Architecture - Week 45

>> Two use cases, Bob & Alice :

> Use Case 1 - Bob :

1. Bob is a lambda student who wants to move
2. Bob need to transport his bed from is parents house (Nice) to is new student appartment (Sophia)
3. Bob is a smart guy so he decide to use BlablaMove
4. He log in on BlablaMove : he has the right amount of points.
5. He fill a form where he give some informations : the start point of the things he want to move, the arrival point, the size of his bed, the weight of his bed, when he wants to move (range ?) and the maximum number of points he want to spend.
6. The system give him a list of results who answer his need. (Number of points/Date/ Hours/...)
7. Bob chose a ride for his bed
8. The system answer him with a recap
9. Bob confirm
10. He receive a confirmation mail from BlablaMove : Charlie can help him to move his things
11. --- Ellipse ---
12. At the chosen date, Charlie goes to Bob house and take his bed
13. Charlie goes to Sophia
14. Bob receive an notification that confirm the delivery of his bed
15. Bob can now confirm the transaction to BlaBlaMove
16. After the confirmation from Bob, the BlablaMove collects the points that were needed for this transaction

> Use Case 2 - Alice :

1. Alice is a student who lives in Nice and goes to Sophia in car every day for her studies
2. She decide to create an account to BlablaMove to help others student to move their things
3. She create her account and specify the type of car (5 places, medium) and her disponibilities.
4. On BlaBlaMove she offers to transport things between Nice and Sophia every day, between 7:30 am (Nice) and 8:30 am (Sophia).
5. When she makes the offer, BlaBlaMove suggests a amount of point she should charge for the delivery. (Based on the number of points that are usually charged for this distance.)
6. She can choose to charge the amount BlaBlaMove suggest her, or she can make a new offer. The number of points she can charge for a delivery will be in a certain range proposed by the system, it can’t be to expensive compare to the average offers.
7. One day she receives a mail from BlaBlaMove : Dimitri wants her to transport a box from Nice to Sophia at a certain date.
8. She agrees to do it and confirm on BlablaMove.
9. --- Ellipse ---
10. At the chosen date, she goes to Dimitri's house and take his box in her car
11. She goes to Sophia and leave the box where Dimitri told her to.
12. She confirm on BlablaMove that she delivered the box.
13. She receives points for the delivery.

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> Use Cases variations to handle :

1. Bob choose Alice to move his bed but, in the end, Alice isn't available and refuse (She cancel on BlabalMove).
2. Bob choose Alice but want to cancel the transfert after confirmation.
3. Bob or Alice aren't at the meeting point.
4. The package is not delivered or is broken during the transfert.
5. Bob want to move something but he don't have enough points.
6. One car isn't enough to get the box from A to B. (Connection necessary)

>> Focus on billing :

The calculation of our billing will be done according to the following parameters :

* Different prices depending on the distance to cover, the weight and size of the package(s).
* When a user wants to make a reservation, the more he will be close to the date of the move, the more he will spend points on the delivery. (If he want to make a reservation for the next day, it will be more expensive than for the next week.)
* BlaBlaMove will take 10% of the points that Bob will pay for Alice to move his things. (If Bob pay 100 points, Alice will receive 90 points and BlablaMove 10 points.)
* Optionally, when he will fill the form to do the research at the start of the process, Bob will be able to say how many points he want to spend on his move. (If he has 300 points, maybe he want to spend only 100.So if an offer cost more than 100 points, it won’t appear in his research.)
* At the end of the process, the points transactions will needs a double validation : first Alice will confirm that she has deliver the package of Bob, then Bob will confirm that is package was indeed safely delivered. If there’s a problem in the validation process, a rollback will be possible.
* When Alice make an offer, she can choose a minimal amount of points she wants to charge for the delivery. However, depending of the size/weight of the things Bob wants to move, it will cost more to Bob. So if he wants to move his bed, it will be more expensive for him than 2 light boxes. But the minimum price for the delivery will be the price that Alice selected when she put the offer online.

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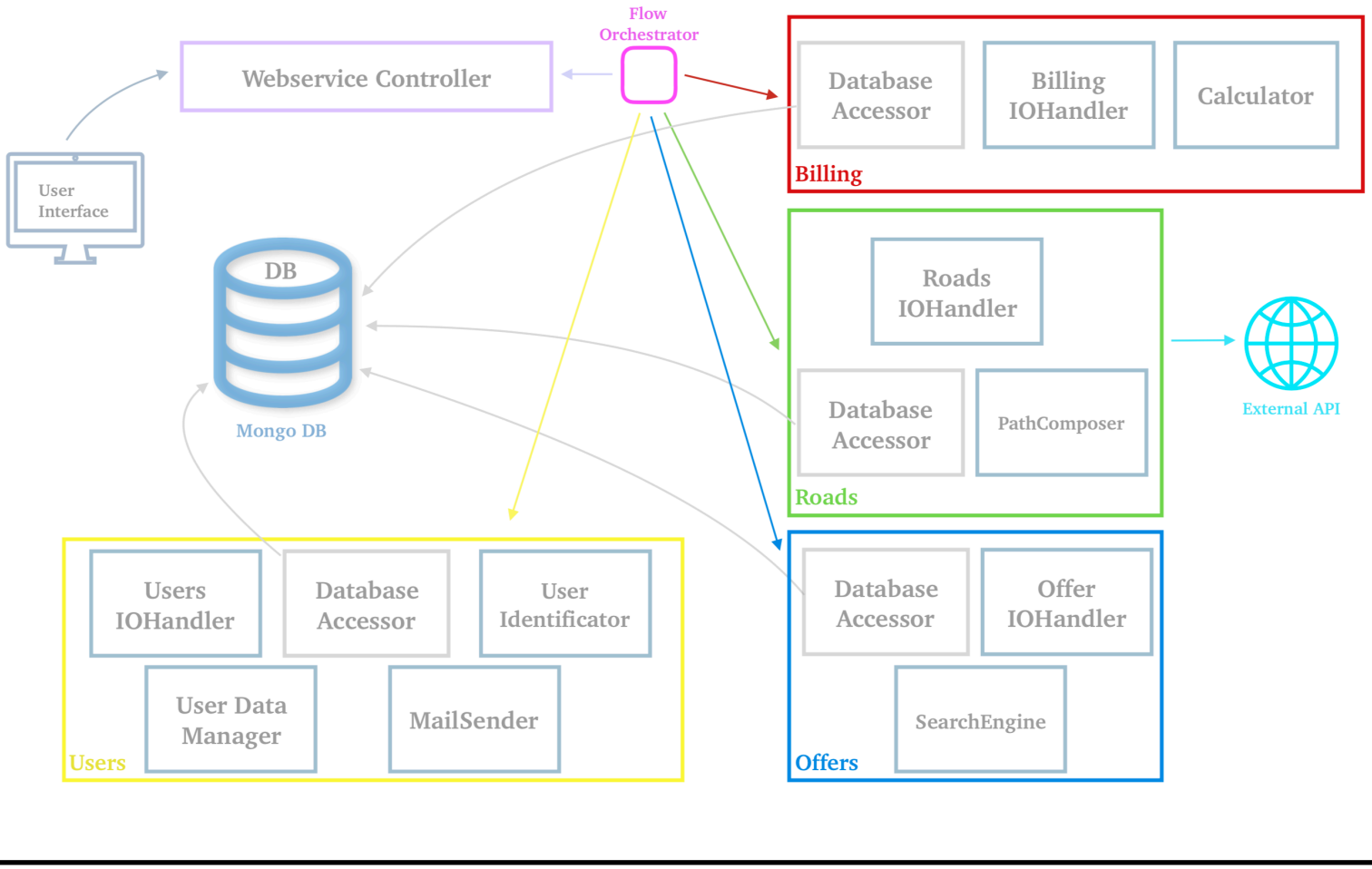
Architecture Overview



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>> Technological choices :

* **Java - Springboot :** Quick to deploy, strong code basis, everyone in the group already used Springboot in previous projects.
* **SQL Database :** Transactional management of the requests
* **Docker :** Independent deployment of BlaBlaMove

>> Quick overview of the work to do :

* **Week 42:**
  - Beginning of the code :
    - Start of database (Data model)
    - Listenning services
    - Components for Billing, Road and Users (Identification, Offer, Facturation…)

* **Week 43 (MVP):**
  - Work on the modules connection
  - Setting up the mocks for externals API
  - Properly finish the data model for the database
  - Billing :
    - Implementation of a first calculation and simple billing process

* **Week 44:**
  - Work on User
  - Finalization of Billing
  - Start of a demo preparation for the POC

* **Week 45:**
  - POC demo