Mobile Computing (2021 Fall)

PaceMaker

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Overview: *PaceMaker*

- GPS-based running match matching service

- Ranking is measured in real time according to the actual moving distance

Anytime
AnyOne
AnyWhere!

Target Users & Problems

Problems

- Someone want to run together, but it is difficult for people to gather
- It is difficult to find a track where several people can run at the same time.

Target Users

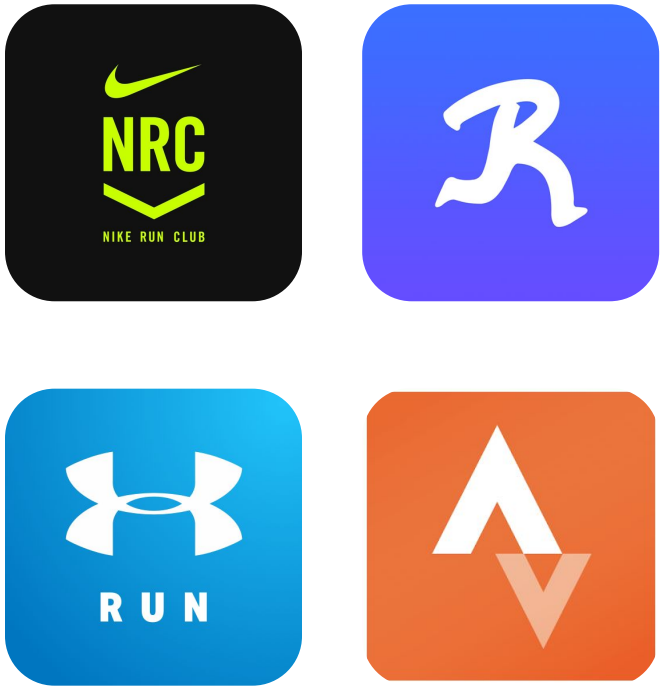
People who run alone but want to run with other people at the same time
People who want to compete in running regardless of time and space

Existing Solutions

- There are so many apps related to running.

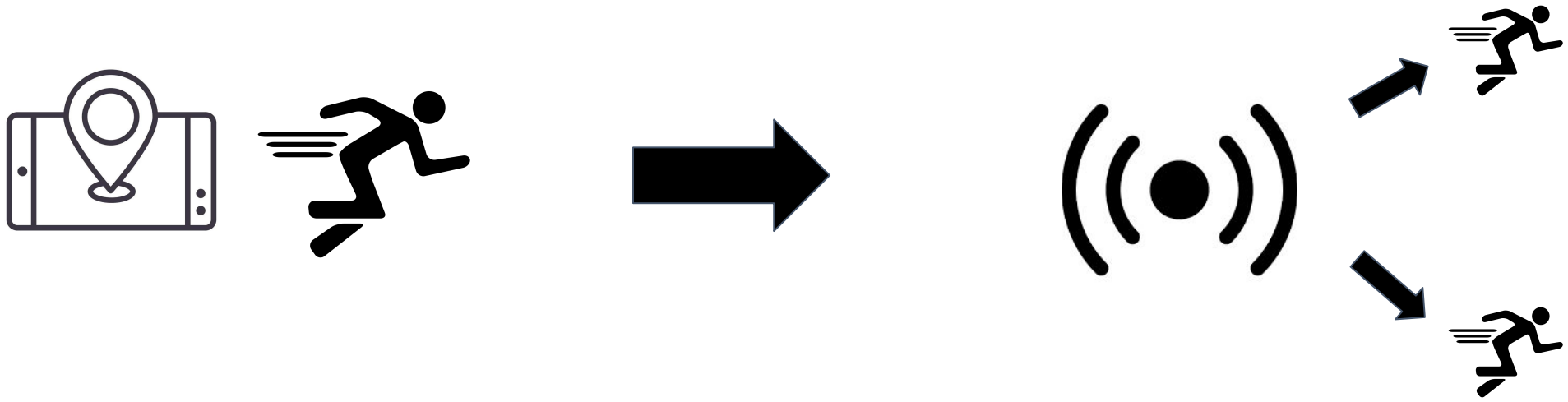
- Many apps can analyze users' runs and share challenges with friends.

- But, there is no app that provides real-time running competitions.



Key Solutions Approach

- Track the user's location in real time using Http or Socket and broadcast it to other users!



Scenario

- Before running, select distance and start connecting with other(s).
- Run and compete with other(s) to reach the destination first.
- After running, check the result.

Tech Stack

- Mobile Application (iOS)
  - Swift
  - Get user location with CLLocationManager
  - Use socket or polling to connect

- Server
  - Kotlin & Spring boot
  - Matching queue and real-time user tracking using AWS SQS, Redis
  - Cloud Infrastructure (AWS EC2 using Elastic Beanstalk or ECS - Dockerize)

Expected Challenges

- Analyzing running pattern including distance, velocity and acceleration
- Matching users with real time data.
- Frontend-Backend Connection using socket or polling.

Project Plan

Project Plan

Milestone	Period	Task
Milestone 2 (~11.08)	09.28 ~ 10.12	Project design (project plan, tech stack, ui/ux)
	10.13 ~ 10.20	**Base structure** - user - connection - cloud infrastructure
	10.13 ~ 11.08	**MVP prototype** - mvp ui / ux - real-time connection competetion - minimal running information
Milestone 3 (~12.13)	11.09 ~ 11.23	**Full featured app** - improved ui / ux - fully analyzing running
	11.24 ~ 12.13	Testing and review

Task Designation		
Frontend (iOS)	- base structure - ui / ux - user - real-time connection	이동현
	- ui / ux - user location - running information	이지원
Backend	- real-time user tracking - cloud Infrastructure	서성호
	- matching queue - real-time user tracking	이다운

감사합니다!

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