**Technical Documentation**

**Technologies Used**

* **Spring Boot** (Java framework for building REST APIs)
* **Google Maps API** (for fetching bank details)
* **RESTTemplate**
* **Postman** (testing)

**Components**

| **Component** | **Description** |
| --- | --- |
| BankController | Accepts API calls like /banks/nearby?zipcode=522611 |
| BankService | Contains logic to get coordinates and call MapsService |
| MapsService | Calls Google Maps API with the location and gets bank data |
| RestTemplate | Makes HTTP GET requests to the external API |
| application.yml | Stores API key and configurations like the port numbers |

**Data Flow**

1. **User sends request** with zipcode to BankController
2. BankController calls the bankService’s getNearbyBanks
3. **BankService** calls maps.service.url (maps/banksIn10Miles) and appends the zipcode
4. The maps/banksIn10Miles inturn calls the mapsContoller
5. The mapsContoller calls mapsService.findNearbyBanks(zipcode);
6. MapsService hits **Google geolocationAPI** to get latitude and longitude from zipcode
7. Using lattitue and logiture and 10 miles radius (converted to meters) and **Googles Place nearbysearch API** fetches nearby banks.
8. Response is parsed and returned to user as JSON.

**Input:**

**Zipcode**

[**http://localhost:8081/banks/nearby?zipcode=522611**](http://localhost:8081/banks/nearby?zipcode=522611)

**Response**

[

{

"name": "HDFC Bank And ATM",

"address": "Vidya Towers, opposite Angel Talkies Lane, Arundelpet, Narasaraopeta"

},

{

"name": "Andhra Bank",

"address": "62JX+XMG, Saint Anns School Road, Prakash Nagar, Narasaraopeta"

}

]