

Data Pipeline

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Data Pipeline 1 - Project Report

1 Introduction

The goal of this document is to detail the thought process that went into the design of the emr database in line with the question below.

1.1 Question

A member of the company has an electronic medical records (EMRs) within which general personal information is stored like age and weight, in addition to medication, allergies, immunization status, and medical history: consultations, surgeries, laboratory test results, etc., and billing information. Employees of the insurance company are managing the financial aspects of EMRs (reimbursement of medical expenses, according to the status of company members and medical prescriptions). Referring physicians and specialist physicians are managing the medical part of their patients EMRs (prescription of laboratory tests and medical acts, execution of these acts according to prescriptions).

2 Design

Given the question in 1.1, it was imperative for the designer to segment the problem into the appropriate entities. In this context, we have the Member, employee and physician. The member, is the owner of the following (not limited to):

1. Member

- firstname
- lastname
- gender
- weight
- dob
- address
- phonenumber

In addition to the primary fields above, we crafted the following complex types:

Medical History

- Medication
- Immunisation
- Consultation
- Prescription

Within each of these, we have more fields, which are not included in the interest of keeping the document short.

2. Employee

- firstname
- lastname

3. Physician

- firstname
- lastname
- specialty

3 Modelling

As noted in the previous section, members, employee and physician are the primary models of this EMR. A member holds an insurance policy, they can go a for Physician consultation, where the physician in turn gives them a prescription. The prescription and consultation are paid of by the employee. The medication a user takes, is normally also part of the prescription they got from the physician.

3.1 Tools Used

We used to the following to complete the modelling

- <https://www.freeformatter.com/xml-validator-xsd.html>
- <https://www.liquid-technologies.com/online-xml-formatter>
- <https://www.npmjs.com/package/xsd2json>

<https://www.freeformatter.com/xml-validator-xsd.html>Validate XML