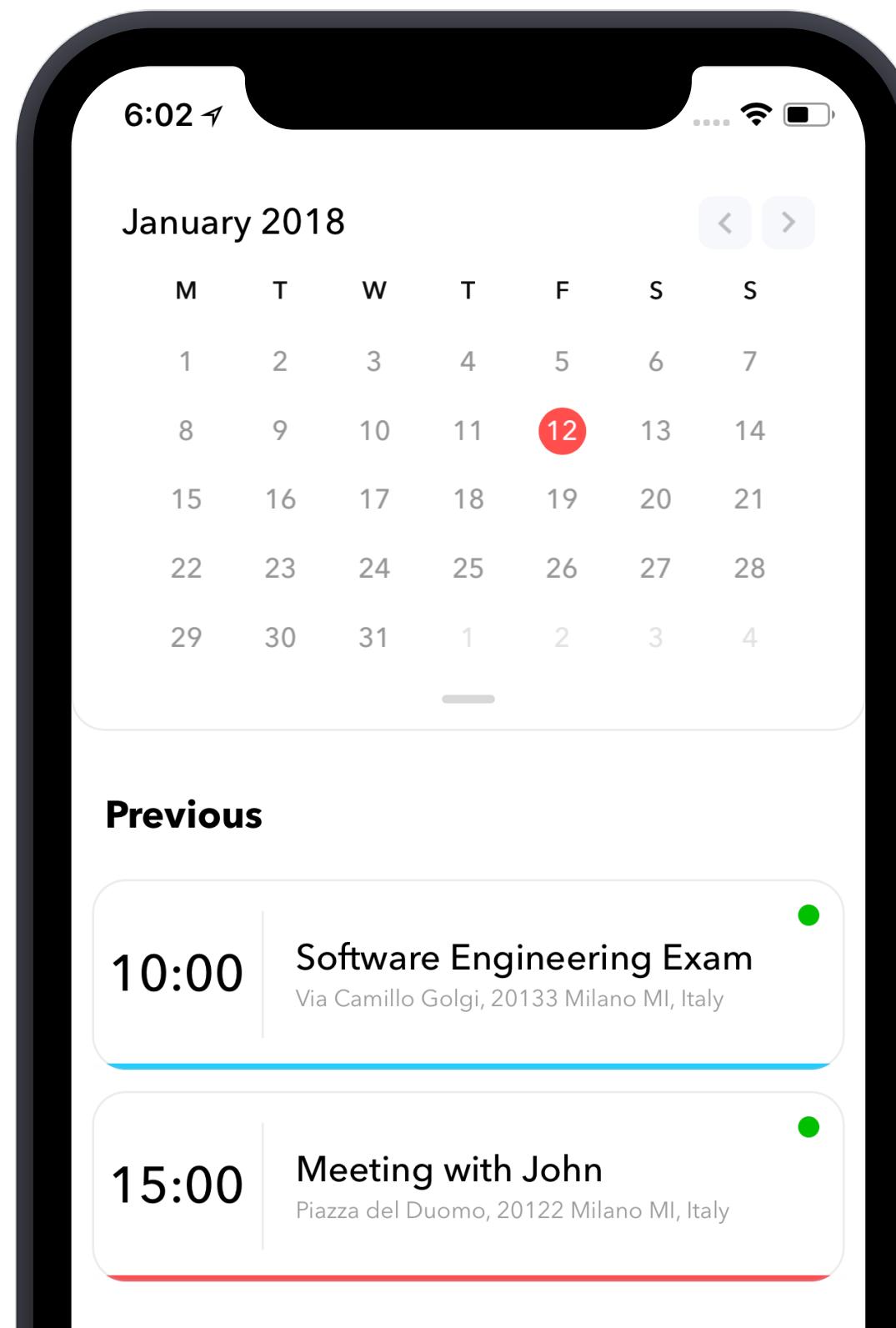
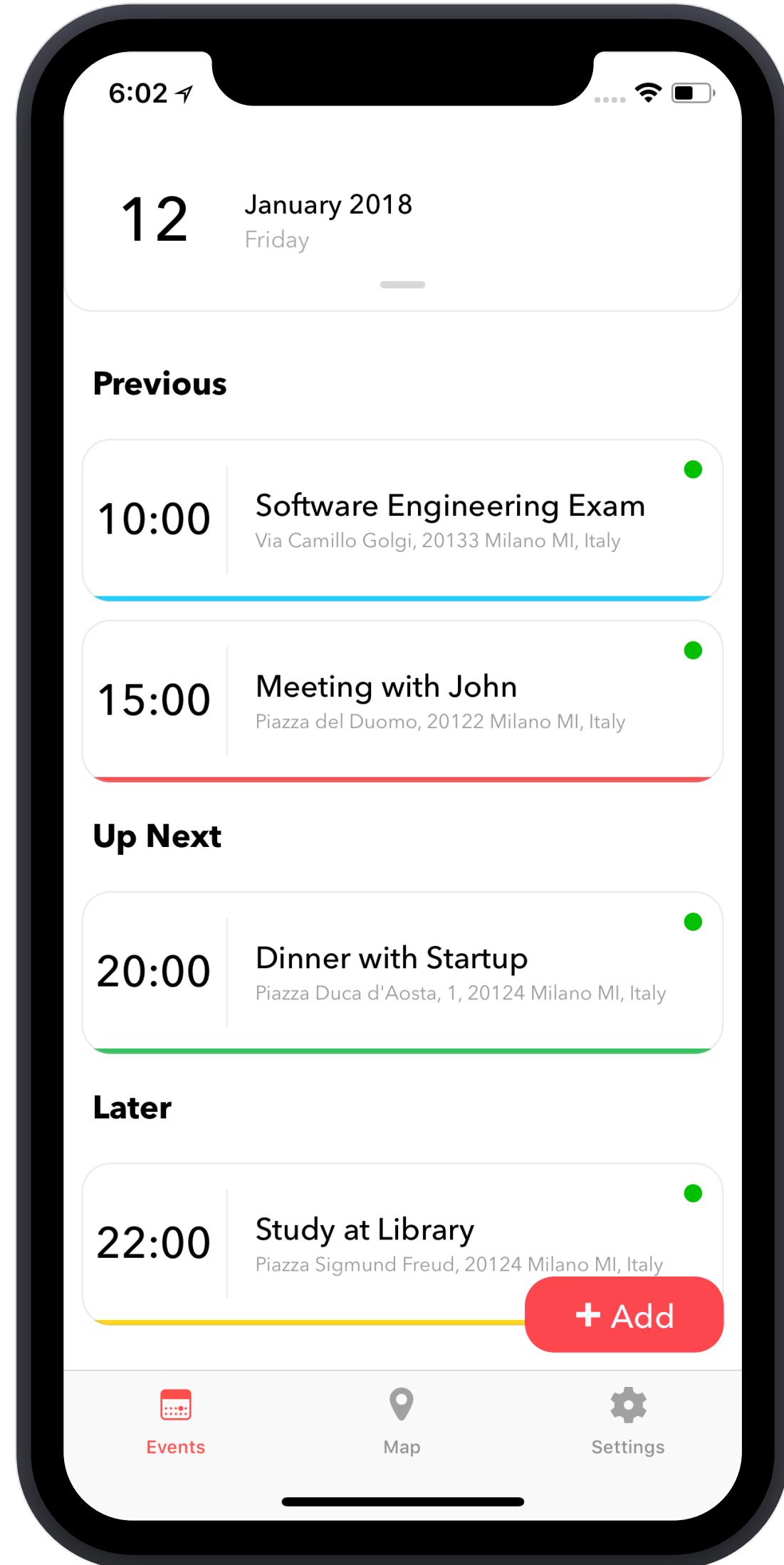




# MAIN GOALS OF THE PROJECT

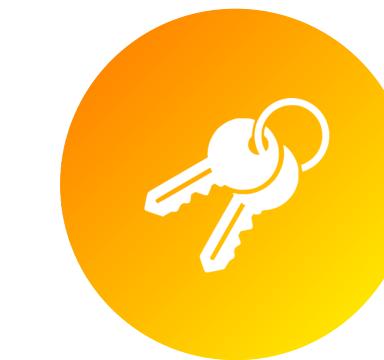
## MAIN GOALS

# MAIN GOALS



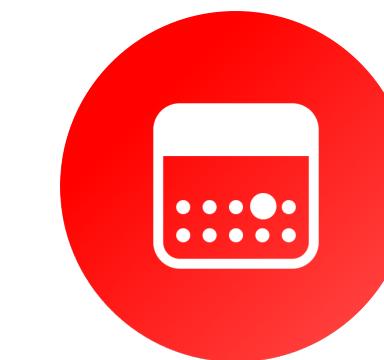
## IMMERSIVE USER EXPERIENCE

Let people interact with the application in the most familiar way.



## SECURE ACCOUNTS

The app does not require login, just open it up and it synchronises across all the iCloud devices.



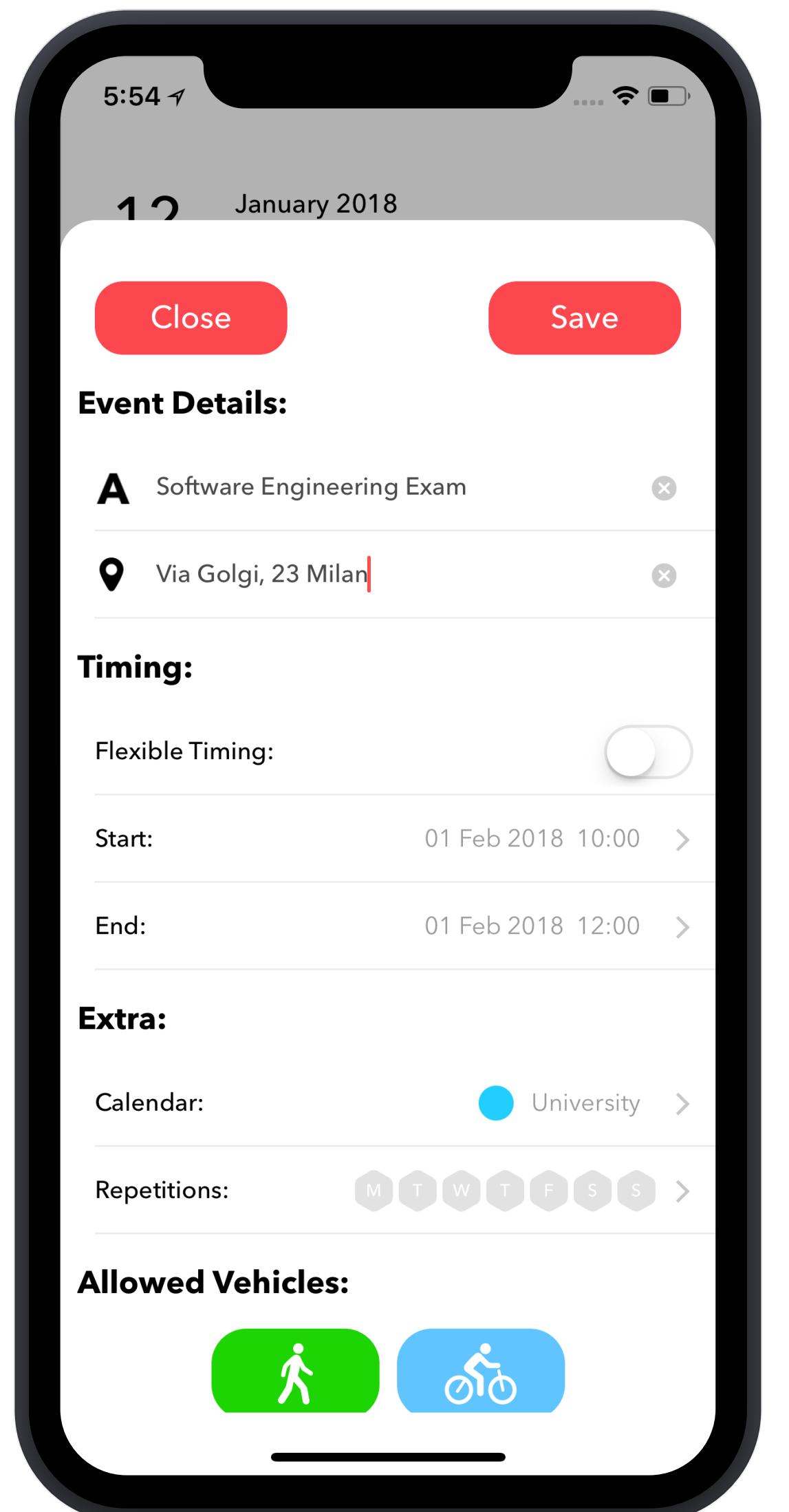
## DAILY SCHEDULE

The system automatically checks reachability of events so people can arrange their timetable to arrive always on time.

## MAIN GOALS

## MAIN GOALS

# MAIN GOALS



## EVENT EDITING / CREATION

Events can be created or modified through an unique interface, fast and intuitive.



## ALLOW REPETITIONS

Events Repeating? No Problem, this app supports also repetitions.



## PERSONALISED TRANSPORTATION MEANS

People can choose from a variety of transport means so that they can control the way they reach appointments.

## MAIN GOALS

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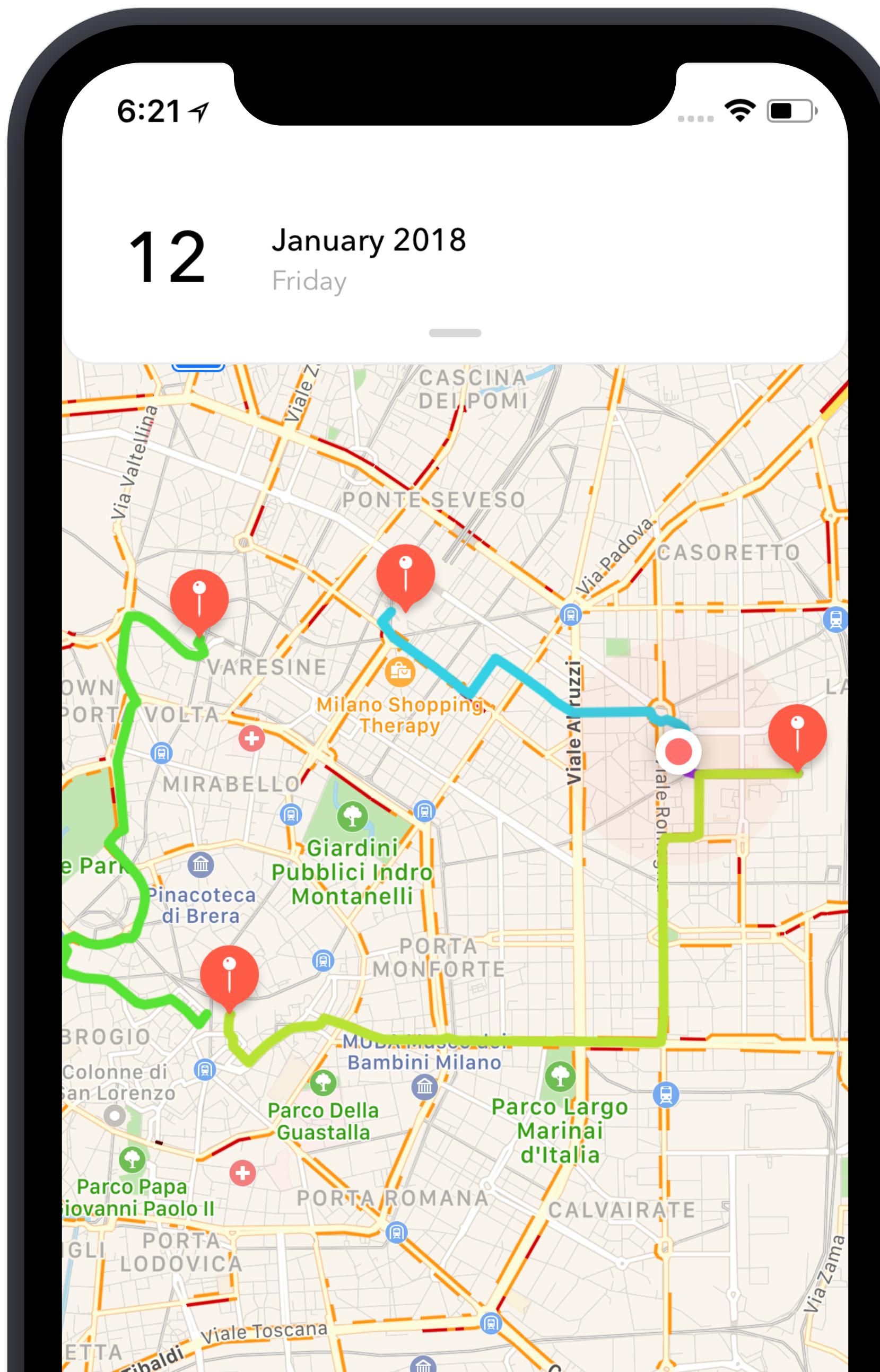
### EVENT DETAILS WITH ROUTES

The system automatically creates custom routes based on preferences, traffic and other options.

## MAIN GOALS

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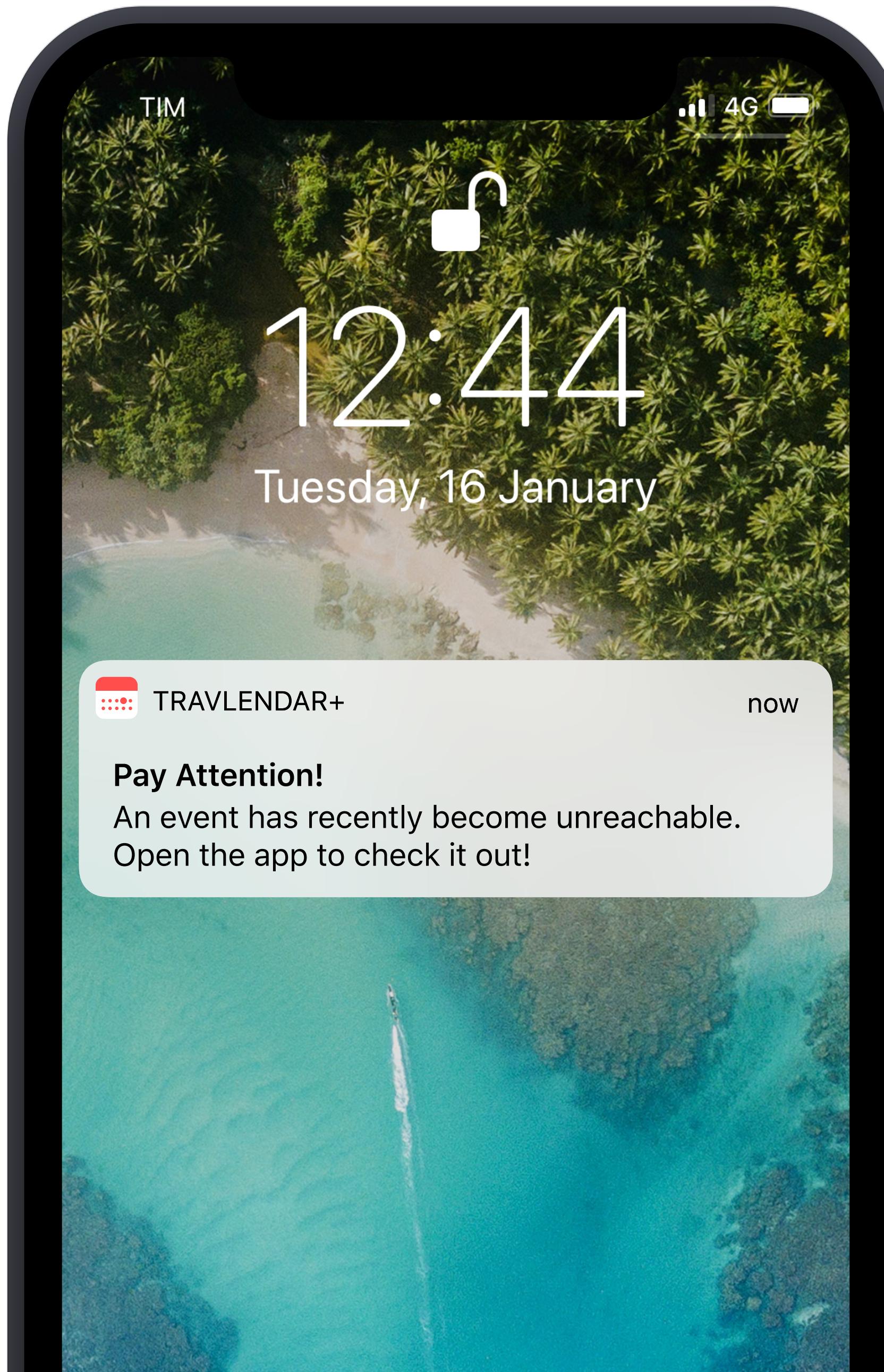
### MAP VIEWS

Have a look at the appointments right from an In-App Map.

## MAIN GOALS

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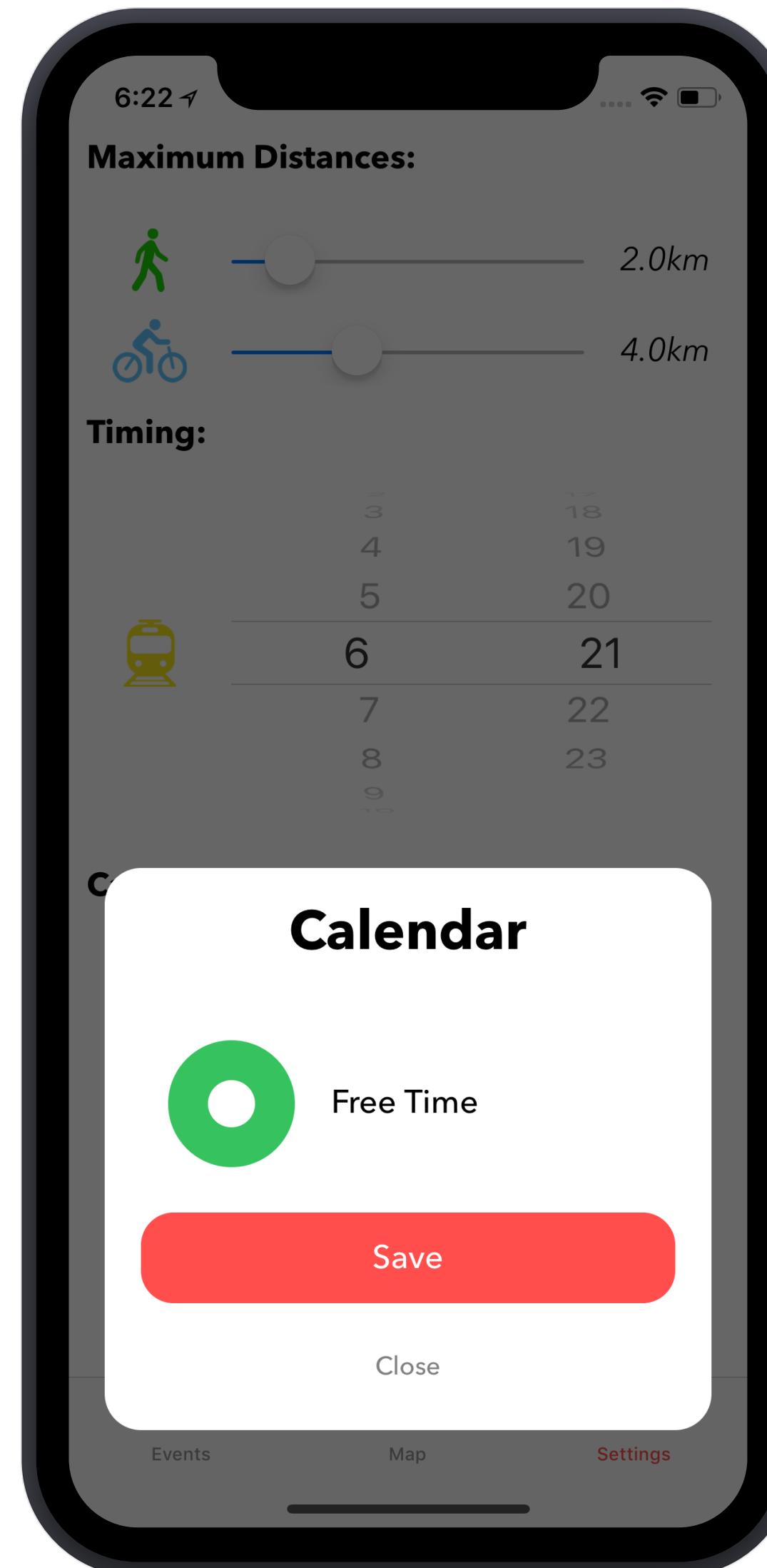
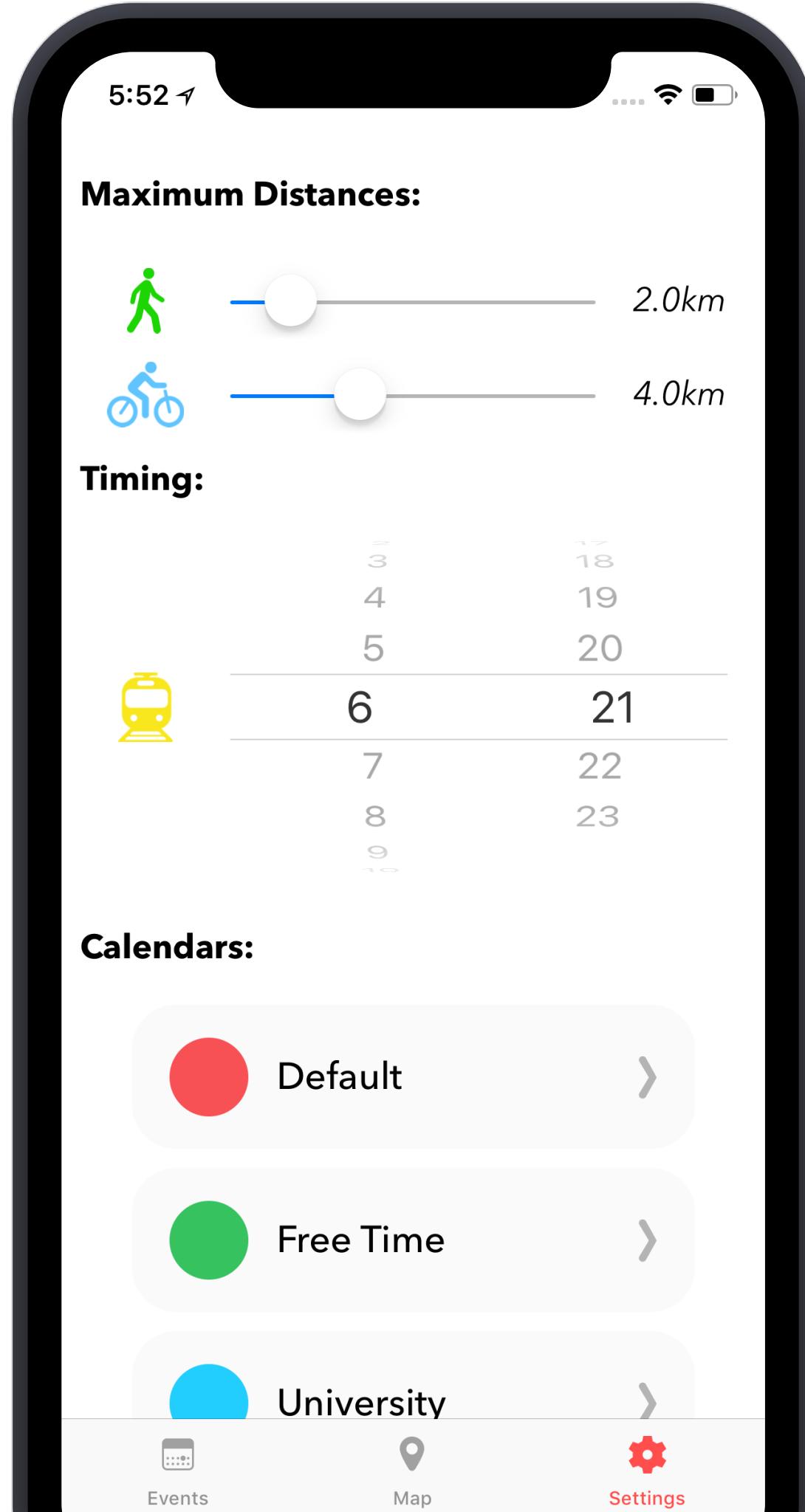
### ON TIME / DELAY NOTIFICATIONS

Receive notifications if events will become unreachable.

## MAIN GOALS

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## HIGHLY CUSTOMISABLE SETTINGS

People are allowed to customise pretty much everything. Adding Calendars, public transportation travel times and much more.

## MAIN GOALS



# TECHNICAL SIDE OF THE PROJECT

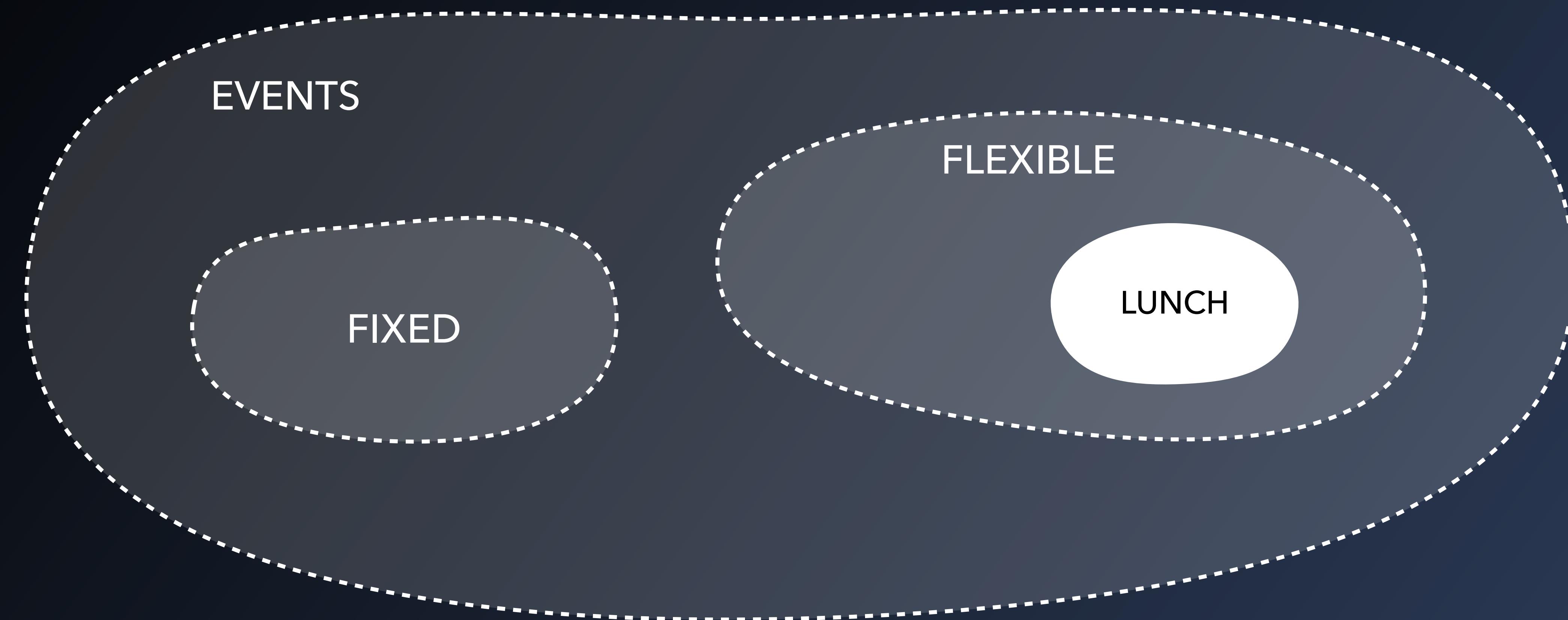
# EVENTS STRUCTURE

EVENTS

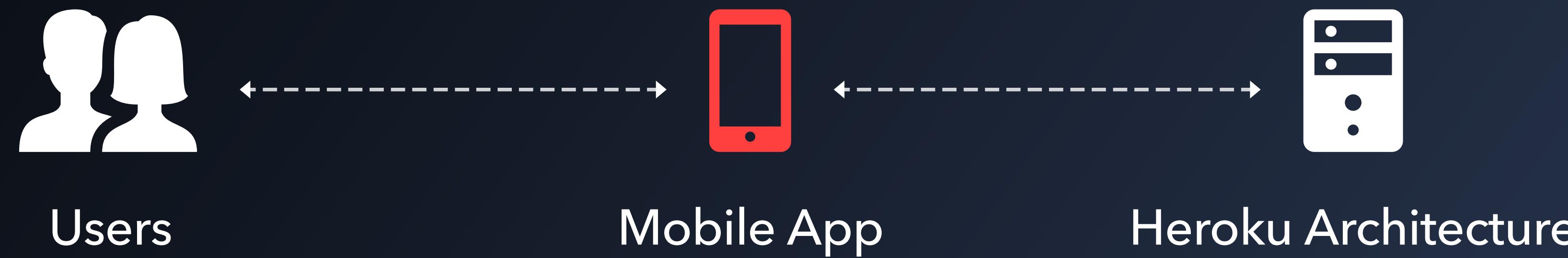
FLEXIBLE

FIXED

# EVENTS STRUCTURE

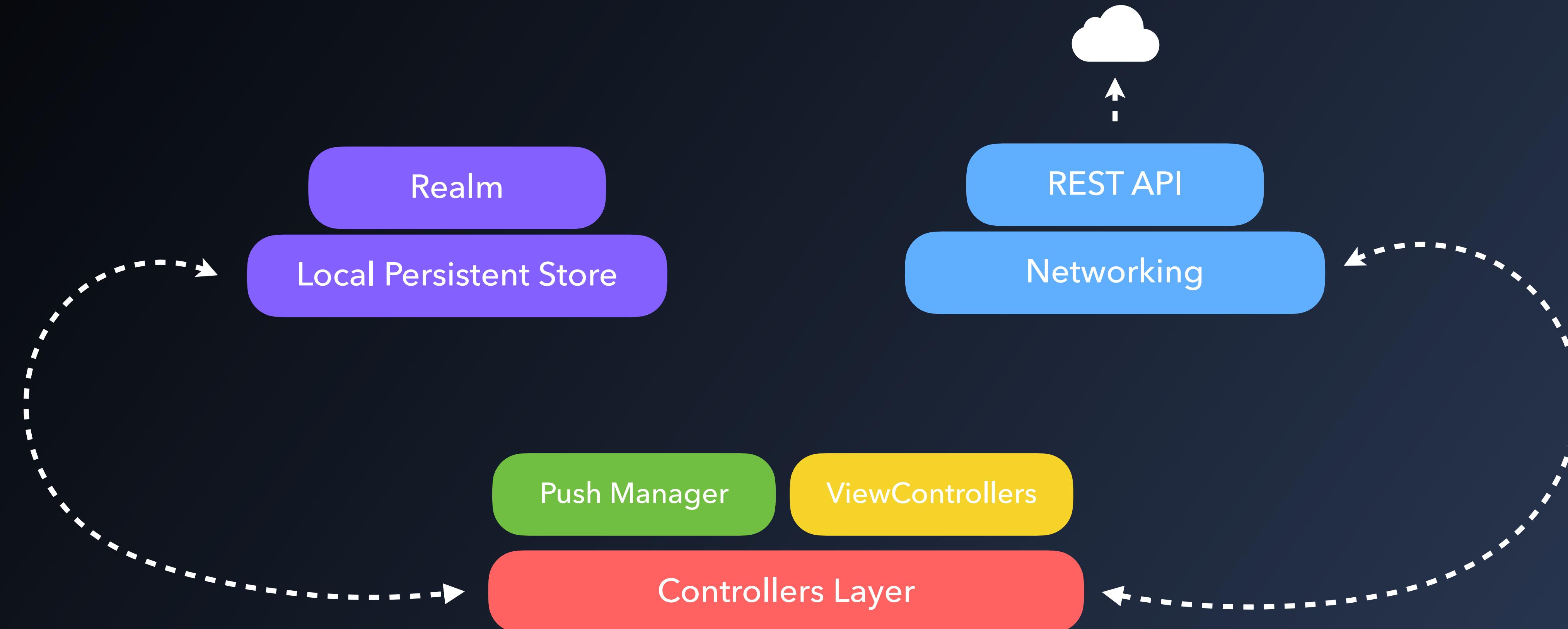


# ARCHITECTURAL OVERVIEW

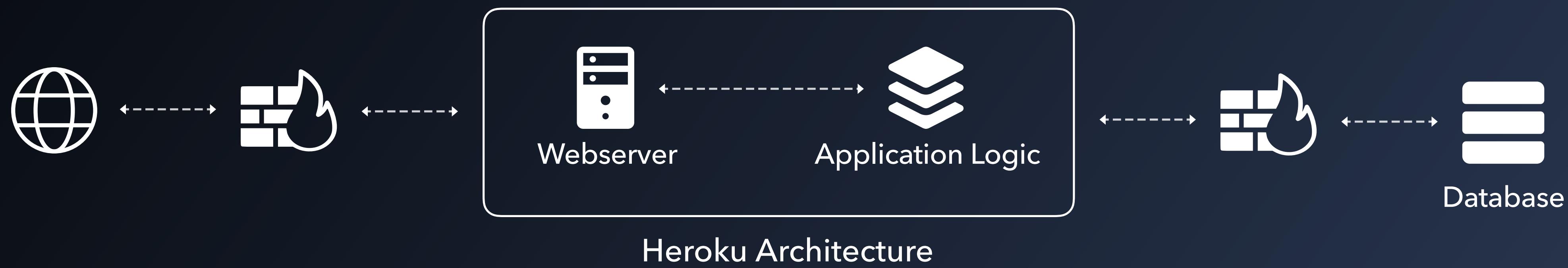


# CLIENT SIDE

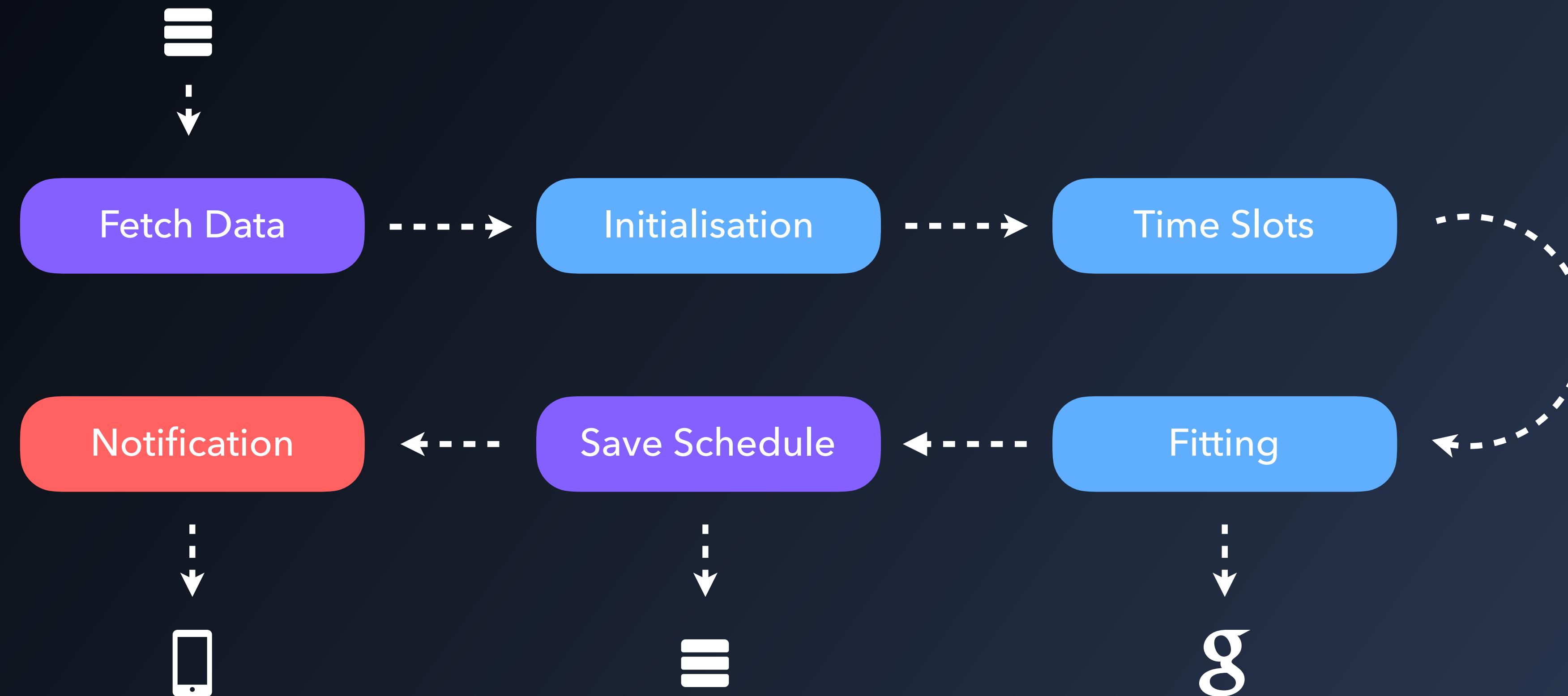
(iOS APP)



# SERVER SIDE



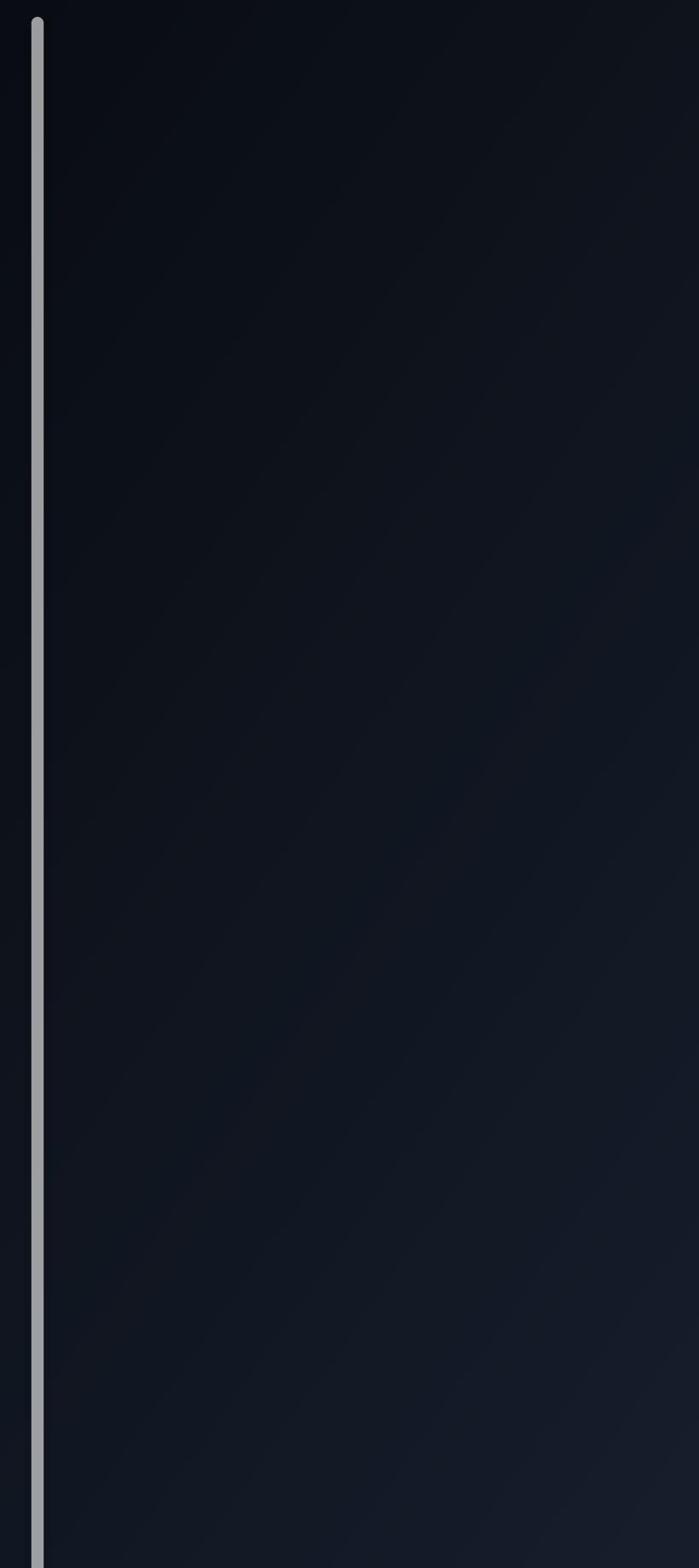
# SCHEDULE OPERATION



# TIME SLOTS

## EXAMPLE 1

What is a time slot?



# TIME SLOTS

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# TIME SLOTS

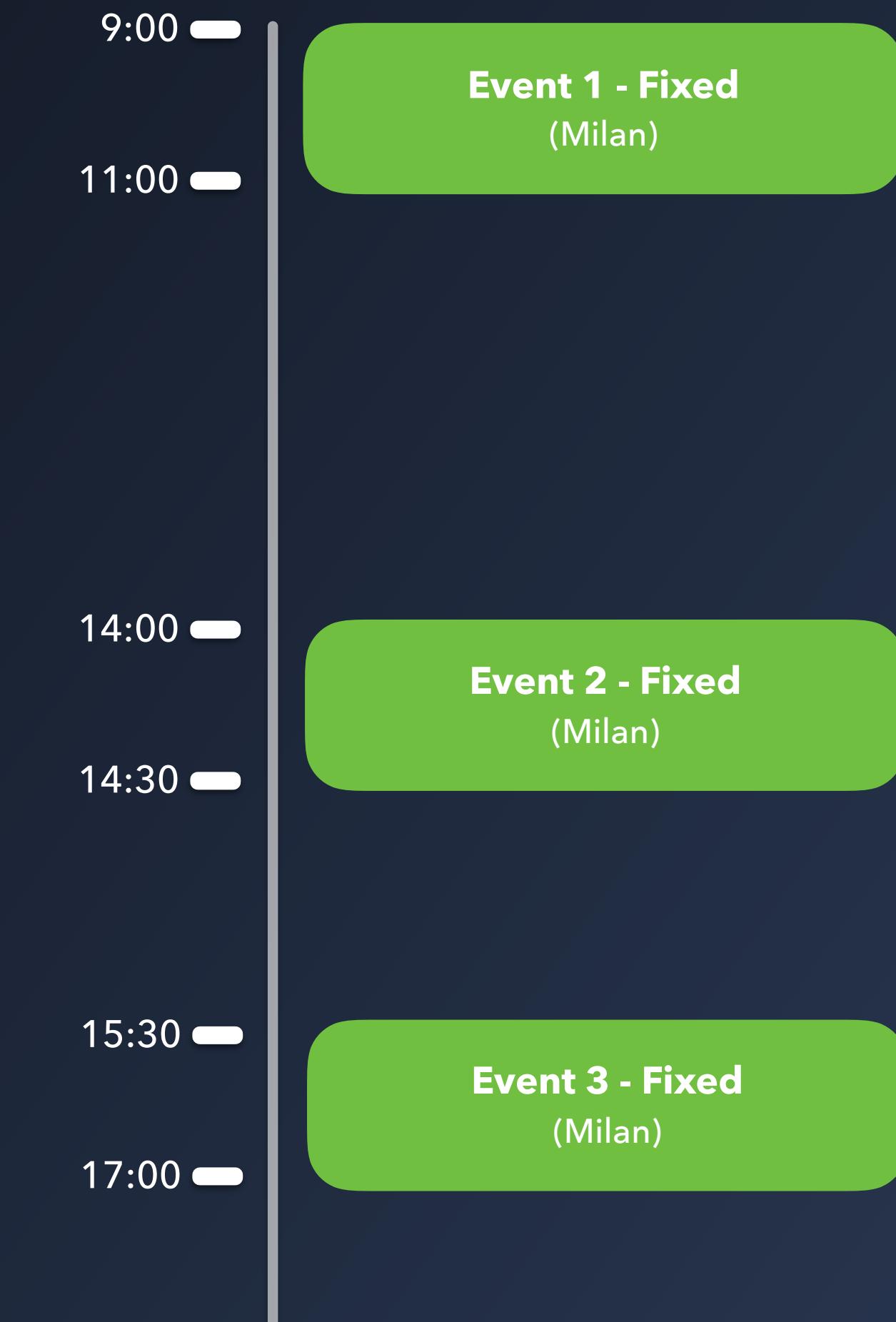
## EXAMPLE 1

What is a time slot?



## EXAMPLE 2

Why do we need it?



# TIME SLOTS

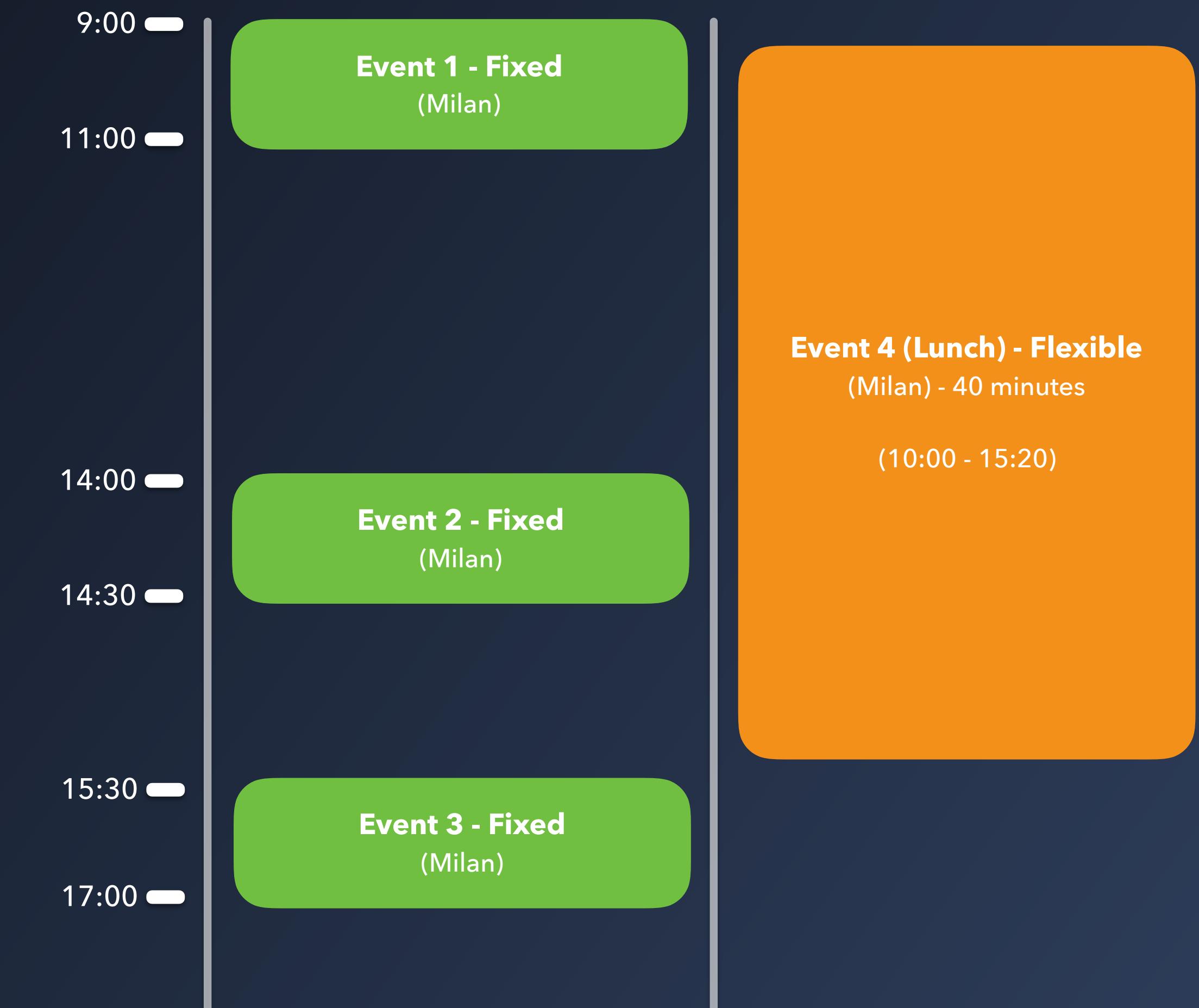
## EXAMPLE 1

What is a time slot?



## EXAMPLE 2

Why do we need it?



# TIME SLOTS

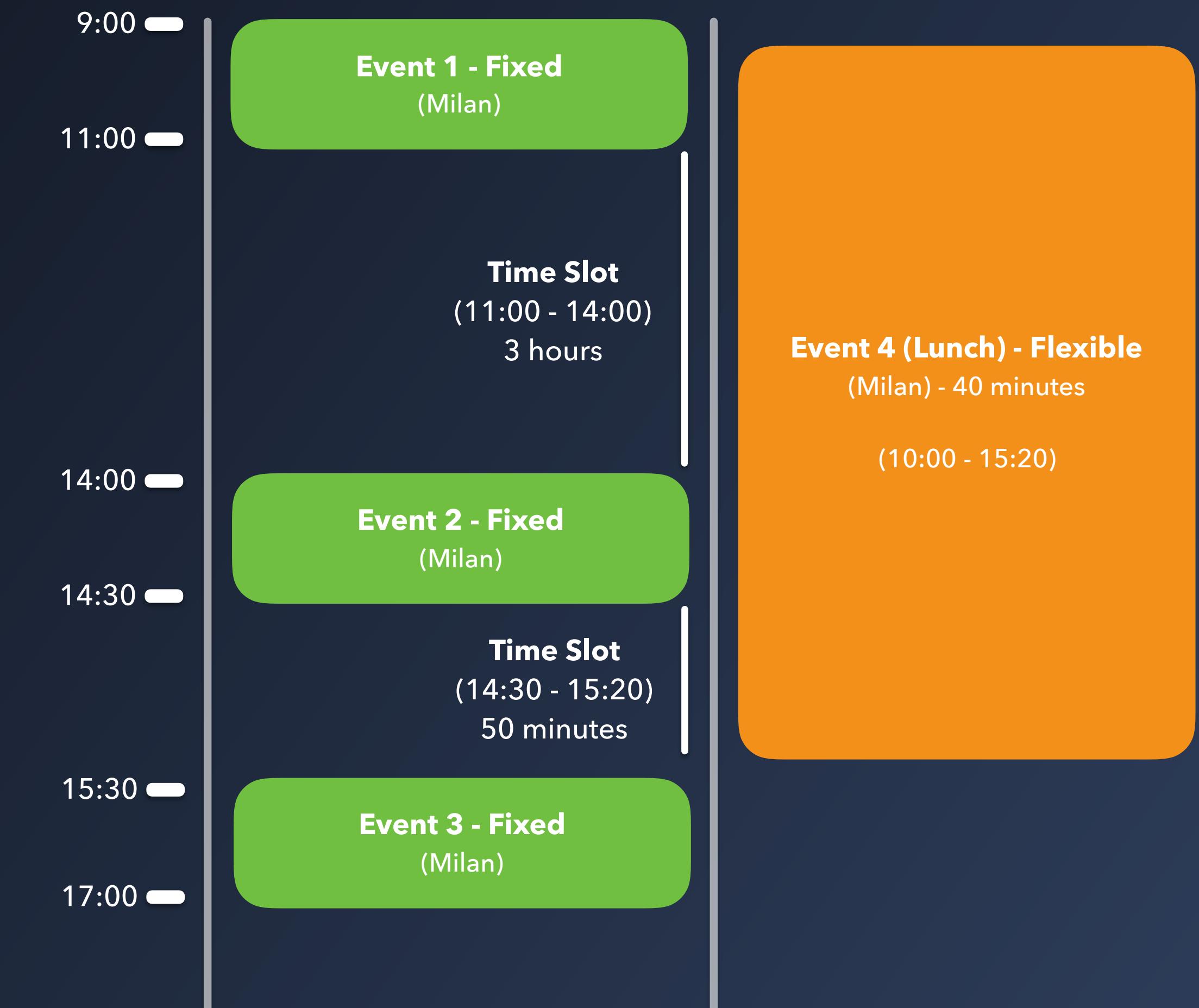
## EXAMPLE 1

What is a time slot?



## EXAMPLE 2

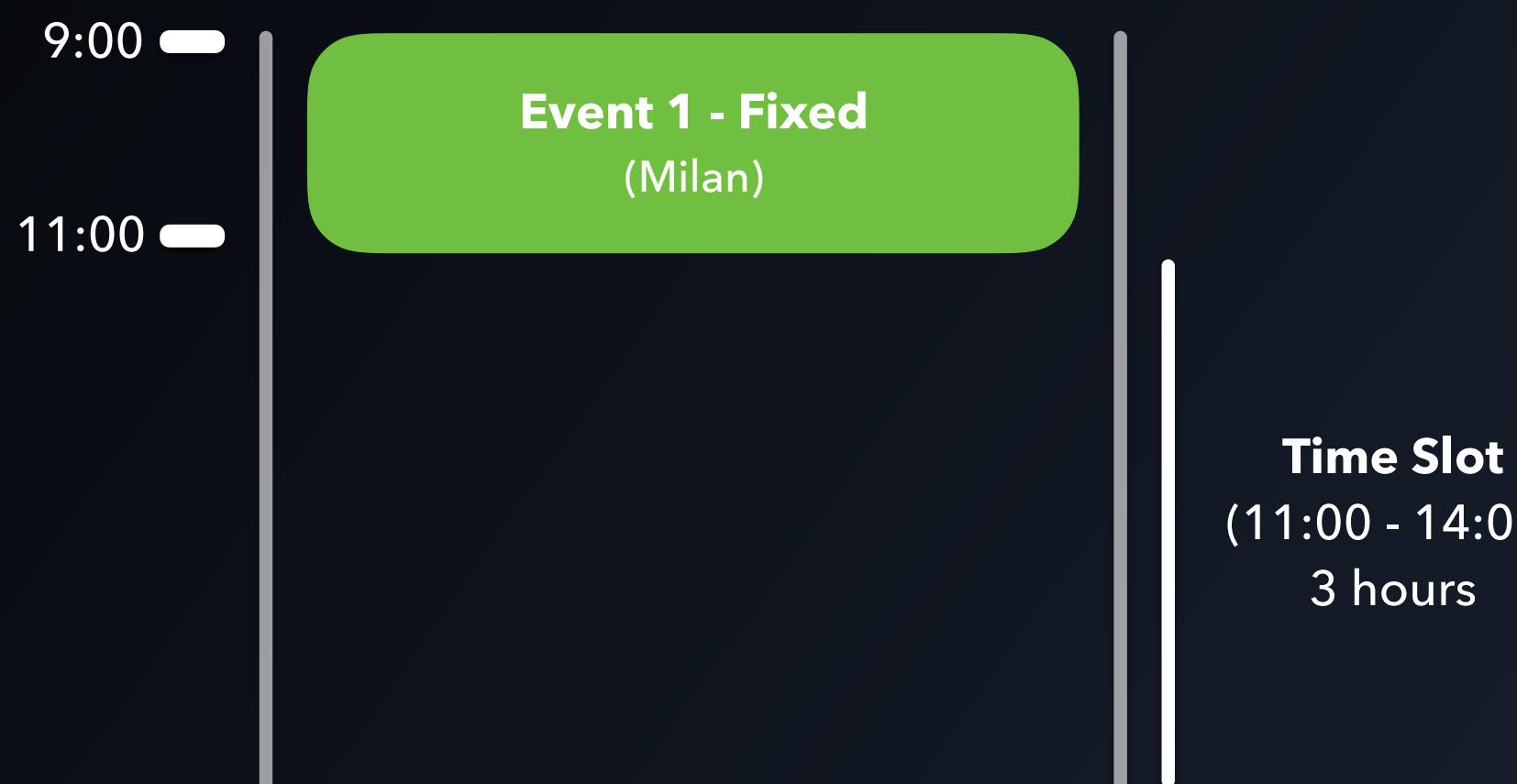
Why do we need it?



# TIME SLOTS

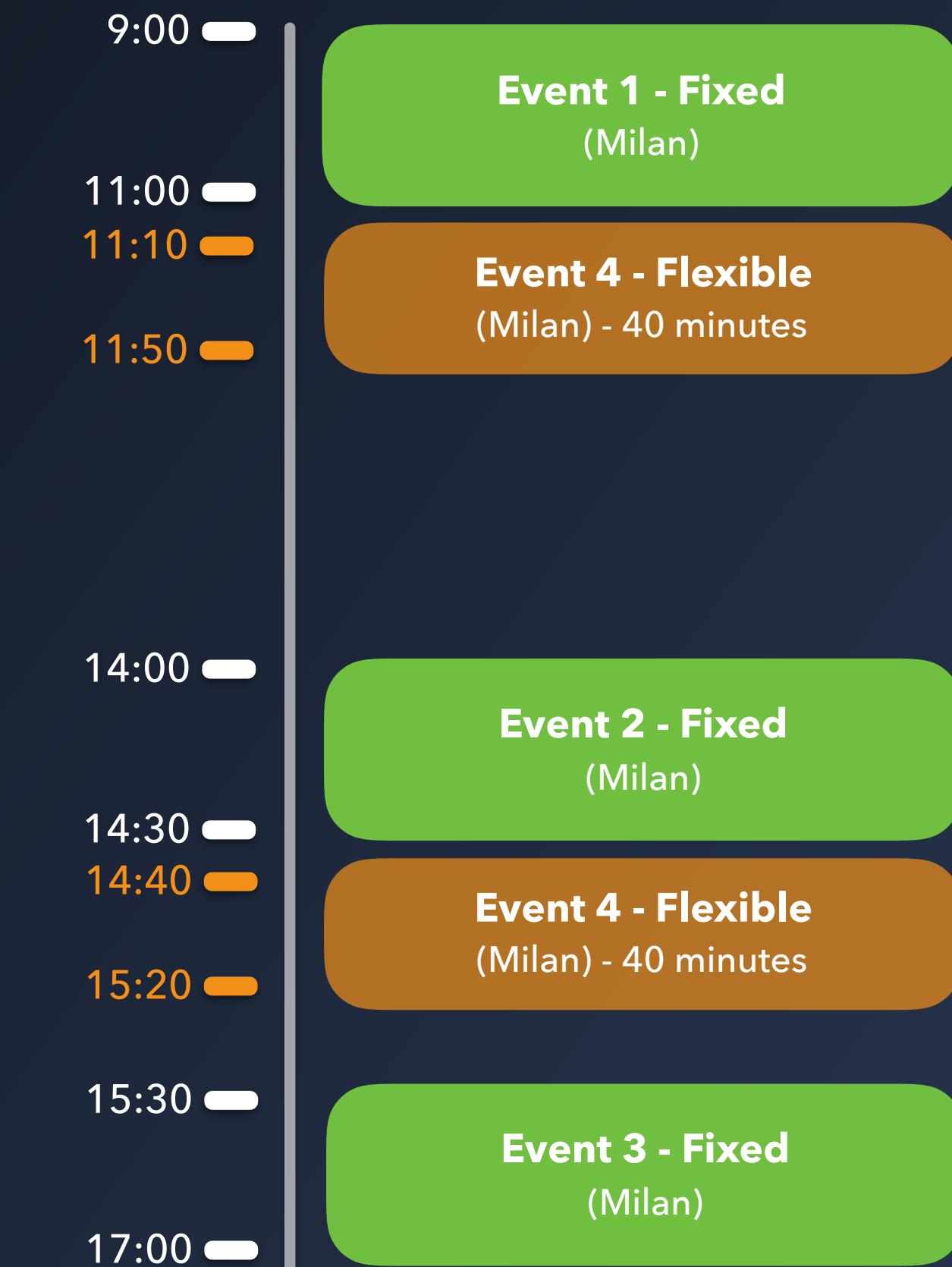
## EXAMPLE 1

What is a time slot?



## EXAMPLE 2

Why do we need it?



# FITTING OPERATION

## Flexible Fitting

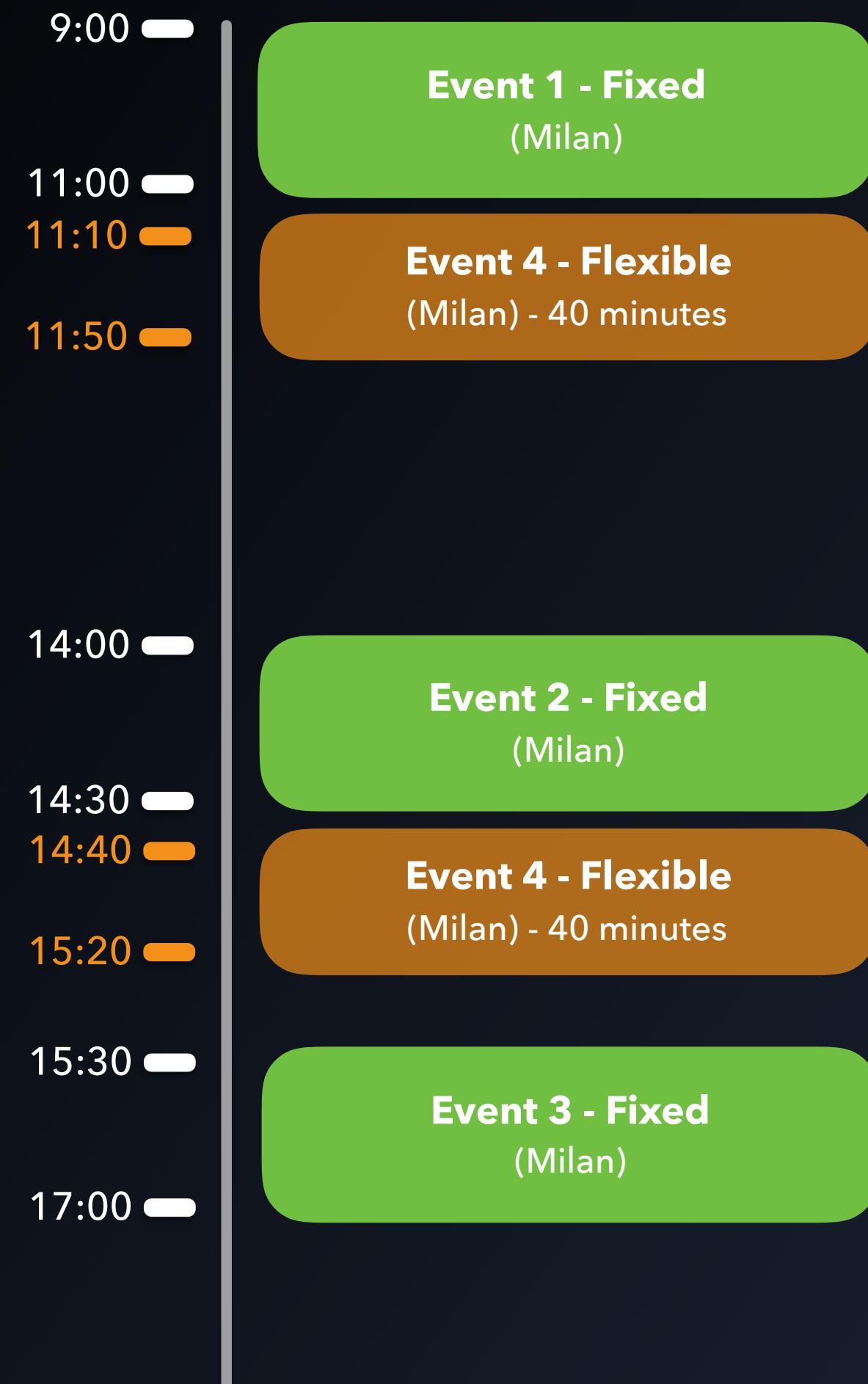
Which time slot is more suitable to host the event?



# FITTING OPERATION

## Flexible Fitting

Which time slot is more suitable to host the event?



## TIME SLOT ORDERING

The algorithm sorts the time slots starting from the smallest to the largest.



## CHECK REACHABILITY

The scheduler tries to fit the event in the chosen time slot paying attention to its reachability (Maps API). If it can't be fitted there, another time slot will be chosen. If no time slots are suitable to fit the event, this one can't be scheduled.

# FITTING OPERATION

More than one flexible event?



# FITTING OPERATION

More than one flexible event?



## ORDER FLEXIBLE EVENTS

The scheduler orders the flexible events using the "fittability" function:

$$\text{fittability}(e) = 1 - \frac{\text{duration}(e)}{\text{end}(e) - \text{start}(e) - \text{occupiedRange}(c)}$$

## TRY TO FIT ALL OF THEM

For each event, the scheduler tries to fit it according to its time slots as shown in the previous slide.

# FITTING OPERATION

More than one flexible event?



## ORDER FLEXIBLE EVENTS

The scheduler orders the flexible events using the "fittability" function:

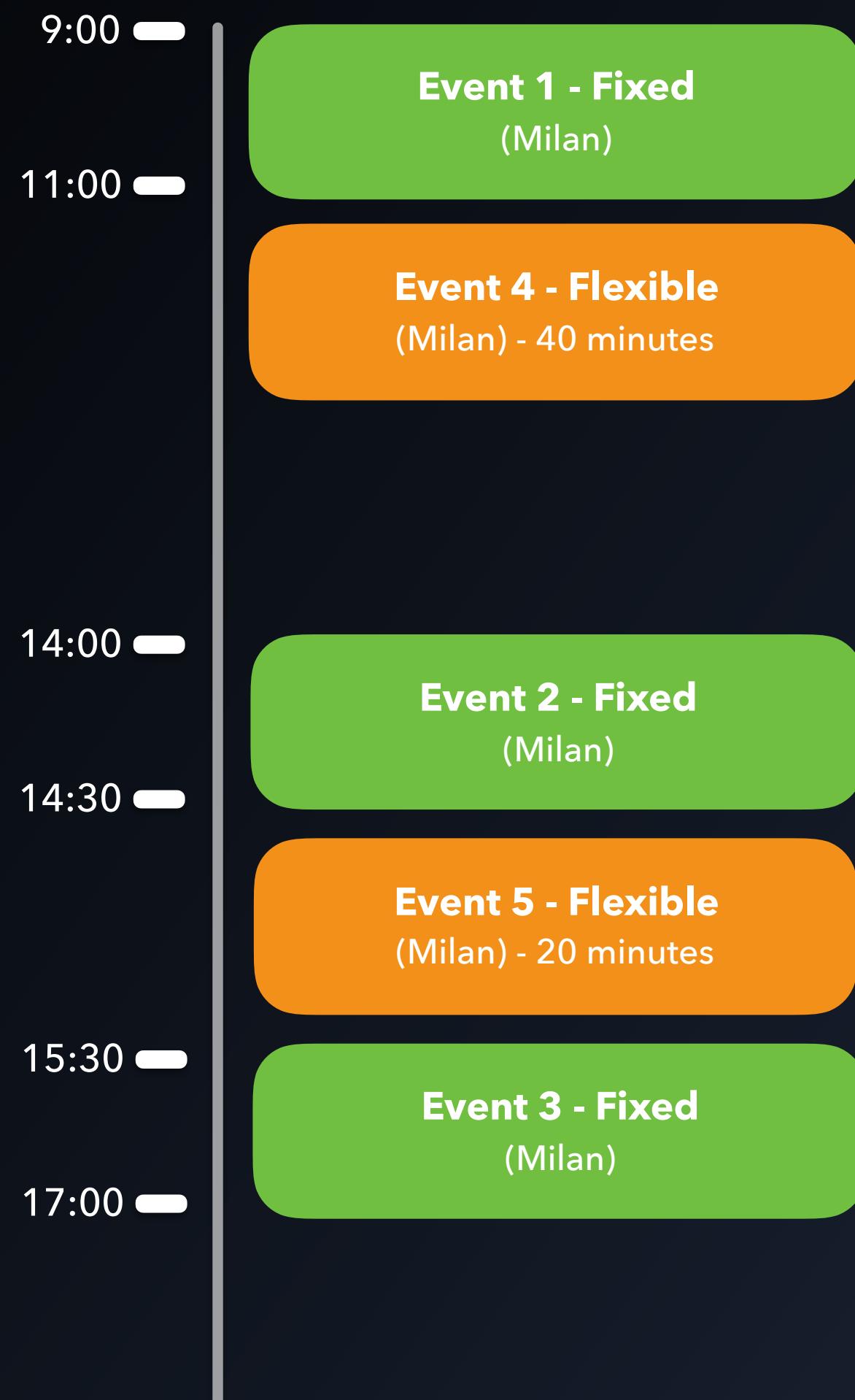
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# FITTING OPERATION

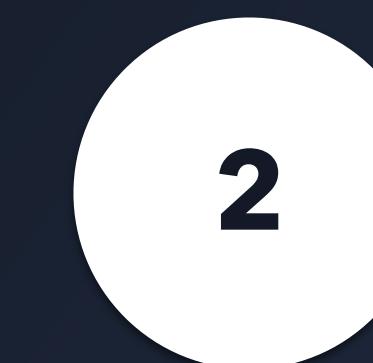
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# DEMO

LIVE

# WRAPPING UP

# WRAPPING UP





# FUTURE PERSPECTIVE

The image displays four screenshots from the TRAVLENDAR+ app, highlighting its features for travel planning and real-time event monitoring.

**Screenshot 1 (Top Left):** Shows a calendar view for January 12, 2018, Friday. It lists events: "Software Engin" at 10:00 and "Meeting with Jo" at 15:00. Below is a map showing a route from Varesine to Porta Monforte, with a green path and red markers indicating travel points.

**Screenshot 2 (Top Center):** A map titled "AFTER TODAY" showing a complex network of orange and blue lines representing travel routes in a city area, with several red location markers.

**Screenshot 3 (Bottom Left):** A lock screen with the time 12:44 and date Tuesday, 16 January. A notification from TRAVLENDAR+ says: "Pay Attention! An event has recently become unreachable. Open the app to check it out!"

**Screenshot 4 (Bottom Right):** A detailed map of Milan showing travel options between Sigmund Freud and Bosco Verticale. It includes three route cards: one for walking (14 minutes), one for public transport (15 minutes), and one for a car (46 minutes). The "Study at Library" event is listed with the time 22:00 - 23:00.

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THANKS FOR THE ATTENTION  
QUESTIONS?

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