CodeKataBattle project by Russo Mario and Picone Paolo

Requirement Analysis and Specification Document

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Contents

List of Figures

List of Tables

1   Introduction

1.1   Purpose

The motivation behind the existence of the CodeKataBattle platform is to provide students with a dedicated platform for practicing their programming skills. The platform aims to create a competitive environment where teams of students can participate in programming tournaments and solve programming challenges.

By offering a platform specifically designed for programming practice, CodeKataBattle aims to provide students with a structured and engaging way to improve their coding abilities. The competitive nature of the platform adds an extra layer of motivation and excitement, encouraging students to push their limits and strive for excellence.

Overall, the motivations behind the existence of the CodeKataBattle platform are to create a dedicated space for programming practice, foster healthy competition among students, and provide a means for tracking and improving programming skills.

1.1.1   Goals

G1 Educator can create a tournament

G2 Educator can set up battles for a tournament

G3 Student can subscribe to a tournament

G4 Student can compete in a tournament

G5 Team of students can compete in a battle

G6 CKB evalutes the performance of a student in a battle

G7 Educator can evaluate the performance of a student in a battle

G8 CKB notify the student about upcoming tournaments

G9 CKB notify the student about upcoming battles in a tournament in which they are subscribed

1.2   Scope

The scope of CKB is to provide a platform for programming practice. The platform will allow students to participate in programming tournaments and solve programming challenges. The torunaments consist of a series of battles. In order to participate to a battle a student must be subscribed to the tournament in which the battle takes place. In each battle the students have to form teams by inviting other students to join. The platform will allow educators to create tournaments. For the single torunament, the educator is able to invite other educators to join the tounament as educator. The educator is able to create battles for the torunament by uploading the code kata composed by the description and software project. In addition, he should be able to upload a set of configuration for scoring. For each battle the educator is able to set restrictions such as the minimum and maximum number of team members, the registration deadline and the submission deadline. The educator is also able to set a time limit for the battle. CKB will assign the scoring for each team of the battle based on some automated tests regarding the functional aspects, timeliness, quality of the code and the set of configuration for scoring provided by the educator for the battle. In addition to this automated scoring the educator will also be able to assign a manual scoring for each team of the battle. In order to submit the solution for a battle, CKB provides a GitHub repository. The teams must fork the repository and work on their solution in the forked repository. For each push to the remote repository CKB will be informed through an API call make with GitHub Actions which teams must set up.

1.2.1 World phenomena

1.2.2 Shared phenomena

2   Overall Description

Here you can see how to include an image in your document.

Here is the command to refer to another element (section, figure, table, ...) in the document: *As discussed in Section 1.2.2 and as shown in Figure 1, ...*. Here is how to introduce a bibliographic citation [1]. Bibliographic references should be included in a `.bib` file.

Table generation is a bit complicated in Latex. You will soon become proficient, but to start you can rely on tools or external services. See for instance this https://www.tablesgenerator.com.
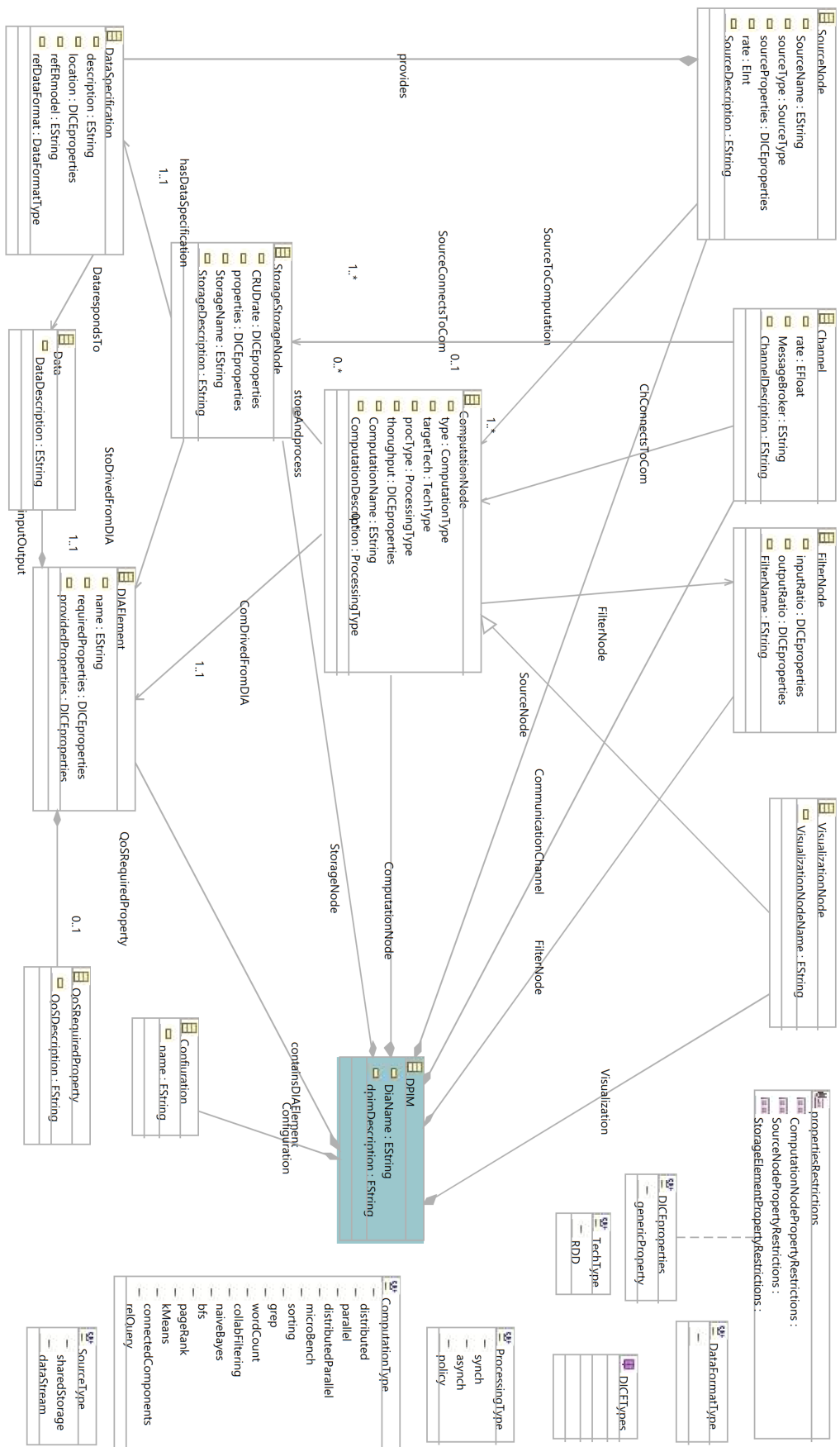
Figure 1: DICE DPIM metamodel.

Figure 2: DICE DPIM metamodel in portrait form.

3   Specific Requirements

Organize this section according to the rules defined in the project description.

4   Formal Analysis Using Alloy

Organize this section according to the rules defined in the project description.

5   Effort Spent

Provide here information about how much effort each group member spent in working at this document. We would appreciate details here.

References

[1] S. Bernardi, J. Merseguer, and D. C. Petriu. A dependability profile within MARTE. *Software and Systems Modeling*, 10(3):313–336, 2011.