

XML

Eniko Vadon

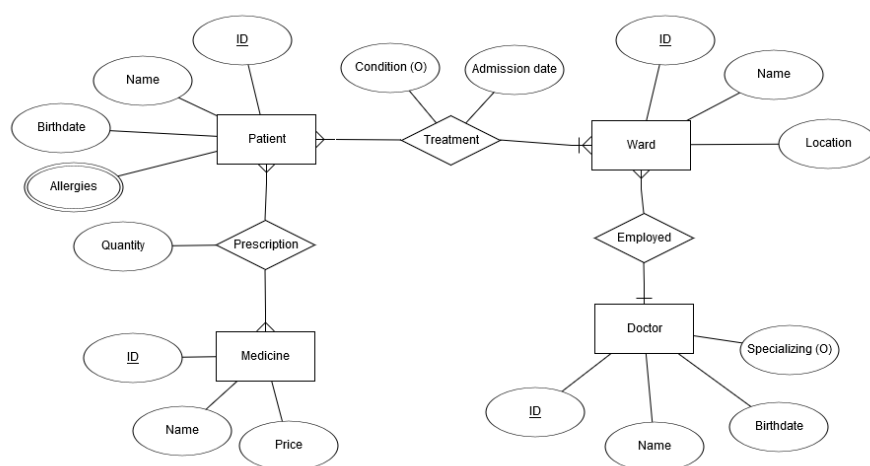
December 2020

1 Feladat

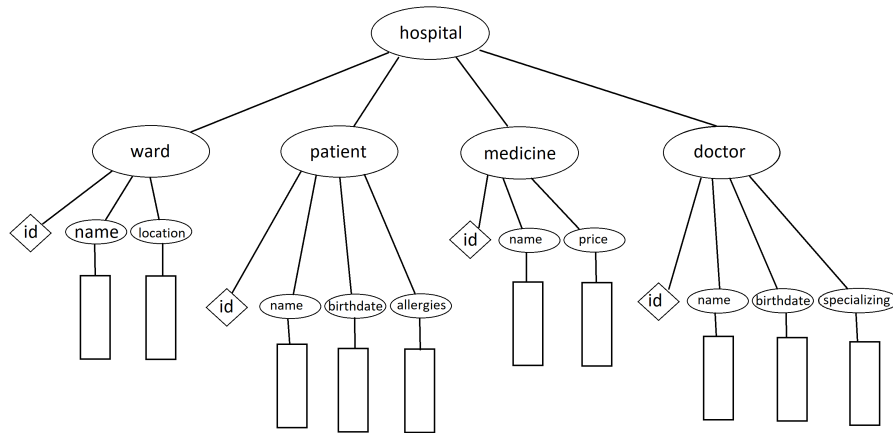
1.1 Leírás:

A kezelt adatbázisom egy korhazai nyilvántartás, amiben különböző korhazai egységeket, az ott dolgozó orvosokat és a bentfekvő betegeket tartja nyilván, ezen kívül megjelenik benne a betegeknél adott kezelése és a hozzá tartozó gyógyszerek adatai is.

1.2 ER model



1.3 XDM model



1.4 XML

```
<?xml version="1.0" encoding="utf-8"?>
<hospital xmlns:xsi="https://w3.org/2001/XMLSchema-instance">

  <ward id="wardccu">
    <name>CCU</name>
    <location>North Wing</location>
  </ward>
  <ward id="wardrehab">
    <name>Rehabilitation</name>
    <location>Southwest Wing</location>
  </ward>

  <patient id="pat23">
    <fullname>
      <firstname>John</firstname>
      <lastname>Wick</lastname>
    </fullname>
    <birthdate>1993-03-02</birthdate>
    <allergy>Lactose</allergy>
    <allergy>penicillin</allergy>
  </patient>
  <patient id="pat92">
```

```

        <fullname>
            <firstname>Mike</firstname>
            <lastname>Ritch</lastname>
        </fullname>
        <birthdate>1978-06-30</birthdate>
        <allergy>Gluten</allergy>
    </patient>

    <doctor id="doc6">
        <fullname>
            <firstname>Charles</firstname>
            <lastname>Schultz</lastname>
        </fullname>
        <birthdate>1965-11-11</birthdate>
        <specializing>Pediatrics</specializing>
        <employed>wardccu</employed>
    </doctor>
    <doctor id="doc21">
        <fullname>
            <firstname>Celestina</firstname>
            <lastname>Warbeck</lastname>
        </fullname>
        <birthdate>1970.01.01</birthdate>
        <employed>wardccu</employed>
    </doctor>

    <medicine id="medpain1">
        <name>Aspirin</name>
        <price>2000</price>
    </medicine>
    <medicine id="medlax5">
        <name>Ducolax</name>
        <price>300</price>
    </medicine>
    <medicine id="medanx4">
        <name>Xanax</name>
        <price>666</price>
    </medicine>

    <treatment>
        <patient-id>pat23</patient-id>
        <ward-id>wardccu</ward-id>
        <condition>arrhythmia</condition>
        <admission-date>2020-06-08</admission-date>
    </treatment>
</treatment>

```

```

        <patient-id>pat92</patient-id>
        <ward-id>wardrehab</ward-id>
        <admission-date>2020-10-13</admission-date>
    </treatment>

    <prescription>
        <patient-id>pat92</patient-id>
        <medicine-id>medlax5</medicine-id>
        <quantity>30</quantity>
    </prescription>
    <prescription>
        <patient-id>pat92</patient-id>
        <medicine-id>medanx4</medicine-id>
        <quantity>20</quantity>
    </prescription>
    <prescription>
        <patient-id>pat23</patient-id>
        <medicine-id>medanx4</medicine-id>
        <quantity>60</quantity>
    </prescription>
</hospital>

```

1.5 XSD

```

<?xml version="1.0" encoding="UTF-8" ?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">

    <xs:element name="location" type="xs:string" />
    <xs:element name="name" type="xs:string" />
    <xs:element name="firstname" type="xs:string" />
    <xs:element name="lastname" type="xs:string" />
    <xs:element name="birthdate" type="xs:string" />
    <xs:element name="allergy" type="xs:string" />
    <xs:element name="price" type="xs:short" />
    <xs:element name="quantity" type="xs:short" />
    <xs:element name="condition" type="xs:string" />
    <xs:element name="admission-date" type="xs:date" />
    <xs:element name="specializing" type="xs:string" />

    <xs:element name="employed" type="xs:IDREF" />
    <xs:element name="patient-id" type="xs:IDREF" />
    <xs:element name="ward-id" type="xs:IDREF" />
    <xs:element name="medicine-id" type="xs:IDREF" />

```

```

<xs:element name="hospital">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="ward" maxOccurs="unbounded" />
      <xs:element ref="patient" maxOccurs="unbounded" />
      <xs:element ref="doctor" maxOccurs="unbounded" />
      <xs:element ref="medicine" maxOccurs="unbounded" />
      <xs:element ref="treatment" maxOccurs="unbounded" />
      <xs:element ref="prescription" maxOccurs="unbounded" />
    </xs:sequence>
  </xs:complexType>
</xs:element>

<xs:element name="ward">
  <xs:complexType mixed="true">
    <xs:sequence>
      <xs:element ref="name" />
      <xs:element ref="location" />
    </xs:sequence>
    <xs:attribute type="xs:ID" name="id" use="required" />
  </xs:complexType>
</xs:element>

<xs:element name="patient">
  <xs:complexType mixed="true">
    <xs:sequence>
      <xs:element ref="fullname" />
      <xs:element ref="birthdate" />
      <xs:element ref="allergy" maxOccurs="unbounded" />
    </xs:sequence>
    <xs:attribute type="xs:ID" name="id" use="required" />
  </xs:complexType>
</xs:element>

<xs:element name="fullname">
  <xs:complexType mixed="true">
    <xs:sequence>
      <xs:element ref="firstname" minOccurs="1" />
      <xs:element ref="lastname" minOccurs="1" />
    </xs:sequence>
  </xs:complexType>
</xs:element>

```

```

<xs:element name="doctor">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="fullname" />
      <xs:element ref="birthdate" />
      <xs:element ref="specializing" minOccurs="0" />
      <xs:element ref="employed" />
    </xs:sequence>
    <xs:attribute type="xs:ID" name="id" use="required" />
  </xs:complexType>
</xs:element>

<xs:element name="medicine">
  <xs:complexType mixed="true">
    <xs:sequence>
      <xs:element ref="name" />
      <xs:element ref="price" />
    </xs:sequence>
    <xs:attribute type="xs:ID" name="id" use="required" />
  </xs:complexType>
</xs:element>

<xs:element name="treatment">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="patient-id" />
      <xs:element ref="ward-id" />
      <xs:element ref="condition" minOccurs="0" />
      <xs:element ref="admission-date" />
    </xs:sequence>
  </xs:complexType>
</xs:element>

<xs:element name="prescription">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="patient-id" />
      <xs:element ref="medicine-id" />
      <xs:element ref="quantity" />
    </xs:sequence>
  </xs:complexType>
</xs:element>

</xs:schema>

```

2 Kod

2.1 Adatolvasas - DOMDataReader.java

2.2 Adatmodositas - DOMDataModifier.java