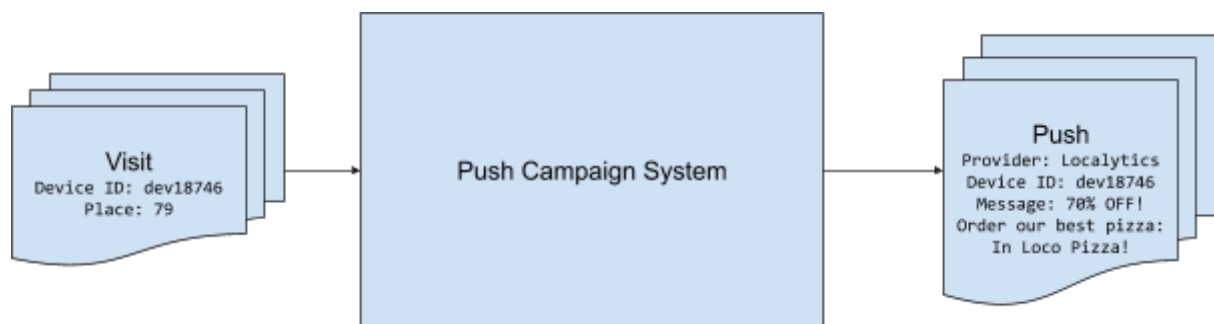


Push Campaign System

In Loco already operates in Ad Tech market, which means that our clients can take advantage of our location intelligence to impact the right people! An important feature is allowing clients to impact a mobile device when it is at a specific place with a push notification.

For this to happen, we have some entities:

1. **Campaign:** it contains the targeting that the client wants to impact, the message that the user should receive in their mobile device and which provider should be used to deliver it. This targeting simply contains many ids of places that the user should visit to be impacted.
2. **Visit:** it contains the mobile device id as well as the place where it is.
3. **Push notification provider:** we didn't want to implement push notification logic, so we will use a third-party solution to deliver the message to the mobile device.



Requirements:

1. It must be easy to add a new push notification provider, which could have its own delivery logic.
2. A campaign has only one push message, but can have many places as targeting
3. A campaign should not be delivered to a device if its location does not match any campaign's targeting
4. The system must accept a [file with many visit events](#)
5. The system [must print](#), for each processed visit, the push that would be sent considering it

Code Design

You need to describe how you would design the code of this system, with classes, modules or whatever you think is necessary. Also why each module exists and their responsibilities. Maybe it would be easier to describe these modules by describing the flow of the data since the visit processing until the push notification to the mobile device.

System implementation

You need to implement the system as you designed previously. Feel free to choose any programming language, as well as libraries and so on.

Additional info:

- Files with [active campaigns](#) will be given, so the system can load it
- Initially the system must be integrated with two hypothetical providers. Each of them should log the push notification in its own way.
 - Mixpanel: "Olar! <message>"
 - Localytics: { "message": <message>, device_id: <device_id> }

What will be evaluated?

- The final application provides a README file with instructions on how to run it? And how to run the tests?
- The solution works as it should be?
- All tasks were delivered? The applicant made something beyond the expected?
- Is the code easy to read?
- The code uses the common conventions of the used language?
- Did the applicant comprehend the problem as a whole?
- Did they structure/model the solution accordingly?
- The structure/architecture of the final application makes sense?
- Were the right tools for the solution used? Or did the applicant use a fork to have soup?
- Do you feel that the user was committed to delivering something really good?
- If you were asked to implement more features on the delivered application, would you rather keep the code or forget it and start the whole thing from scratch?
- Did the tests really describe the solution?
- Does he or she care about literate tests?
- Try to identify if the applicant did use of TDD/BDD.
- Look at the repository log and check if the commits are tiny, with a well described purpose.

Appendix

Visit log sample
Visit: id=8623 device_id=dev92364, place_id=79 Visit: id=2274 device_id=uid6244, place_id=10 Visit: id=12 device_id=ale835, place_id=22 Visit: id=632984 device_id=oery926, place_id=90

Push output sample

=> Push sent regarding visit 8623

==> Device ID: "dev92364"

==> Localytics logging: { "message": "Olar! 70% OFF! Order our best pizza: In Loco Pizza!", device_id: "dev92364" }

=> Push sent regarding visit 2274

==> No campaign with matching target

=> Push sent regarding visit 12

==> Device ID: "ale835"

==> Localytics logging: { "message": "Olar! 70% OFF! Order our best pizza: In Loco Pizza!", device_id: "ale835" }

=> Push sent regarding visit 632984

==> Device ID: "oery926"

==> Mixpanel logging: Olar! Novidade para você! Peça o drink do dia! Se beber, não dirija. :)

Active campaigns

```
[{ "id": 1, "provider": "localytics", "push_message": "70% OFF! Order our best pizza: In Loco Pizza!", "targeting": [{ "place_id": 79, "name": "In Loco Pizzas – Recife Antigo" }, { "place_id": 22, "name": "In Loco Pizzas – Casa Forte" }] }, { "id": 2, "provider": "mixpanel", "push_message": "Peça o drink do dia! Se beber, não dirija. :)", "targeting": [{ "place_id": 33, "name": "Bar da esquina" }, { "place_id": 90, "name": "In Loco Drinks Bar" }, { "place_id": 7624, "name": "In Loco Restaurante" }] } ]
```