Plagiarism Detector UML Class Diagram

UserFactory
- □ userCount: int
- ⊕ getInstance(): UserFactory
- ⊕ createUser(): User
- ⊕ deleteUser(): void
- ⊕ getUser(): User
- ⊕ getUsers(): List<User>

creates

User (I)
- ⊕ login(String, String): boolean
- ⊕ logout(): boolean

Admin (C)
- □ name: String
- □ id: String
- □ emailId: String
- □ courseFac: courseFactory
- ⊕ handleCourseRequest(Instructor, String, String): Course
- ⊕ login(String, String): boolean
- ⊕ logout(): boolean

courseFactory

CourseFactory (C)
- ⊕ createCourse(): Course
- ⊕ deleteCourse(): void
- ⊕ getCourse(): Course
- ⊕ getCourses(): List<Course>

creates

Course (C)
- □ secondaryInstructors: List<Instructor>
- □ graders: List<Grader>
- □ students: List<Student>
- □ assignments: List<Assignment>
- ⊕ addStudent(Student): boolean
- ⊕ addGrader(Grader): boolean
- ⊕ addAssignment(Assignment): boolean

contains — *contains* — *primaryInstructor* — *contains*

Faculty (I)
- ⊕ runPlagiarismChecker(Assignment): void
- ⊕ viewReport(Report): JSObject
- ⊕ login(String, String): boolean
- ⊕ logout(): boolean

Student (C)
- ○ name: String
- ○ id: String
- ○ emailId: String

Grader (C)
- □ name: String
- □ id: String
- □ emailId: String
- ⊕ runPlagiarismChecker(Assignment): void
- ⊕ login(String, String): boolean
- ⊕ logout(): boolean

PlagiarismCheck (C)
- □ astComparator: ASTComparator
- ⊕ generateReport(): Report
- ■ compareAllSubmissions(Assignment): Report
- ■ compareTwoSubmissions(Submission, Submission): Report

Instructor (C)
- □ name: String
- □ id: String
- □ emailId: String
- ⊕ runPlagiarismChecker(Assignment): void
- ⊕ login(String, String): boolean
- ⊕ logout(): boolean

Report (I)
- ⊕ getReport(): JSObject

Assignment (C)
- □ assignmentName: String
- □ startDate: String
- □ dueDate: String
- □ requiredFiles: List<String>
- □ studentSubmissions: List<Submission>
- ⊕ generateReport(): Report

contains

Submission (C)
- ⊕ getSource(): Source
- ⊕ getStudent(): Student
- ⊕ getAssignment(): Assignment

source

Source (I)
- ⊕ getProject(): String
- ⊕ getAstList(): List<ASTTree>

GitSource (C)
- □ url: String
- □ astList: List<ASTTree>
- ⊕ getProject(): String
- ⊕ getAstList(): List<ASTTree>

astGenerator

ASTGenerator (C)
- ▲ generateAstList(List<File>): List<ASTTree>
- ▲ generateAst(File): ASTTree

generates

ASTTree (C)
- ▲ getRoot(): ASTNode

AstRoot

ASTNode (I)
- ⊕ *textRepresentation(): String*

Expression (I)
- ⊕ textRepresentation(): String

Statement (I)
- ⊕ textRepresentation(): String

IntegerExpression (C)
- ⊕ textRepresentation(): String

StringExpression (C)
- ⊕ textRepresentation(): String

VariableExpression (C)
- ⊕ textRepresentation(): String

AssignmentStmt (C)
- ⊕ textRepresentation(): String

DeclarationStmt (C)
- ⊕ textRepresentation(): String

SequenceStmt (C)
- ⊕ textRepresentation(): String