

Enterprise System Integration Exam

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Part 2. CodeItFor.me

Task 1. Domain Model

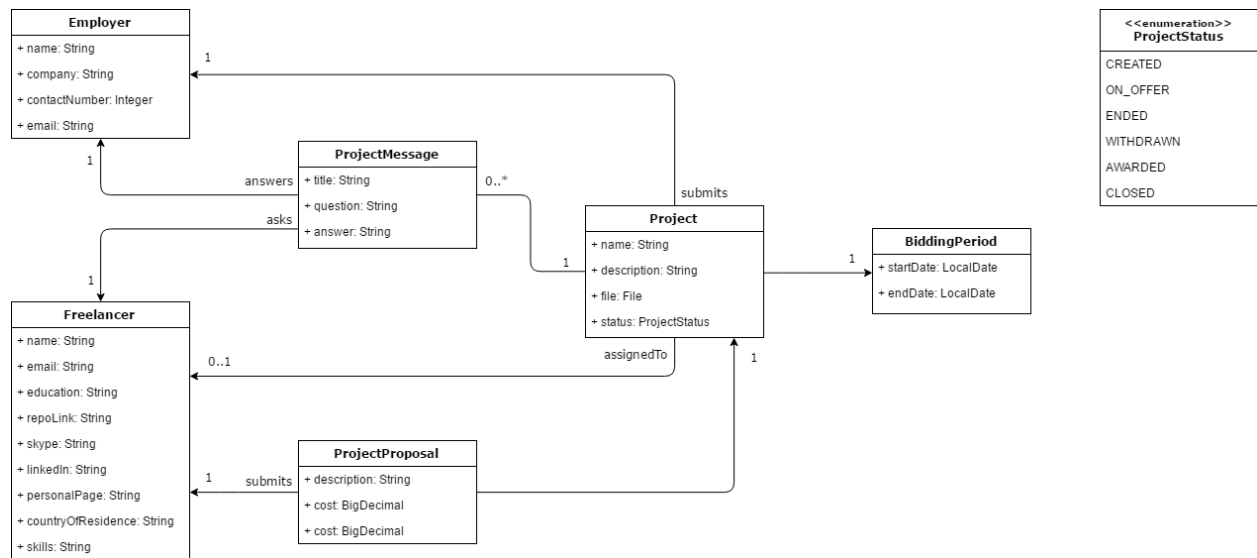


Figure 1. Domain model for CodeItFor.me.

Task 2. Resource Model

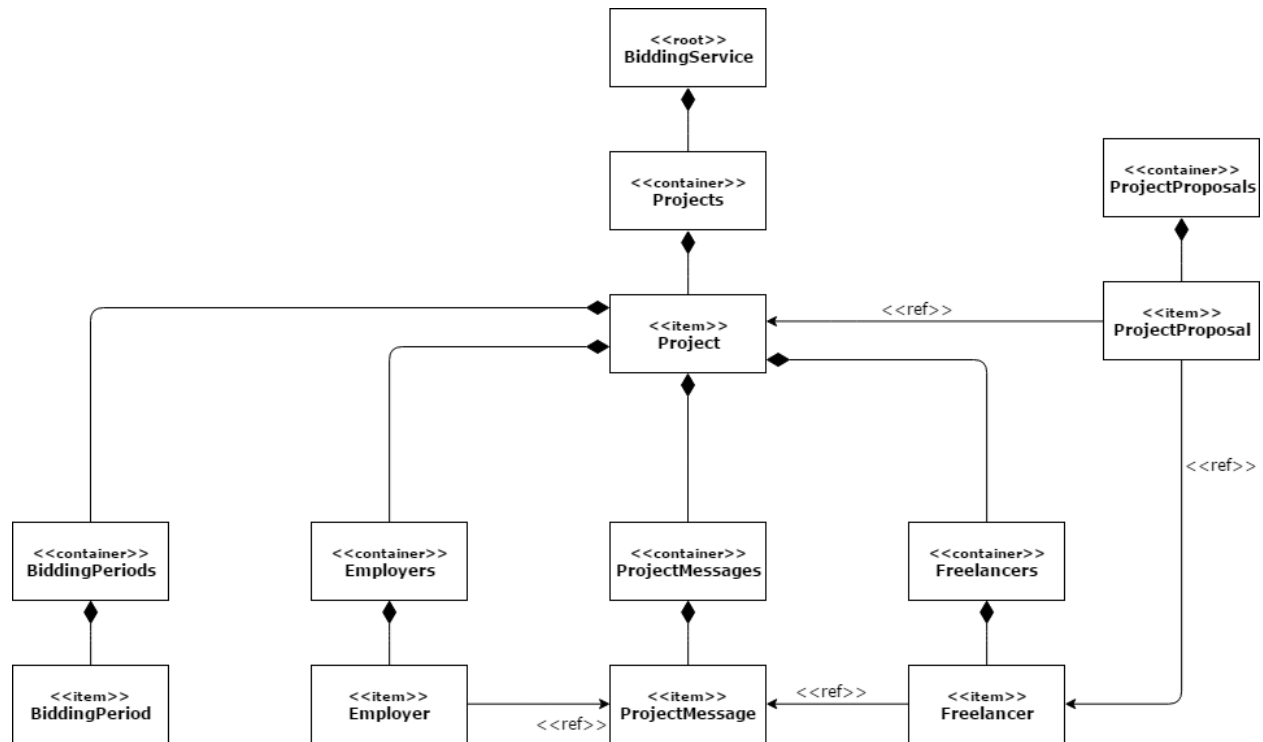


Figure 2. Resource model for CodeItFor.me.

Task 3. State Machine

I assumed that a project can be submitted to the system (created), but still be available only for the employee and that he/she has to explicitly put it on offer. Method `endOffer` is called when the bidding period for a project ends. After that, developers cannot bid anymore and employer has to decide whether he/she is satisfied with any of the bids or not. In the latter case, project description can be updated and resubmitted.

Since there is no other flows going out from neither `AWARDED` nor `WITHDRAWN`, the `closeOffer` can be called immediately when project goes to either of the two statuses.

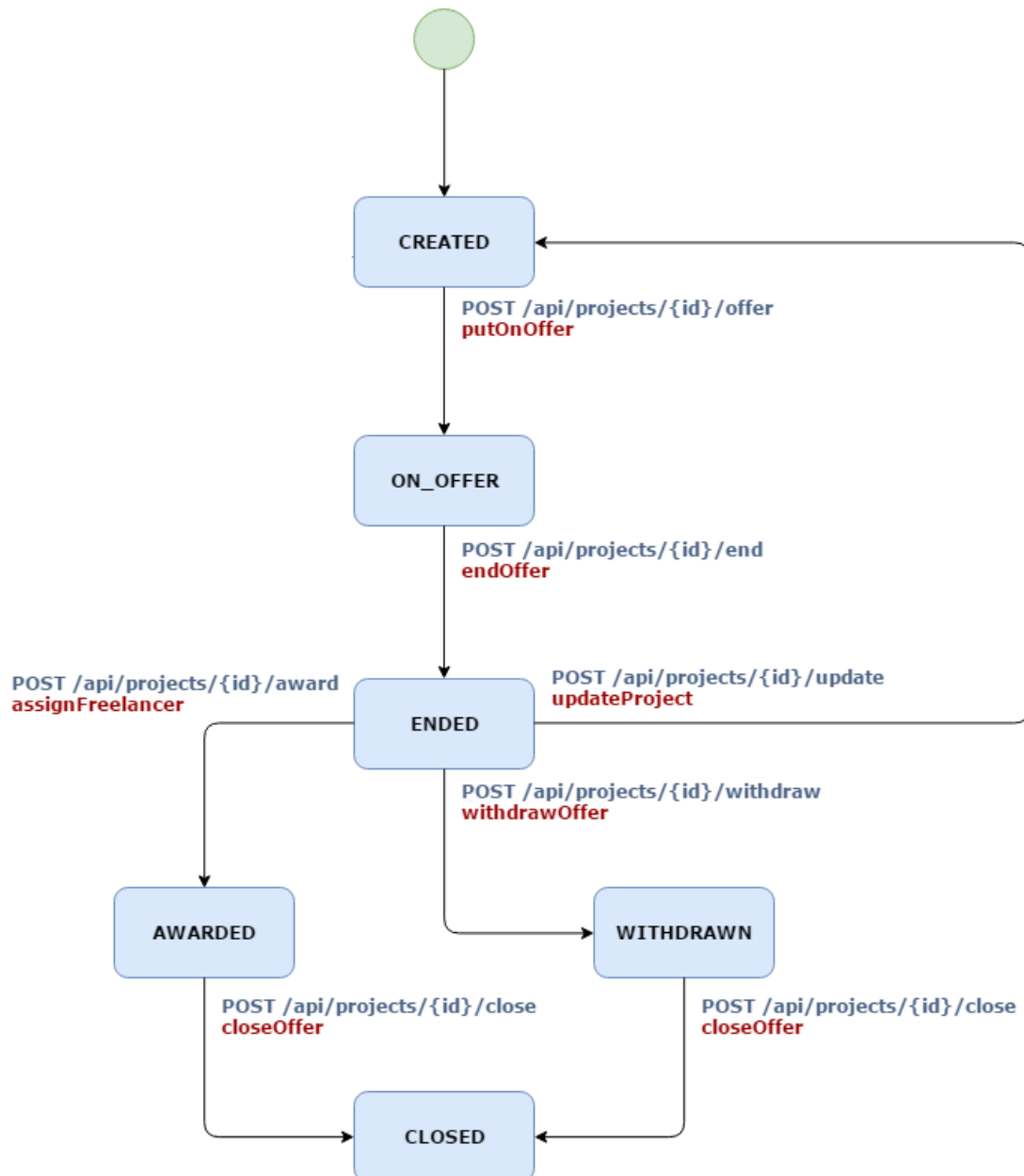


Figure 3. State machine for project in CodeItFor.me.

Task 4. Apiary

Link to Apiary:

<https://docs.codeitforme5.apiary.io>

Projects [/api/projects]

List All Open Projects [GET]

+ Response 200 (application/json)

```
[
  {
    "_id": "1",
    "employerId": "1",
    "developerId": null,
    "name": "Megaproject",
    "description": "This is a big project",
    "file": "https://courses.cs.ut.ee/MTAT.03.229/2017_spring/uploads/Main/PlantHireScenario.pdf",
    "biddingPeriod": {
      "startDate": {
        "year": 2017,
        "month": 7,
        "day": 1
      },
      "endDate": {
        "year": 2017,
        "month": 7,
        "day": 9
      }
    }
  },
  {
    "_id": "2",
    "employerId": "1",
    "developerId": null,
    "name": "Miniproject",
    "description": "This is a small project",
    "file": "https://courses.cs.ut.ee/MTAT.03.229/2017_spring/uploads/Main/2017exam1.pdf",
    "biddingPeriod": {
      "startDate": {
        "year": 2017,
        "month": 7,
        "day": 1
      },
      "endDate": {
        "year": 2017,
        "month": 7,
        "day": 9
      }
    }
  }
]
```

Create a New Project [POST]

+ Request (application/json)

```
{
  "_id": "3",
  "employerId": "1",
  "name": "Fun project",
  "description": "This is a fun project",
  "file": "https://courses.cs.ut.ee/MTAT.03.295/2014_spring/uploads/Main/exercise_tdd.pdf",
  "biddingPeriod": {
    "startDate": {
      "year": 2017,
      "month": 7,
      "day": 1
    },
    "endDate": {
      "year": 2017,
      "month": 7,
      "day": 9
    }
  }
}
```

+ Response 201 (application/json)

+ Headers

Location: /projects/3

+ Body

```
{
  "_id": "3",
  "employerId": "1",
  "developerId": null,
  "name": "Fun project",
  "description": "This is a fun project",
  "file": "https://courses.cs.ut.ee/MTAT.03.295/2014_spring/uploads/Main/exercise_tdd.pdf",
  "biddingPeriod": {
    "startDate": {
      "year": 2017,
      "month": 7,
      "day": 1
    },
    "endDate": {
      "year": 2017,
      "month": 7,
      "day": 9
    }
  },
  "status": "CREATED"
}
```

Project [/api/projects/{id}]

View Project Details [GET]

+ Parameters

+ id - ID of the desired project. Example: 3

+ Response 200 (application/json)

```
{
  "_id": "3",
  "employerId": "1",
  "developerId": null,
  "name": "Fun project",
  "description": "This is a fun project",
  "file": "https://courses.cs.ut.ee/MTAT.03.295/2014_spring/uploads/Main/exercise_tdd.pdf",
  "biddingPeriod": {
    "startDate": {
      "year": 2017,
      "month": 7,
      "day": 1
    },
    "endDate": {
      "year": 2017,
      "month": 7,
      "day": 9
    }
  },
  "status": "CREATED"
}
```

Update Project [POST]

+ Parameters

+ id - ID of the desired project. Example: 3

+ Request (application/json)

```
{
  "_id": "3",
  "employerId": "1",
  "name": "Fun project",
  "description": "This is a fun project. We prefer developers who speak Spanish.",
  "file": "https://courses.cs.ut.ee/MTAT.03.295/2014_spring/uploads/Main/exercise_tdd.pdf",
  "biddingPeriod": {
    "startDate": {
      "year": 2017,
      "month": 7,
      "day": 1
    },
    "endDate": {
      "year": 2017,
      "month": 7,
      "day": 9
    }
  }
}
```

+ Response 201 (application/json)

+ Headers

Location: /projects/3

+ Body

```
{
  "_id": "3",
  "employerId": "1",
  "developerId": null,
  "name": "Fun project",
  "description": "This is a fun project. We prefer developers who speak Spanish.",
  "file": "https://courses.cs.ut.ee/MTAT.03.295/2014_spring/uploads/Main/exercise_tdd.pdf",
  "biddingPeriod": {
    "startDate": {
      "year": 2017,
      "month": 7,
      "day": 1
    },
    "endDate": {
      "year": 2017,
      "month": 7,
      "day": 9
    }
  },
  "status": "CREATED"
}
```

Put Project on Offer [/api/projects/{id}/offer]

Put Project on Offer [POST]

+ Parameters

+ id - ID of the desired project. Example: 3

+ Response 200 (application/json)

```
{
  "_id": "3",
  "employerId": "1",
  "developerId": null,
  "name": "Fun project",
  "description": "This is a fun project",
  "file": "https://courses.cs.ut.ee/MTAT.03.295/2014_spring/uploads/Main/exercise_tdd.pdf",
  "biddingPeriod": {
    "startDate": {
      "year": 2017,
      "month": 7,
      "day": 1
    },
    "endDate": {
      "year": 2017,
      "month": 7,
      "day": 9
    }
  },
  "status": "ON_OFFER"
}
```


End Project Offer [/api/projects/{id}/endOffer]

End Project Offer [POST]

+ Parameters

+ id - ID of the desired project. Example: 3

+ Response 200 (application/json)

```
{
  "_id": "3",
  "employerId": "1",
  "developerId": null,
  "name": "Fun project",
  "description": "This is a fun project",
  "file": "https://courses.cs.ut.ee/MTAT.03.295/2014_spring/uploads/Main/exercise_tdd.pdf",
  "biddingPeriod": {
    "startDate": {
      "year": 2017,
      "month": 7,
      "day": 1
    },
    "endDate": {
      "year": 2017,
      "month": 7,
      "day": 9
    }
  },
  "status": "ENDED"
}
```

Withdraw Offer [/api/projects/{id}/withdraw]

Withdraw Offer [POST]

+ Parameters

+ id - ID of the desired project. Example: 3

+ Response 200 (application/json)

```
{
  "_id": "3",
  "employerId": "1",
  "developerId": null,
  "name": "Fun project",
  "description": "This is a fun project",
  "file": "https://courses.cs.ut.ee/MTAT.03.295/2014_spring/uploads/Main/exercise_tdd.pdf",
  "biddingPeriod": {
    "startDate": {
      "year": 2017,
      "month": 7,
      "day": 1
    },
    "endDate": {
      "year": 2017,
      "month": 7,
      "day": 9
    }
  },
  "status": "WITHDRAWN"
}
```

Assign Freelancer [/api/projects/{id}/award{?developerId}]

Assign Freelancer [POST]

+ Parameters

+ id - ID of the desired project. Example: 3

+ developerId - ID of the developer to be assigned. Example: 1

+ Response 200 (application/json)

```
{
  "_id": "3",
  "employerId": "1",
  "developerId": "1",
  "name": "Fun project",
  "description": "This is a fun project",
  "file": "https://courses.cs.ut.ee/MTAT.03.295/2014_spring/uploads/Main/exercise_tdd.pdf",
  "biddingPeriod": {
    "startDate": {
      "year": 2017,
      "month": 7,
      "day": 1
    },
    "endDate": {
      "year": 2017,
      "month": 7,
      "day": 9
    }
  },
  "status": "AWARDED"
}
```

Close Project Offer [/api/projects/{id}/closeOffer]

Close Project Offer [POST]

+ Parameters

+ id - ID of the desired project. Example: 3

+ Response 200 (application/json)

```
{
  "_id": "3",
  "employerId": "1",
  "developerId": "1",
  "name": "Fun project",
  "description": "This is a fun project",
  "file": "https://courses.cs.ut.ee/MTAT.03.295/2014_spring/uploads/Main/exercise_tdd.pdf",
  "biddingPeriod": {
    "startDate": {
      "year": 2017,
      "month": 7,
      "day": 1
    },
    "endDate": {
      "year": 2017,
      "month": 7,
      "day": 9
    }
  },
  "status": "CLOSED"
}
```

Project Messages [/api/projects/{id}/messages]

View Project Messages [GET]

+ Parameters

+ id - ID of the desired project. Example: 3

+ Response 200 (application/json)

```
[
  {
    "_id": "1",
    "projectId": 3
    "title": "Question about this fun project",
    "question": "Exactly how fun is this project on a scale of 1-10?",
    "answer": "This is a 10 points worth of fun.",
    "developerId": "1",
    "employerId": "1"
  },
  {
    "_id": "2",
    "projectId": 2
    "title": "Question about this megaproject",
    "question": "When do you expect to get the MVP of this software?",
    "answer": "This forum is for miniproject, do not ask megaproject questions here.",
    "developerId": "2",
    "employerId": "1"
  }
]
```

Post New Project Message [POST]

+ Parameters

+ id - ID of the desired project. Example: 3

+ Request (application/json)

```
{
  "_id": "1",
  "projectId": 3
  "title": "Can this fun project be done in a two-member team?",
  "question": "I am wondering if a friend of mine can join me on this project because I am not
that fluent in computers myself.",
  "developerId": "1",
}
```

+ Response 201 (application/json)

+ Headers

Location: /projects/3/messages/1

+ Body

```
{
  "_id": "1",
  "projectId": 3
  "title": "Can this fun project be done in a two-member team?",
  "question": "I am wondering if a friend of mine can join me on this project because I am
not that fluent in computers myself.",
  "answer": null,
  "developerId": "1",
  "employerId": null
}
```