Data Management for the Web - TEAM 1

Belcao Matteo

Gangemi Giovanni

Comolli Federico

FitYourRun

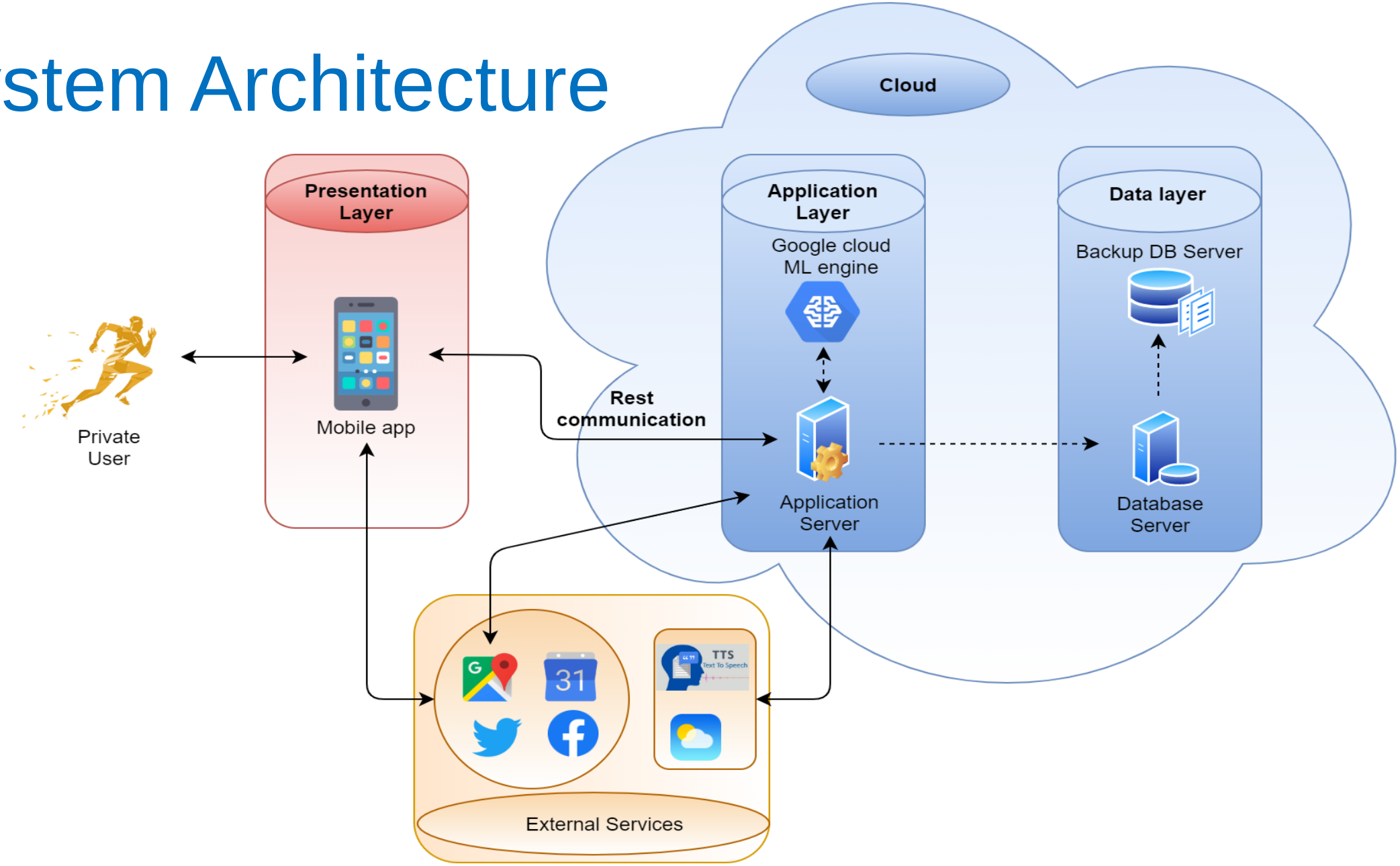
REQUIREMENT ANALYSIS

Competitor Analysis

https://www.runtastic.com/blog https://www.google.com/fit/
https://www.endomondo.com/ https://www.strava.com/

Features	FitYourRun	endomondo	STRAVA	adidas RUNTASTIC	Google Fit
Real-time tracking	✓	✓	✓	✓	✓
Social networks sharing	✓	✓	✓	✓	✗
Statistics	✓	✓€	✓	✓	✓
Personalized training	✓ Machine Learning	✓€	✓	✗	✗
Shared training	✓	✗	✗	✓	✗
Tailor-made paths	✓	✗	✗	✗	✗
Off-line maps (navigation)	✓	✓	✗	✗	✗
Real-time streets condition	✓	✗	✓	✗	✗
Popular Local Paths	✓	✗	✗	✗	✗
Algorithm Tuning	✓ Machine Learning	?	?	✗	✗
Runners ranking	✓	✗	✓	✓	✗
Awards	✓	✓	✓	✗	✗

System Architecture



System Architecture

MOBILE APPLICATION

JAVA

SWIFT

REST COMMUNICATION

✓NO session concept
✓EASY-TO-USE primitives

STUDENTS PROJECT

↓

LOW INITAL BUDGET

EXTERNAL SERVICES

✓ Supports for the computation
✓ SAVE TIME
– Dependence on external companies

CLOUD-BASED APPROACH

✓NO maintenance costs
✓NO starting costs
✓Instant scalability
✓Pay-per-usage billing
– Higher long-term costs

TECHNOLOGIES

DATABASE

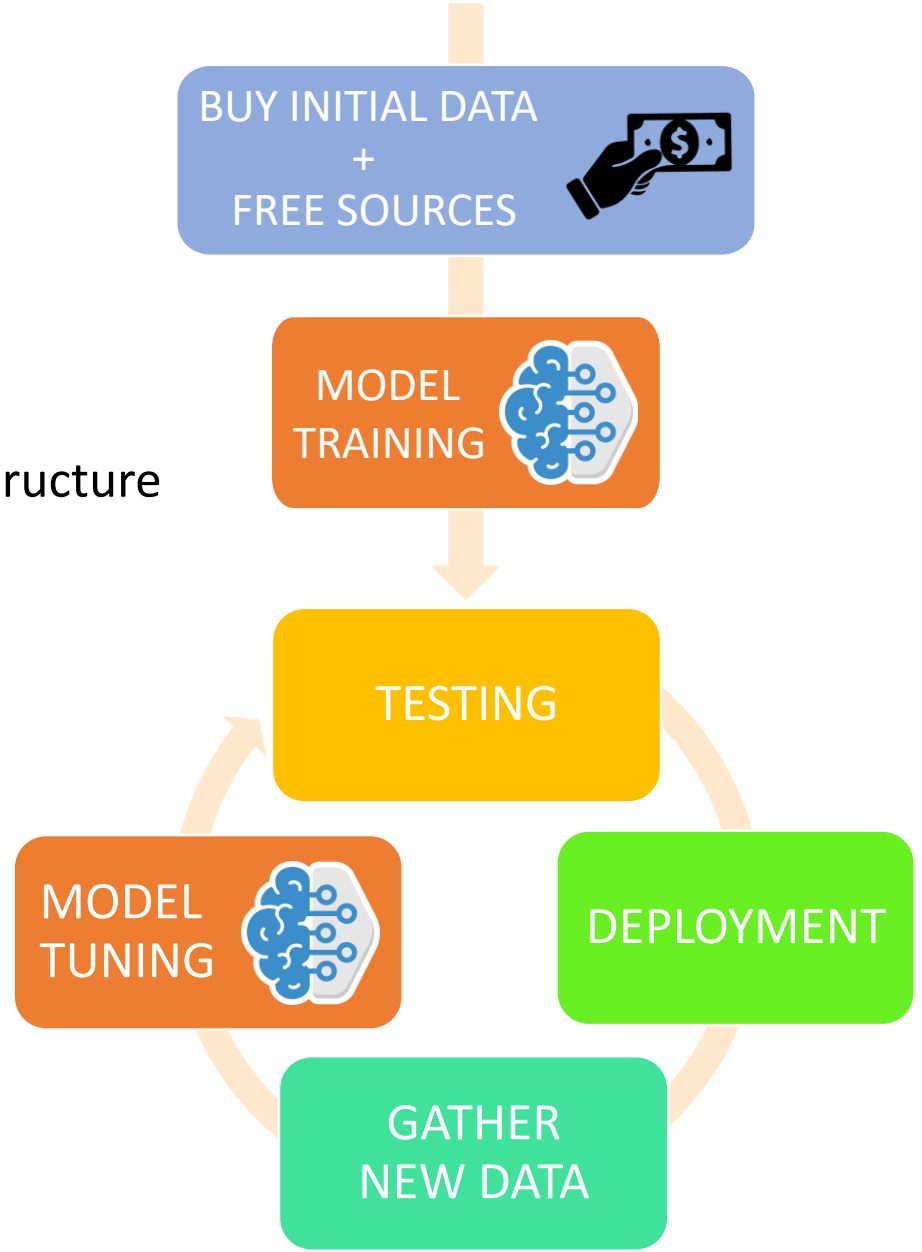
BACKEND LOGIC

ML

Machine Learning

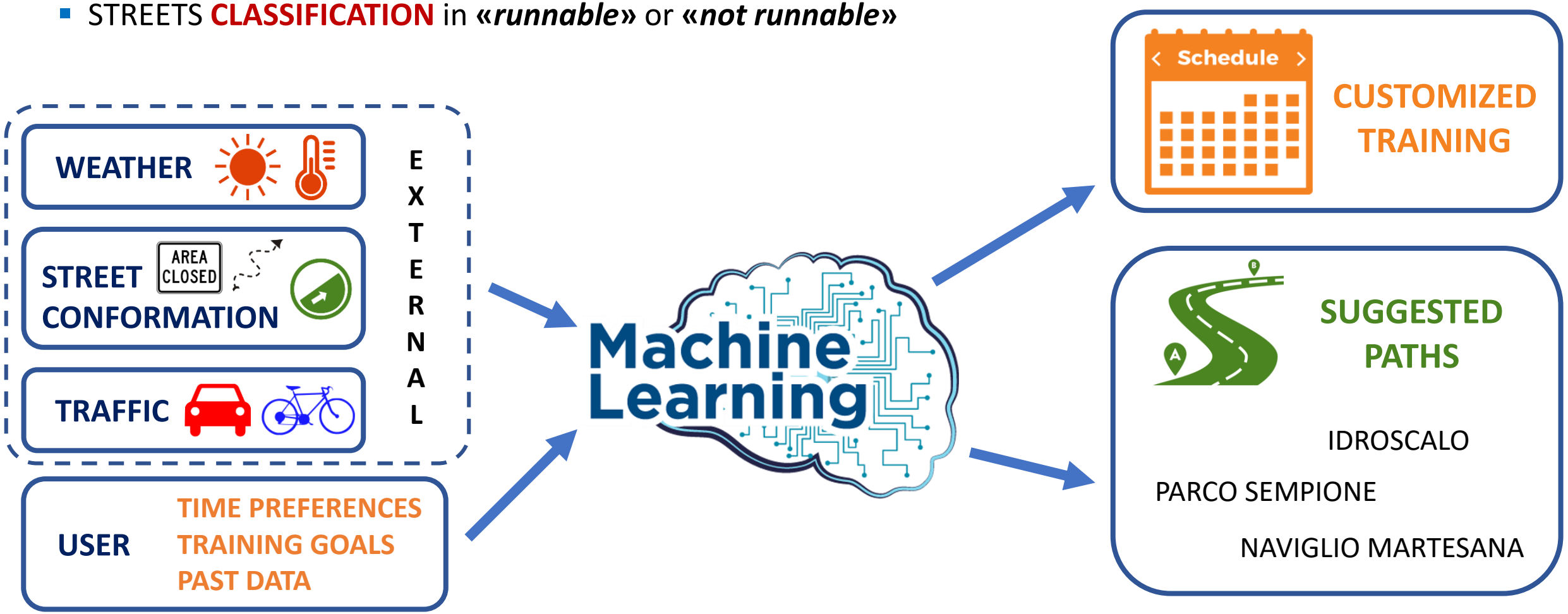
- **GOOGLE CLOUD ML ENGINE**
  - \+ Scalability
  - \+ Fast Deployment, no need to think about the physical infrastructure
  - \+ Distributed computation (automatic)
  - – Long-term costs

- **DATA PROVENANCE**
  - **free sources** for streets, traffic and weather
  - **buy once** users statistics for the initial training from a **provider**
  - **collect** users data **over the time**



TRAING PATHS : collection of **runnable streets** that are arranged in an **adjacent manner**

- **SUPERVISED LEARNING**
  - EXERCISES **CLASSIFICATION** in «***appropriate***» or «***not appropriate***»
  - STREETS **CLASSIFICATION** in «***runnable***» or «***not runnable***»



Weaknesses

RESPONSIBILITY IN CASE OF INJURES OR PROPERTY INTRUSION

POOR ALGORITHM SUGGESTIONS

PRIVACY ISSUES

GDPR

Threats

CLOUD RENTAL FEES

MANY OTHER RUNNING APPS ON THE MARKET…

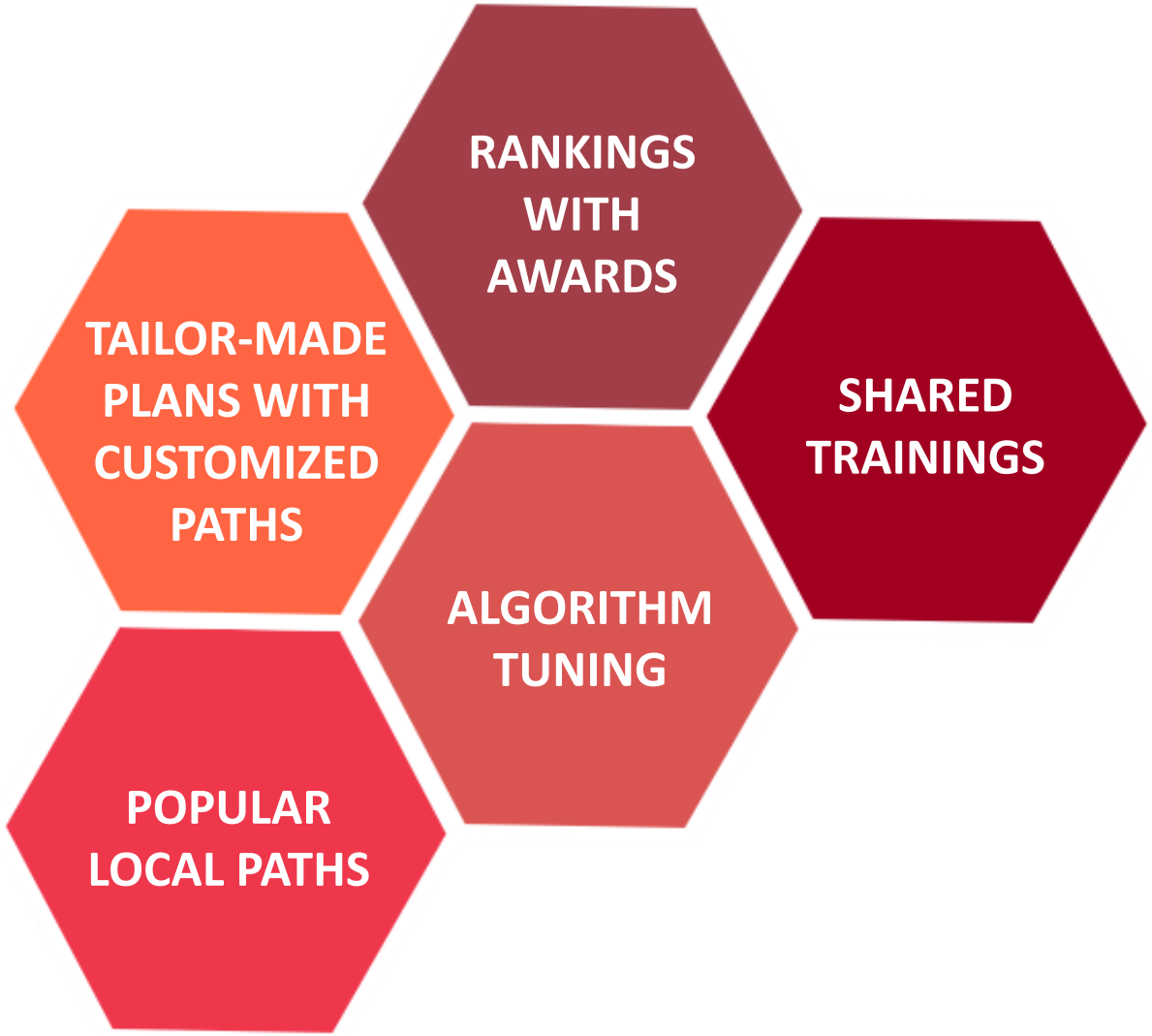
1)EXTERNAL COMPANIES DEPENDENCE

APIs WRONG INFORMATION

APIs NON-AVAILABILITY

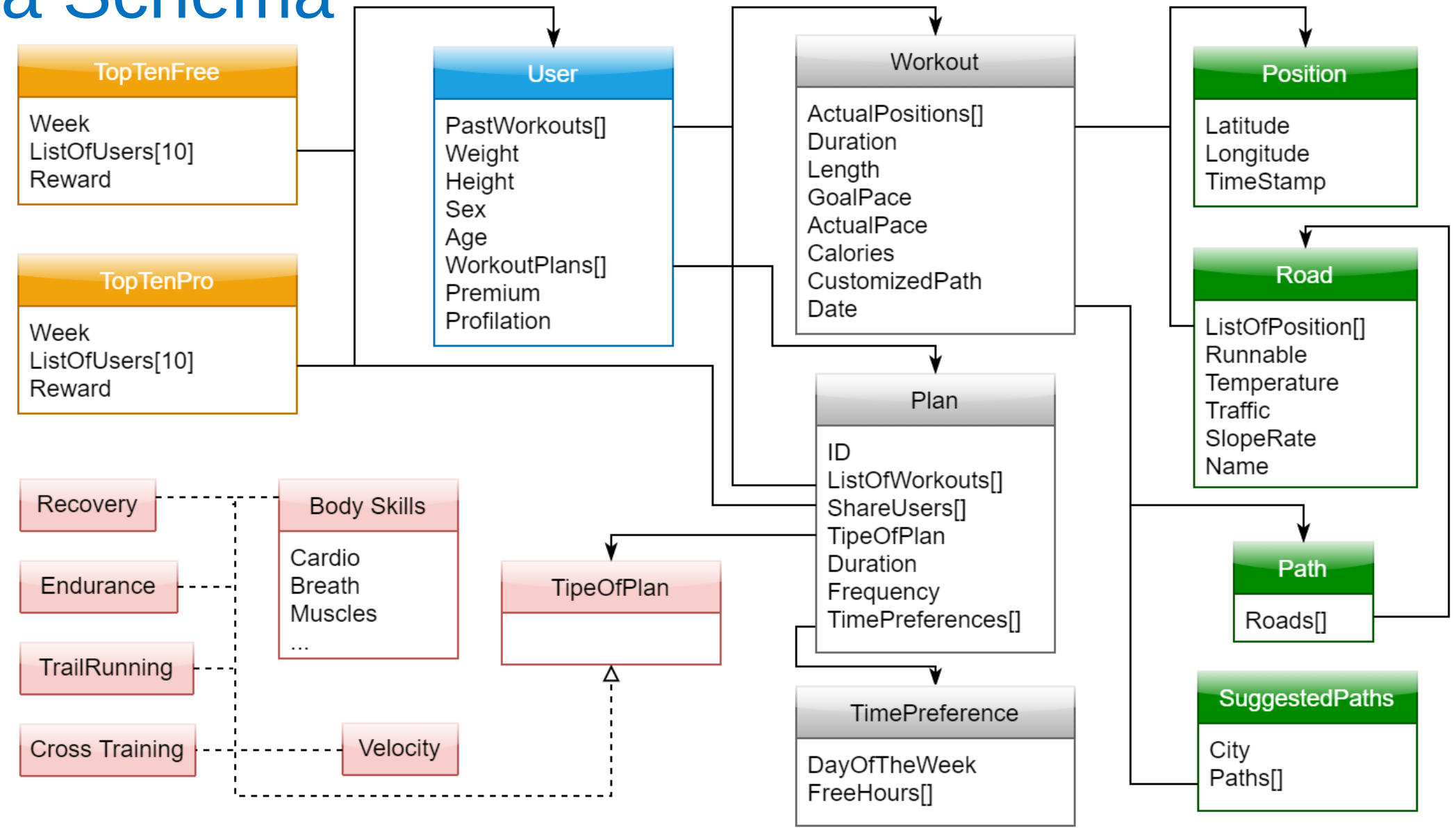
2) LONG RAINY PERIODS

Strengths

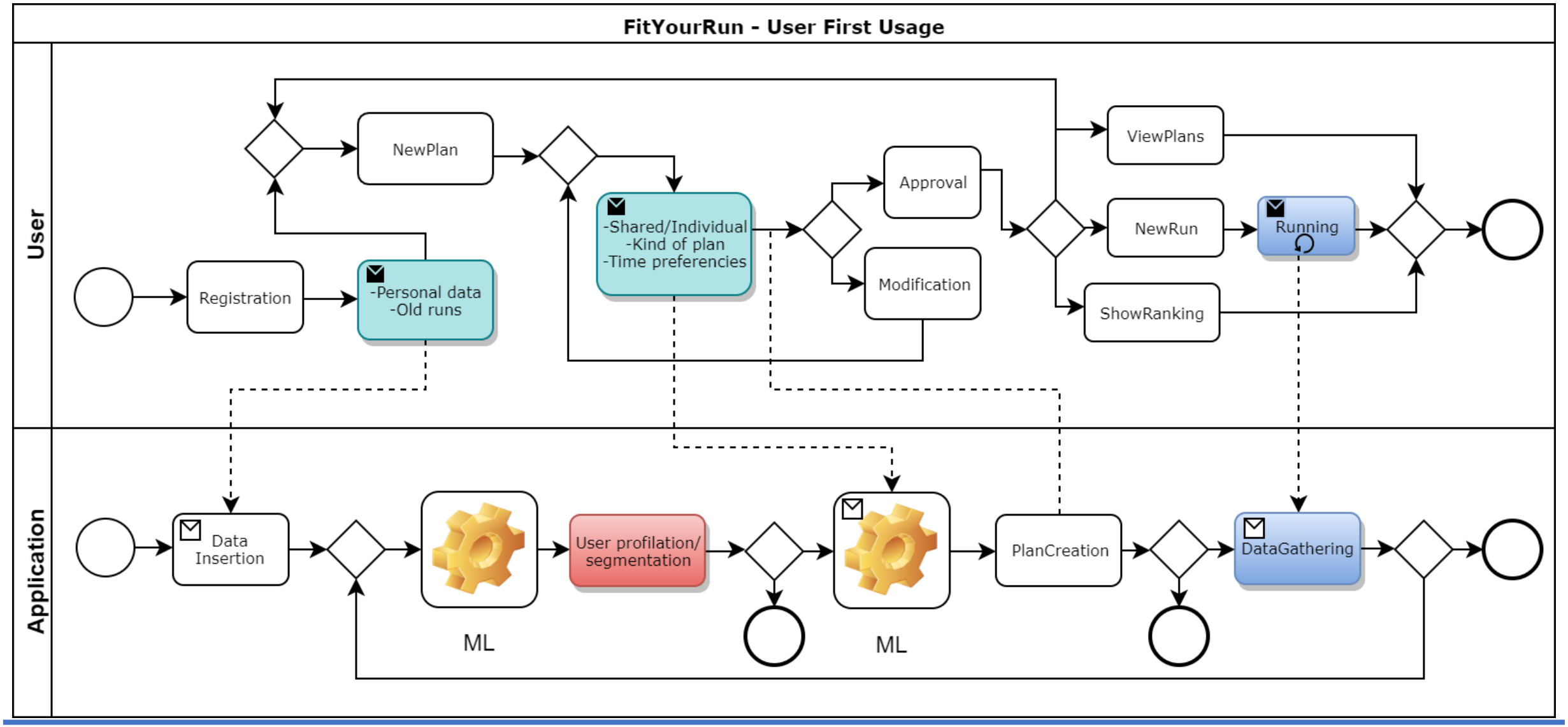


Opportunities

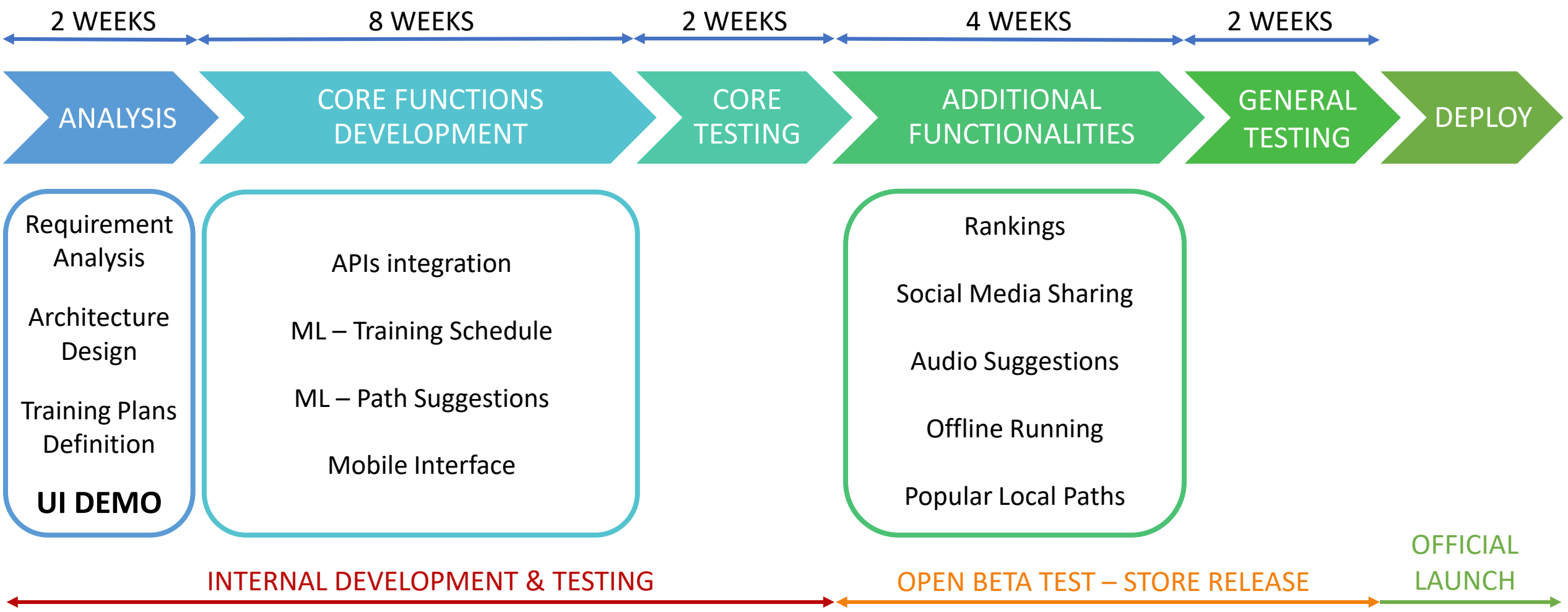
Data Schema


TopTenFree
Week
ListOfUsers[10]
Reward
TopTenPro
Week
ListOfUsers[10]
Reward
User
PastWorkouts[]
Weight
Height
Sex
Age
WorkoutPlans[]
Premium
Profilation
Workout
ActualPositions[]
Duration
Length
GoalPace
ActualPace
Calories
CustomizedPath
Date
Position
Latitude
Longitude
TimeStamp
Road
ListOfPosition[]
Runnable
Temperature
Traffic
SlopeRate
Name
Plan
ID
ListOfWorkouts[]
ShareUsers[]
TipeOfPlan
Duration
Frequency
TimePreferences[]
Path
Roads[]
SuggestedPaths
City
Paths[]
TimePreference
DayOfTheWeek
FreeHours[]
Recovery
Endurance
TrailRunning
Cross Training
Body Skills
Cardio
Breath
Muscles
...
Velocity
TipeOfPlan

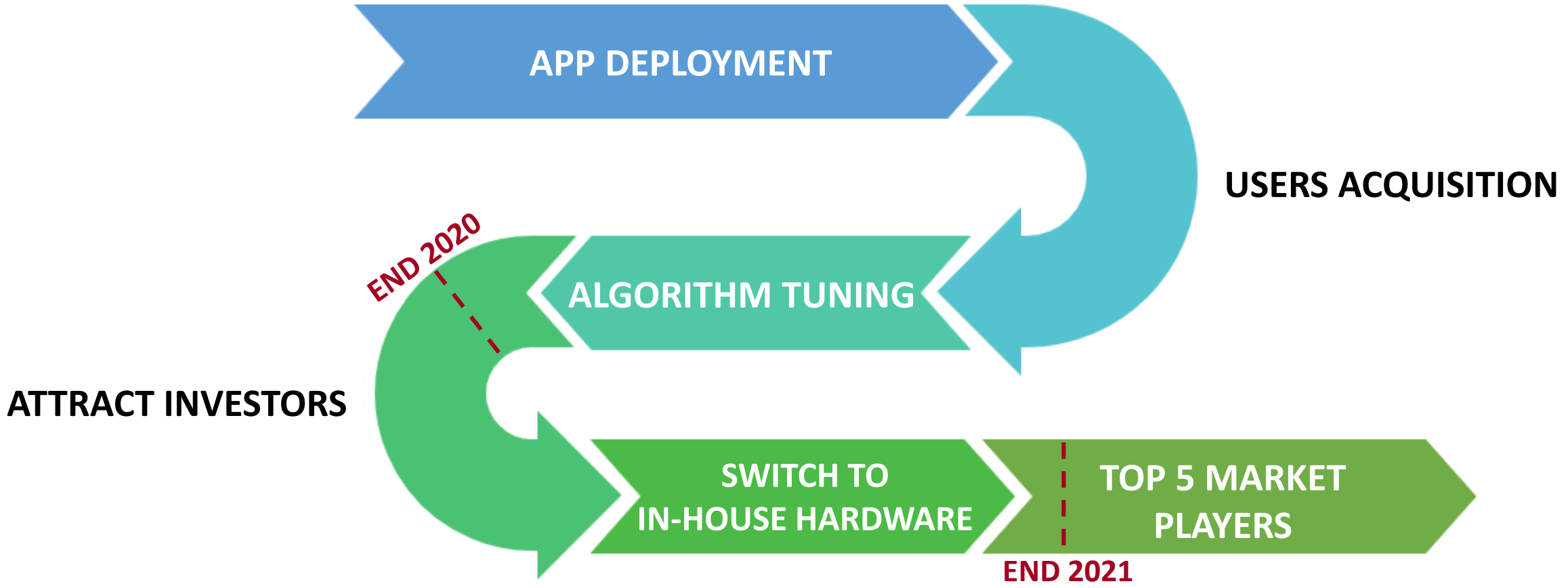
Flow Of Activities



Project Workplan



Growth Path


APP DEPLOYMENT
USERS ACQUISITION
END 2020
ALGORITHM TUNING
ATTRACT INVESTORS
SWITCH TO
IN-HOUSE HARDWARE
TOP 5 MARKET
PLAYERS
END 2021