MAPD713 Enterprise Technologies for Mobile Platforms

Project: Patient Data REST API (v6)

Descriptions

You are asked to help design REST API Service for a Patient Clinical Data management application for the health care providers (i.e. nurses and doctors) in the hospital.

- REST API Service shall allow health care providers to view patient general information.
- REST API Service shall allow health care providers to view the detailed clinical data (tests) for an individual patient.
- REST API Service shall allow health care providers to find out any patients in critical condition (e.g. patients with Blood Pressure less than 50/90 or greater than 60/150).
- The clinical data can include the following information:
    - Date/time, Type of Data, Reading/Value
    - Data Type:
        - Blood Pressure
        - Respiratory Rate
        - Blood Oxygen Level
        - Heart Beat Rate

Milestones & Evaluation Schema

Project - milestones	Deliverables	% of final grade	Due Date
Milestone 1 Mockups and requirements analysis	Document containing: - Title Page which includes team member names - Project description - Use cases / Functionality ● Add Patient Info ● View Patient Info ● List all Patients Info ● Add Tests for a Patient ● View Tests of a Patient ● Etc. - Sequence Diagrams for all use-cases - Documents should be uploaded to e.centennial in the format: <TeamName>_m1.zip (e.g. Nexus_m1.zip)	10	See Course Schedule
Milestone 2 Prototype, interface implementation, implementing selected functionality	- Web Server with Implementation of at least 3 use-cases - Demonstration of functionality (e.g. using Postman)	20	See Course Schedule

Milestone 3 Client – server integration	- Web Server with Implementation of all of use-cases - Integration with Mobile App (at least one use case – e.g. List All Patients) - Demonstration of integration using Android App (using test server with sample data or your own service)	20	See Course Schedule
Milestone 4 Integration, testing, and beta application	- Unit tests / Integration tests - Service Deployed to Cloud platform - Integration with Mobile App (at least 3 use cases) - Demonstration of integration using Android App (using test server with sample data or your own service) - Source Code should be uploaded to e.centennial in the format: <TeamName>_m4.zip (e.g. Nexus_m4.zip)	20	See Course Schedule
Presentation Final Submission and Presentation	- In-class Presentation (10 min max), each team member must participate in the presentation to earn the mark - All code and all documents should be uploaded to e.centennial in the format: <TeamName>_m_final.zip (e.g. Nexus_m_ final.zip)	20	See Course Schedule
	TOTAL	90	

Server with Sample Data

http://ehealth.heroku.com/patients - get all patients info


```
[
  {
    "first_name": "Peter",
    "last_name": "Doe",
    "address": "941 Progress Ave, Toronto, M3M3T3",
    "date_of_birth": "10/10/1985",
    "department": "Emergency",
    "doctor": "John Smith",
    "_id": "1"
  },
  {
    "first_name": "Steven",
    "last_name": "Newman",
    "address": "20 Yonge Street, Toronto, M1J2L3",
    "date_of_birth": "10/10/1995",
    "department": "Acute Care",
    "doctor": "Sam Rogers",
    "_id": "2"
  }
]
```


http://ehealth.heroku.com/patients/1 - get patient info of patient id=1


```
{
  "first_name": "Peter",
  "last_name": "Doe",
  "address": "941 Progress Ave, Toronto, M3M3T3",
  "date_of_birth": "10/10/1985",
  "department": "Emergency",
  "doctor": "John Smith",
  "_id": "1"
}
```


http://ehealth.heroku/patients/1/tests - get tests records of patient with id=1


```
[
  {
    "patient_id": "1",
    "date": "10/10/2016",
    "nurse_name": "Amanda Fox",
    "type": "Test",
    "category": "Blood Pressure",
    "readings": {
      "diastolic": 60,
      "systolic": 120
    },
    "_id": "1"
  }
]
```


Diagram Example

Client - Server Communication Diagram

- List all Patients Info

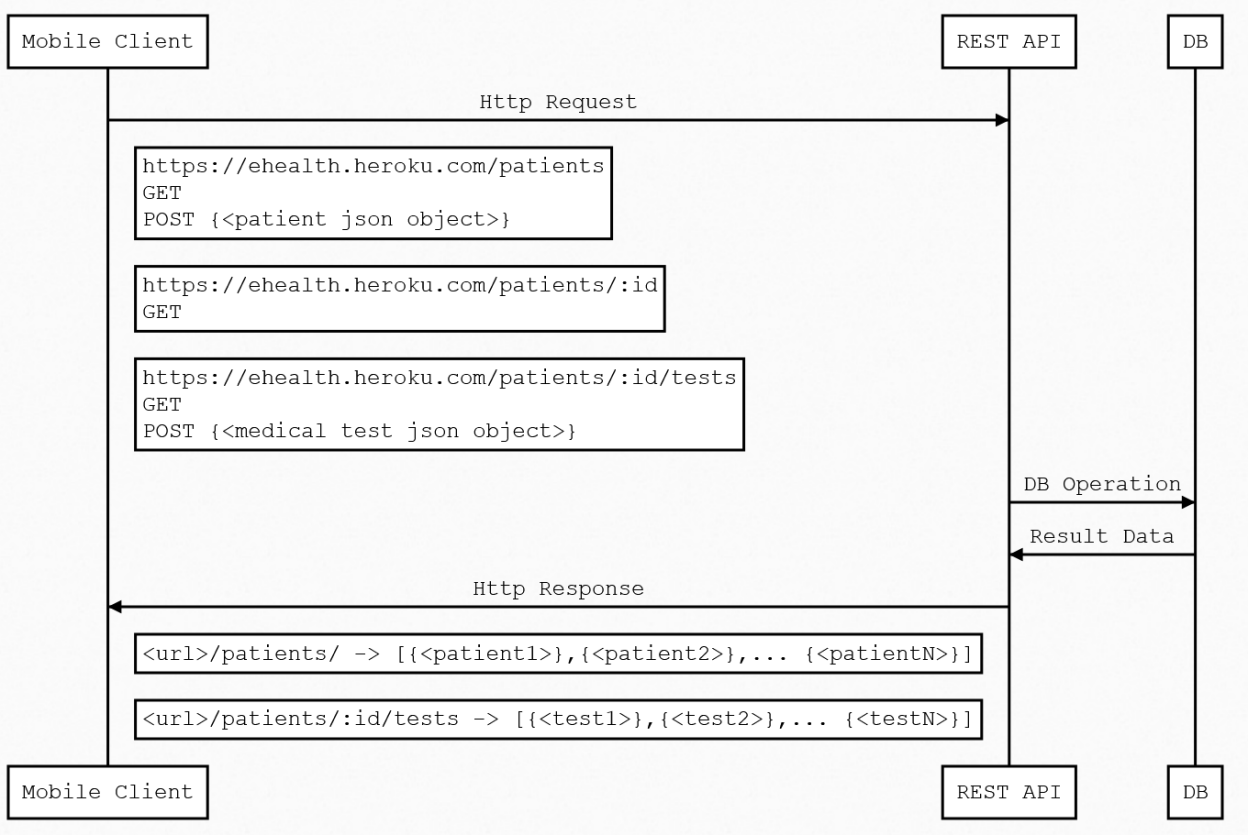

Diagram Source Code

Mobile Client->REST API: Http Request
Note right of Mobile Client: https://ehealth.heroku.com/patients\nGET\nPOST {<patient json object>}
Note right of Mobile Client: https://ehealth.heroku.com/patients/:id\nGET
Note right of Mobile Client: https://ehealth.heroku.com/patients/:id/tests\nGET\nPOST {<medical test json object>}
REST API->DB: DB Operation
DB->REST API: Result Data
REST API->Mobile Client: Http Response
Note right of Mobile Client: <url>/patients/ -> [{<patient1>},{<patient2>},... {<patientN>}]\n
Note right of Mobile Client: <url>/patients/:id/tests -> [{<test1>},{<test2>},... {<testN>}]\n

https://bramp.github.io/js-sequence-diagrams/