Contents

1 | Introduction

1.1. Purpose

The CodeKata is a learning method that takes inspiration from the Kata techniques and is based on continuous practice which became very popular in those years.

CodeKataBattle delineates an innovative platform geared towards enhancing students' software development skills through collaborative learning using CodeKata's fundamentals. Facilitated by educators, CKB provides a dynamic environment where students engage in code kata battles, refining their programming proficiency and embracing best practices such as the test-driven development approach.

Similar to recent initiatives addressing global challenges, CKB empowers educators to orchestrate challenges within tournaments, fostering healthy competition and cultivating an environment for skill enhancement. The platform enables educators to define battle parameters, set deadlines, and configure scoring criteria, fostering a tailored and effective learning experience.

At its core, a code kata battle presents students with programming challenges within specific language frameworks, coupled with exhaustive test cases. Teams collaboratively tackle these exercises, adhering to a test-first methodology and submitting solutions to the platform upon battle completion.

CKB's automated evaluation system ensures an impartial assessment of student submissions. Automated scrutiny covers mandatory factors, including functional aspects, timeliness, and source code quality, offering an unbiased representation of team performance. Educators can further enhance evaluations with optional manual assessments, providing nuanced insights into student work.

1.1.1. Goals

#	**Goal**
G1	Enable ED to Create New Competitions
G2	Enable ED to Create Code Battles within Competitions
G3	Enable ST to Create Teams by Inviting Other STs
G4	Enable ST to Join Teams for Which They Have Been Invited
G5	Allow STs to Join Battles as a Team
G6	Allow STs to Join Battles Individually
G7	Send Notifications to STs about New Competitions and Closing of Competitions
G8	Automatically Create GitHub Repositories for Every Battle in a Competition
G9	Synchronize the Submission of Each Candidate with Their GitHub Repository
G10	Provide a Dashboard for Code Submission
G11	CBK Provides an automated evaluation of the code submitted
G12	Provide Automated Evaluation of Submitted Code
G13	Assign Points to STs Based on Code Evaluation
G14	Allow STs to View Rankings of Competition
G15	Allow STs to View Rankings of battles only in competition for which are subscribed

Table 1.1: Goals

1.2. Scope

1.2.1. World phenomena

#	**World phenomena**
WP1	ED wants to create a competitions
WP2	ED wants to create a battle
WP3	ST wants to participate in a competition
WP4	ST wants to participate in a battle
WP5	ST set up GitHub actions

Table 1.2: World phenomena table

1.3. Definitions, Acronyms, Abbreviations

1.4. Revision history

1.5. Reference Documents

1.6. Document Structure

2 | Overall Description

2.1. Product perspective

2.2. Product perspective

2.3. User characteristics

2.4. Assumptions, dependencies and constraints

3 | Specific Requirements

3.1. External Interface Requirements

3.1.1. User Interfaces

3.1.2. Hardware Interfaces

3.1.3. Software Interfaces

3.1.4. Communication Interfaces

3.2. Functional Requirements

3.3. Performance Requirements

3.4. Design Constraints

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.

Bibliography

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List of Symbols

Variable	Description	SI unit
$\boldsymbol{u}$	solid displacement	m
$\boldsymbol{u}_f$	fluid displacement	m