BASAVARAJESWARI GROUP OF INSTITUTIONS

Ballari Institute of Technology & Management

AUTONOMOUS INSTITUTE UNDER VISVESVARAYA TECHNOLOGICAL UNIVERSITY JNANASANGAMA,

BELAGAVI 590018

INTERNSHIP

Report On

SPORTS TOURNAMENT MANAGEMENT

Submitted in partial fulfillment of the requirements for the award of degree of

Bachelor of Engineering

In

COMPUTER SCIENCE AND ENGINEERING

Submitted by

YUVARAJ M

3BR22CS189

Internship Carried Out
By
EZ TRAININGS & TECHNOLOGIES PVT.LTD
HYDERABAD

Internal Guide

Mrs. MADHURI A

Assistant Professor ,CSE

Ms. SAMEENA YASMEEN

Supervisor ,CSE

External Guide

Mr. BALAJI SRINIVASAN

Sr. Faculty

BALLARI INSTITUTE OF TECHNOLOGY & MANAGEMENT

NACC Accredited Institution*

(RecognizedbyGovt.ofKarnataka,approvedbyAICTE,NewDelhi&AffiliatedtoVisvesvarayaTechnol ogicalUniversity,Belagavi)

"JnanaGangotri"Campus,No.873/2,Ballari-HospetRoad,Allipur,Ballar1-583104(Karnataka)(India)Ph:08392–237100/237190,Fax:08392–237197

2023-2024

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

CERTIFICATE

This is to certify that the Internship entitled **"SPORTS TOURNAMENT MANAGEMENT"** has been successfully completed by YUVARAJ M bearing USN **3BR22CS189** a Bonafide student of Ballari Institute of Technology and Management, Ballari. For the partial fulfillment of the requirements for the **bachelor's degree in computer science and engineering** of the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, Belagavi during the academic year 2023-2024.

Signature of Internship Co-ordinators

Mrs. MADHURI A
Assistant Professor ,CSE
&
Ms. SAMEENA YASMEEN
Supervisor ,CSE

Signature of HOD

Dr. R N KULKARNI
Professor & HOD(CSE)

DECLARATION

I, **YUVARAJ M,** second year student of Computer Science and Engineering, Ballari Institute of Technology, Ballari, declare that Internship entitled SPORTS **TOURNAMENT MANAGEMENT** is a part of Internship Training successfully carried out by **EZ TECHNOLOGIES & TRAININGS PVT.LTD, Hyderabad** at "**BITM, BALLARI".** This report is submitted in partial fulfillment of the requirements for the award of the Bachelor of Engineering in Computer Science and Engineering of the Visvesvaraya Technological University, Belagavi.

Date : **Signature of the Student**
Place :

ACKNOWLEDGEMENT

The satisfactions that a company the successful completion of my internship on " SPORTS TOURNAMENT MANAGEMENT " would be incomplete without the mention of people who made it possible, whose noble gesture, affection, guidance, encouragement and support crowned my efforts with success. It is my privilege to express my gratitude and respect to all those who inspired me in the completion of my internship.

I am grateful to my respective coordinators "**Mrs.Madhuri A(Asst.prof,CSE) and Ms.Sameena Yasmeen (Supervisor,CSE)**" for their noble gesture ,support co-ordination and valuable suggestions given to me in the completion of Internship.

I also thank **Dr. R N Kulkarni,** HOD , Department of **Computer Science and Engineering** for extending all his valuable support and encouragement.

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COMPANY PROFILE

Company Name: EZ Trainings and Technologies Pvt. Ltd.

Introduction:
EZ Trainings and Technologies Pvt. Ltd. is a dynamic and innovative organization dedicated to providing comprehensive training solutions and expert development services. Established with a vision to bridge the gap between academic learning and industry requirements, we specialize in college training for students, focusing on preparing them for successful placements. Additionally, we excel in undertaking development projects, leveraging cutting-edge technologies to bring ideas to life.

Mission:
Our mission is to empower the next generation of professionals by imparting relevant skills and knowledge through specialized training programs. We strive to be a catalyst in the career growth of students and contribute to the technological advancement of businesses through our development projects.

Services:
College Trainings:
- Tailored training programs designed to enhance the employability of students.
- Industry-aligned curriculum covering technical and soft skills.
- Placement assistance and career guidance.

Development Projects:
- End-to-end development services, from ideation to execution.
- Expertise in diverse technologies and frameworks.
- Custom solutions to meet specific business needs.

Locations: Hyderabad | Delhi NCR
At EZ Trainings and Technologies Pvt. Ltd., we believe in transforming potential into excellence

ABSTRACT

Abstract: The Sports Tournament Scheduler POC is a Python-based solution designed to streamline sports event scheduling. In this proof of concept, we focus on creating a robust system for managing tournaments, teams, and match scheduling. The key components include:

Tournament and Team Management:

• We define classes to handle tournament data, allowing for CRUD (Create, Read, Update, Delete) operations. Teams are organized efficiently, ensuring accurate representation within the system.

Automated Match Scheduling:

• Our solution automates match scheduling based on team availability and available dates. By intelligently assigning teams to timeslots, we optimize the overall tournament schedule.

Tournament Brackets:

• We generate and manage tournament brackets, ensuring fair matchups and smooth progression through various rounds.

• The bracket system facilitates tracking team progress and determining winners.

Unit Testing:

• We verify that CRUD operations, match scheduling, and bracket generation work as expected.

INTRODUCTION TO PROJECT

- PROJECT NAME - SPORTS TOURNAMENT MANAGEMENT
- CRUD operations in class Tournament and class Team.
- Schedule matches automatically
- Generate tournament brackets for matches.

MODULE DESCRIPTION

- **Test case 1:**

```
def test_add_team(self):
        self.assertEqual(len(self.tournament.teams), 9)
```

- **Test case 2:**

```
def test_remove_team(self):
        self.tournament.remove_team(1)
        self.assertEqual(len(self.tournament.teams), 8)
```

- **Test case 3:**

```
def test_update_team(self):
       self.assertTrue(self.tournament.update_team(1, "Delhi Capitals"))
    self.assertEqual(self.tournament.get_team(1).name, "Delhi Capitals")
```

- **Test case 4:**

```
def test_automate_match_scheduling(self):
     self.scheduler.automate_match_scheduling(self.tournament)
       self.assertEqual(len(self.scheduler.match_schedule), 1)
```

- **Test case 5:**

```
def test_generate_tournament_brackets(self):
   self.brackets.generate_tournament_brackets(self.tournament)
        self.assertEqual(len(self.brackets.bracket_data), 3)
```

ALGORITHM

This program is designed to manage a sports tournament, specifically an IPL (Indian Premier League) tournament, including functionalities to add, remove, and update teams, automate match scheduling, and generate tournament brackets. Here's a high-level algorithm for the program:

1. Define Classes: Define classes for Team, Tournament, Match Scheduler, and Tournament Brackets.

- Implement methods in these classes for functionalities like adding/removing/updating teams, automating match scheduling, and generating tournament brackets.

2. Team Class: Create a class Team with attributes for team ID and name.

3. Tournament Class: Create a class Tournament with attributes for tournament ID, name, and a list to store teams.

- Implement methods to add, remove, update, and retrieve teams.

4. Match Scheduler Class: Create a class Match Scheduler to automate match scheduling.

- Implement a method to generate combinations of teams for matches and store them in a schedule.

5. Tournament Brackets Class: Create a class Tournament Brackets to generate tournament brackets.

- Implement a method to generate brackets based on the teams participating in the tournament.

6. Unit Tests: Write unit tests for each class and method to ensure they function correctly.

- Include tests for adding, removing, and updating teams, automating match scheduling, and generating tournament brackets.

7. Run Tests:

- Execute the unit tests to verify the correctness of the implementation.
- Here's a more detailed breakdown of the algorithm:
- Create classes for Team, Tournament, Match Scheduler, and Tournament Brackets.
- Implement methods in each class for specific functionalities, such as adding/ removing/ updating teams, automating match scheduling, and generating tournament brackets.
- Use lists or dictionaries to store teams, match schedules, and tournament brackets.
- Write unit tests for each class and method to ensure they behave as expected.
- Execute the unit tests to validate the implementation.

By following this algorithm, you can build and test the program for managing an IPL tournament effectively.

OUTPUT

```
UNIT TEST CASES
test_automate_match_scheduling
(__main__.IPLMatchScheduler.test_automate_match_scheduling) ... ok
test_add_team (__main__.IPLTournament.test_add_team) ... ok
test_remove_team (__main__.IPLTournament.test_remove_team) ... ok
test_update_team (__main__.IPLTournament.test_update_team) ... ok
test_generate_tournament_brackets
(__main__.IPLTournamentBrackets.test_generate_tournament_brackets) ... ok
Ran 5 tests in 0.001s
OK
```

CONCLUSION

This project is used to allot tournaments with respect to teams and schedule matches automatically and generate tournament brackets.

Also store the outputs of the code into files like.txt. Json, .csv.

REFERENCES

Data Structures & Algorithms Textbook, IIT Bombay – by Narasimha Karumanchi

Microsoft Copilot

https://www.bing.com/chat?q=Microsoft+Copilot&FORM=hpcodx

Blackbox AI

https://www.blackbox.ai/

Geeks for Geeks

https://www.geeksforgeeks.org/unit-testing-python-unittest/

GITHUB LINK

https://github.com/ykm1050