CyclingPortalImpl

~ races: HashMap<Integer, Race>
~ stages: HashMap<Integer, Stage>
~ checkpoints: HashMap<Integer, Checkpoint>
~ riders: HashMap<Integer, Rider>
~ teams: HashMap<Integer, Team>

+ getRaceIds(): int[]
+ createRace(name : String, description : string): int
+ viewRaceDetails(raceId : int): String
+ removeRaceById(raceId : int): void
+ getNumberOfStages(raceId : int): int
+ addStageToRace(raceId : int, stageName : String, description : String, length : double, startTime : LocalDateTime, type : StageType): int
+ getRaceStages(raceId : int): int[]
+ getStageLength(stageId : int): double
+ removeStageById(stageId : int): void
+ addCategorizedClimbToStage(stageId : int, location : Double, type : CheckpointType, averageGradient : Double, length : Double): int
+ addIntermediateSprintToStage(stageId : int, location : Double): int
+ removeCheckpoint(checkpointId : int): void
+ concludeStagePreparation(stageId : int): void
+ getStageCheckpoints(stageId : int): int[]
+ createTeam(name String, description : String): int
+ removeTeam(teamId : int): void
+ getTeams(): int[]
+ getTeamRiders(teamId : int): int[]
+ createRider(teamId : int, name : String, yearOfBirth : int)
+ removeRider(riderId : int)
+ registerRiderResultsInStage(stageId : int, riderId : int, checkpointTimes : LocalTime...)
+ getRiderResultsInStage(stageId : int, riderId : int): LocalTime[]
+ getRiderAdjustedElapsedTimeInStage(stageId : int, riderId : int): LocalTime
+ deleteRiderResultsInStage(stageId : int, riderId : int): void
+ getRidersRankInStage(stageId : int): int[]
+ getRankedAdjustedElapsedTimesInStage(stageId : int): LocalTime[]
+ getRiderPointsInStage(stageId : int): int[]
+ getRidersMountainPointsInStage(stageId : int): int[]
+ eraseCyclingPortal(): void
+ saveCyclingPortal(filename : String): void
+ loadCyclingPortal(filename : String): void
+ removeRaceByName(name : String): void
- getRiderTotalAdjustedTimeSorted(raceId : int): LinkedHashMap<Integer, LocalTime>
+ getRidersGeneralClassificationRank(raceId : int): int[]
+ getGeneralClassificationTimesInRace(raceId : int): LocalTime[]
+ getRidersPointsInRace(raceId : int): int[]
+ getRidersMountainPointsInRace(raceId : int): int[]
+ getRidersPointClassificationRank(raceId : int): int[]
+ getRidersMountainPointClassificationRank(raceId : int): int[]

Rider

- riderId: int
- name: String
- yearOfBirth:int
- teamId: int
- stageResults: HashMap<Integer, Integer>
- checkpointResults: HashMap<Integer, Integer>
- checkpointTimes: HashMap<Integer, LocalTime[]>
- currentId: AtomicInteger

+ Rider(teamId : int, name : String, yearOfBirth : int)
+ getRiderID(): int
+ setRiderID(riderId : int): void
+ getName(): String
+ setName(name : String): void
+ getYearOfBirth(): int
+ setYearOfBirth(yearOfBirth : int): void
+ getTeamID(): int
+ setTeamID(teamId : int): void
+ getStageResults(stageId : int): int
+ getCheckpointResults(checkpointId : int): int
+ getCheckpointTimes(): LocalTime[]
+ addStageResults(stageId : int, results : int): void
+ addCheckpointResults(checkpointId : int, result : int) : void
+ addCheckpointTimes(stageId : int, checkpointTimes : LocalTime[]) : void
+ deleteStageResults(stageId : int): void
+ deleteCheckpointResults(checkpointId : int): void
+ deleteCheckpointTimes(stageId : int): void
+ calculateRidersTotalElapsedTime(stageId : int): LocalTime
+ calculateRiderTotalMountainPoints(checkpointIds : int[]): int
+ atomcReset(): void

Race

- raceId: int
- raceName: String
- raceDescription: String
- riderIds: ArrayList<Integer>
- stages: ArrayList<Integer>
- currentId: AtomicInteger

+ Race(raceName : String, raceDescription : String)
+ getRaceID(): int
+ setRaceID(raceId : int): void
+ getRaceName(): String
+ setRaceName(raceName : String): void
+ getRaceDescription(): String
+ setRaceDescription(raceDescription : String): void
+ getRiderIDs(): int[]
+ getStageIDs(): int[]
+ addStage(stageId : int): void
+ deleteStage(stageId : int): void
+ addRider(riderId : int): void
+ deleteRdier(riderId : int):void
+ atomicReset(): void

Team

- teamId: int
- teamName: String
- teamDescription: String
- riders: Rider[]
- currentId: AtomicInteger

+ Team(teamName : String, teamDescription : String)
+ getTeamID(): int
+ setTeamID(teamId : int): void
+ getTeamName(): String
+ setTeamName(teamName : String): void
+ getTeamDescription(): String
+ setTeamDescription(teamDescription : String): void
+ getRiders(): int[]
+ setRiders(riders : Rider[]): void
+ addRider(riderId : int):
+ removeRider(riderId : int):
+ atomicReset(): void

Checkpoint

- checkpointId: int
- location: Double
- length: Double
- averageGradient: Double
- stageId: int
- type: CheckpointType
- riderCompletionTimes: HashMap<Integer, LocalTime>
- currentId: AtomicInteger
- SPRINTCHECKPOINTPOINTS: int[]
- MOUNTAINCHECKPOINTHCPOINTS: int[]
- MOUNTAINCHECKPOINTC1POINTS: int[]
- MOUNTAINCHECKPOINTC2POINTS: int[]
- MOUNTAINCHECKPOINTC3POINTS: int[]
- MOUNTAINCHECKPOINTC4POINTS: int[]

+ Checkpoint(stageId : int, location : double, type : CheckpointType, length : double, averageGradient : double)
+ Checkpoint(stageId : int, location : double)
+ getCheckpointID(): int
+ setCheckpointID(checkpointId : int): void
+ getLocation(): Double
+ setLocation(location : Double): void
+ getLength(): Double
+ setLength(Length : Double): void
+ getAverageGradient(): Double
+ setAverageGradient(averageGradient : Double): void
+ getType(): CheckpointType
+ setType(type : CheckpointType): void
+ getStageId(): int
+ getIntermediateSprintPoints(): int[]
+ getMountainClimbHCPoints(): int[]
+ getMountainClimbC1Points(): int[]
+ getMountainClimbC2Points(): int[]
+ getMountainClimbC3Points(): int[]
+ getMountainClimbC4Points(): int[]
+ getRiderCompletionTimes(riderId : int)
+ addCompletionTime(riderId : int, completeTimes : LocalTime)
+ deleteCompletionTime(riderId : int)
+ calculateRidersRankInCheckpoints() : int[]
+ atomicReset(): void

<<enumeration>>
CheckpointType

C1
C2
C3
C4
HC
SPRINT

Stage

- stageId: int
- stageName: String
- description: String
- raceId: int
- length: Double
- state: String
- type: Stagetype
- startTime: LocalTime
- checkpointIds: ArrayList<Integer>
- riderCompletionTimes: HashMap<Integer, LocalTime>
- riderAdjustedTimes: HashMap<Integer, LocalTime>
- currentId: AtomicInteger
- FLATSTAGEPOINTS: int[]
- MEDIUMMOUNTAINSTAGEPOINTS: int[]
- HIGHMOUNTAINANDTTSTAGEPOINTS: int[]

+ Stage(stageName : String, description : String, length : double, startTime : LocalDateTime, type : StageType)
+ getStageID(): int
+ setStageID(stageId : int): void
+ getStageName(): String
+ setStageName(stageName : String): void
+ getDescription(): String
+ setDescription(description : String): void
+ getRaceId(): int
+ setRaceId(raceId : int): void
+ getLength(): Double
+ setLength(length : Double): void
+ getState(): String
+ setState(state : String): void
+ getStageType(): StageType
+ setStageType(type : StageType): void
+ getStartTime(): LocalDateTime
+ setStartTime(startTime : LocalTime): void
+ getCheckpointIDs(): int[]
+ getFlatStagePoints(): int[]
+ getMediumMountainStagePoints(): int[]
+ getHighMountainAndTTStagePoints(): int[]
+ getRiderCompletionTimes(riderId : int): LocalTime
+ getRiderAdjustedTimes(riderId : int): LocalTime
+ addCheckpointID(checkpointId : int): void
+ deleteCheckpointID(checkpointId : int): void
+ addCompletionTime(riderId : int, completeTime : LocalTime): void
+ deleteCompletionTime(riderId : int): void
+ addAdjustedTime(riderId : int, adjustedTime : LocalTime): void
+ deleteAdjustedTime(riderId : int): void
+ calculateRidresAdjustedTime(riderId : int): LocalTime
+ calculateRidersRankInStage(): int[]
+ getRankedAdjustedElapsedTimesInStage() LocalTime[]
+ atomicReset(): void

<<enumeration>>
StageType

FLAT
HIGH_MOUNTAIN
MEDIUM_MOUNTAIN
TT

<<Interface>>
StageInterface

+ calculateRidersAdjustedTime (riderId : int): LocalTime
+ calculateRidersRankInStage(): int[]
+ getRankedAdjustedElapsedTimesInStage(): LocalTime[]