Course Registration System Project Report

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1 Introduction

The project started on May 23, 2023, with the following objectives:

- Implement the required changes for re-engineering.
- Design and create sprints in Jira to track the project progress.
- Add meaningful comments in the project code to improve code readability.
- Update the project documentation in Overleaf.
- Upload the changes to GitHub and update the changelog.
- Update the project GitHub page using the WIKI tab.

2 Sprint Overview

The new sprint, named "Re-Engineering Sprint," is designed to address the following changes and improvements based on the concept of re-engineering from section 4.2.2:

2.1 Adding Meaningful Comments

The following classes were selected for adding multiline meaningful comments and single comments for functions:

1. Admin.java (Figure 1)
2. Student.java (Figure 2)
3. crsMain.java (Figure 3)

2.2 Updating Sprint Backlog

The sprint backlog was updated with the new sprints named "CRS updated Admin" and "CRS updated Students." Different issues were assigned to Assignee: Kainat Naeem and Shahzaib Jameel, with Muhammad Bilal Zahid Khan as the Team Leader (Figure 4).

2.3 Updating GitHub Repository

To update the GitHub repository, the following steps were performed:

1. Cloned the repository.
2. Added multiline and single comments in the respective classes.
3. Committed and synced the changes (Figure 5).

2.4 Updating Overleaf Document

The Overleaf document was updated to reflect the changes made in the project. This report includes the details of the re-engineering sprint, updated sprint backlog, and GitHub repository. Please see the Overleaf document for the complete information.

2.5 Updating Project GitHub Page

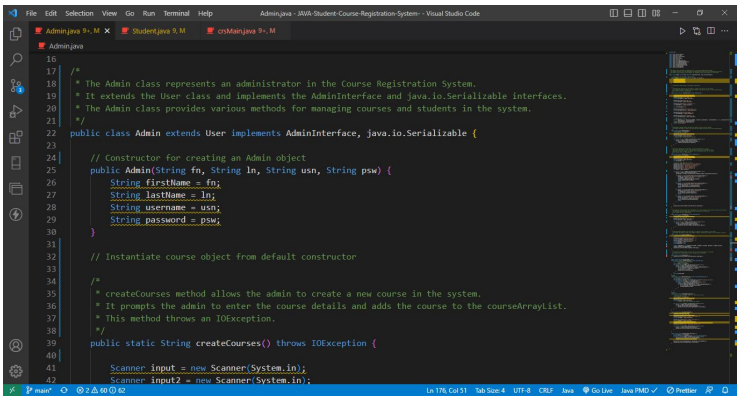
The project GitHub page was updated using the WIKI tab. It now includes information about Assignment 1 and Assignment 2, along with the names of the group members involved in the project (Figure 6).

3 Conclusion

The Re-Engineering Sprint has been successfully executed, incorporating necessary changes and improvements based on the concept of re-engineering. The project documentation in Overleaf, as well as the GitHub repository and page, have been updated accordingly.

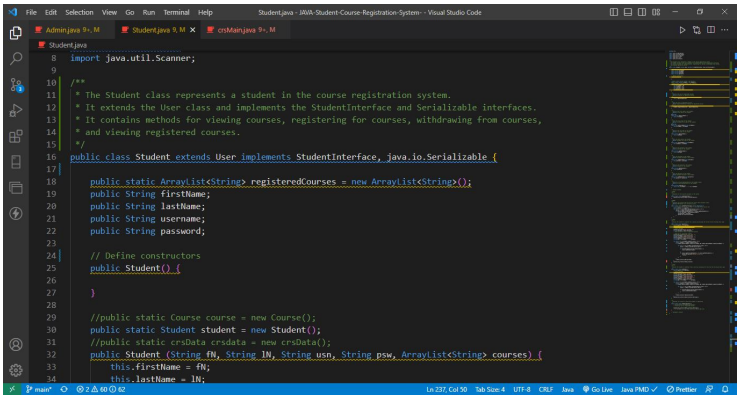
4 Screenshots for References

- Figure 1: Admin Class (Admin.JPG)
- Figure 2: Student Class (Student.JPG)
- Figure 3: crsMain Class (crsMain.JPG)
- Figure 4: Jira Sprint Backlog (jira.png)
- Figure 5: GitHub Repository (github.png)
- Figure 6: GitHub Project Wiki (wiki.png)



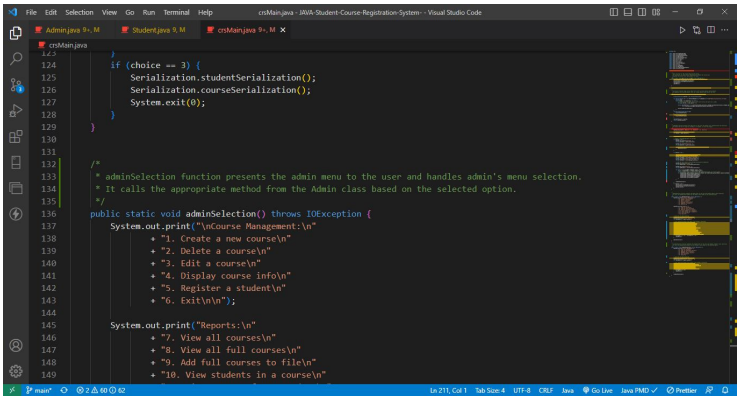
```java
/*
 * The Admin class represents an administrator in the Course Registration System.
 * It extends the User class and implements the AdminInterface and java.io.Serializable interfaces.
 * The Admin class provides various methods for managing courses and students in the system.
 */
public class Admin extends User implements AdminInterface, java.io.Serializable {

    // Constructor for creating an Admin object
    public Admin(String fn, String ln, String usn, String psw) {
        String firstName = fn;
        String lastName = ln;
        String username = usn;
        String password = psw;
    }

    // Instantiate course object from default constructor

    /*
     * createCourses method allows the admin to create a new course in the system.
     * It prompts the admin to enter the course details and adds the course to the courseArrayList.
     * This method throws an IOException.
     */
    public static String createCourses() throws IOException {

        Scanner input = new Scanner(System.in);
        Scanner input2 = new Scanner(System.in);
```

Figure 1: Admin Class



```java
import java.util.Scanner;

/**
 * The Student class represents a student in the course registration system.
 * It extends the User class and implements the StudentInterface and Serializable interfaces.
 * It contains methods for viewing courses, registering for courses, withdrawing from courses,
 * and viewing registered courses.
 */
public class Student extends User implements StudentInterface, java.io.Serializable {

    public static ArrayList<String> registeredCourses = new ArrayList<String>();
    public String firstName;
    public String lastName;
    public String username;
    public String password;

    // Define constructors
    public Student() {

    }

    //public static Course course = new Course();
    public static Student student = new Student();
    //public static crsData crsdata = new crsData();
    public Student (String fN, String lN, String usn, String psw, ArrayList<String> courses) {
        this.firstName = fN;
        this.lastName = lN;
```

Figure 2: Student Class



```java
        }
        if (choice == 3) {
            Serialization.studentSerialization();
            Serialization.courseSerialization();
            System.exit(0);
        }
    }


    /*
     * adminSelection function presents the admin menu to the user and handles admin's menu selection.
     * It calls the appropriate method from the Admin class based on the selected option.
     */
    public static void adminSelection() throws IOException {
        System.out.print("\nCourse Management:\n"
                + "1. Create a new course\n"
                + "2. Delete a course\n"
                + "3. Edit a course\n"
                + "4. Display course info\n"
                + "5. Register a student\n"
                + "6. Exit\n\n");

        System.out.print("Reports:\n"
                + "7. View all courses\n"
                + "8. View all full courses\n"
                + "9. Add full courses to file\n"
                + "10. View students in a course\n"
```

Figure 3: crsMain Class

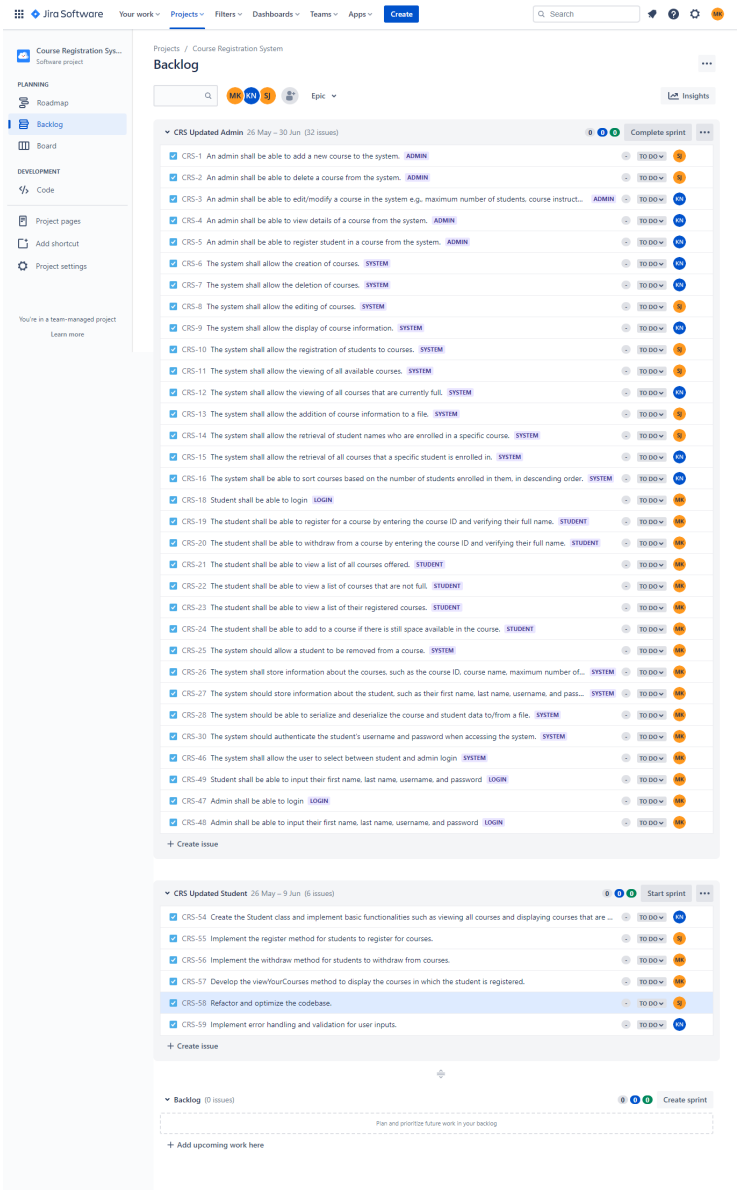


Figure 4: Jira Sprint Backlog

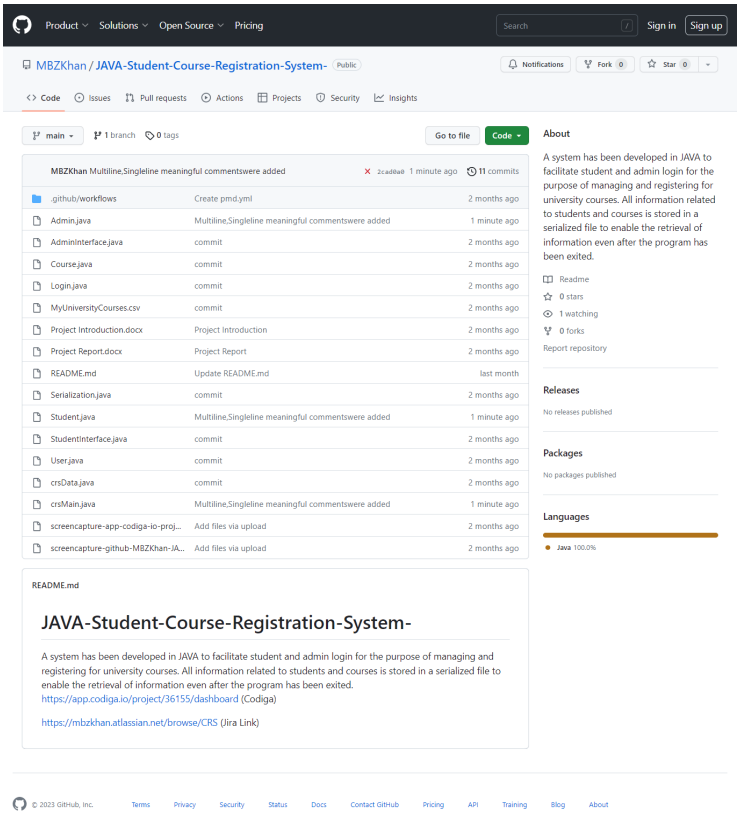


Figure 5: GitHub Repository

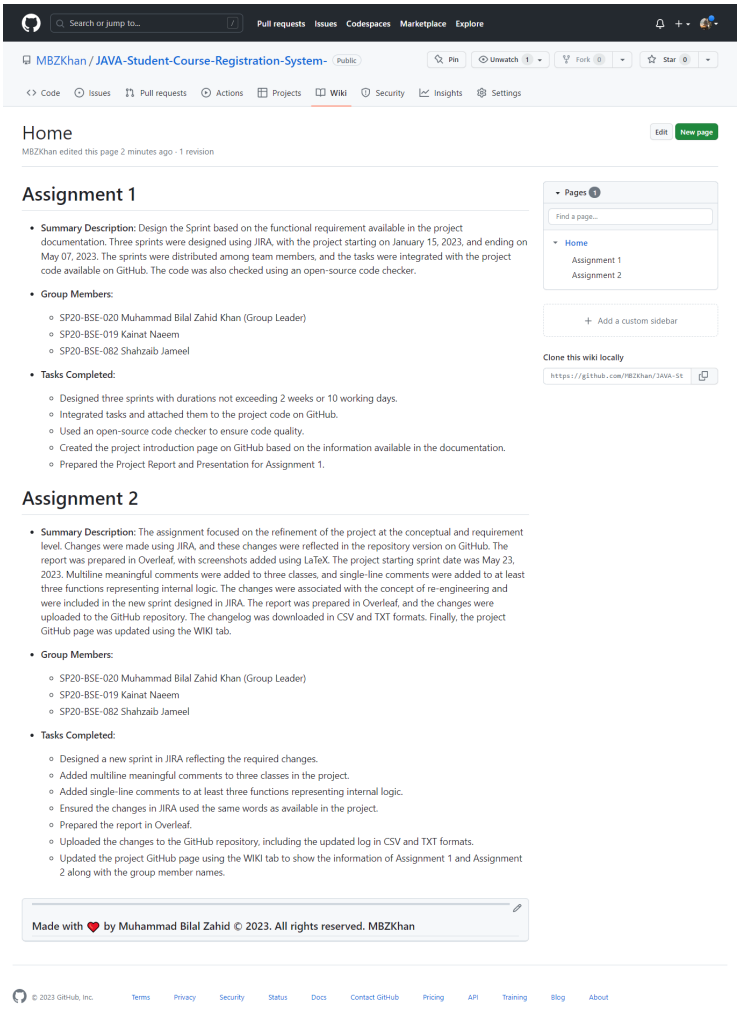


Figure 6: GitHub Project Wiki

5 Group Members

The following group members were involved in the project:

- SP20-BSE-020 Muhammad Bilal Zahid Khan (Group Leader)
- SP20-BSE-019 Kainat Naeem
- SP20-BSE-082 Shahzaib Jameel

6 References

- JIRA Link: `https://mbzkhan.atlassian.net/jira/software/projects/CRS/boards/1/backlog`
- GitHub Link: `https://github.com/MBZKhan/JAVA-Student-Course-Registration-System-`
- Wiki Link: `https://github.com/MBZKhan/JAVA-Student-Course-Registration-System-/wiki`