Design Class Diagram

User

- id: int
- name: String
- type: String
- consistencyCheckProbability: double

+ User(int id, String name,
 String type)
+ getId(): int
+ getName(): String
+ getType(): String
+ setId(int id): void
+ setName(String name): void
+ setType(String type): void
+ toString(): String

Assignment

- instance: Instance
- classLabelIds: ArrayList<Label>
- user: User
- datetime: LocalDateTime

+ Assignment(Instance instance, User
user, ArrayList<Label> labelIds)
+ Assignment(Instance instance, User
user)
+ addLabel(Label label): bool
+ getInstance(): Instance
+ getLabels(): ArrayList<Label>
+ getUser(): User
+ getDateTime(): String
+ setInstance(Instance instance): void
+ setUser(User user): void
+ setDateTime(LocalDateTime date): void
+ toString(): String

Label

- id: int
- text: String

+ Label(int id, String text)
+ getId(): int
+ setId(int id): void
+ getText(): String
+ setText(String text): void
+ toString(): String

Dataset

- id: int
- name: String
- instanceLabelingLimit: int
- labels: ArrayList<Label>
- instances: ArrayList<Instance>
- users: ArrayList<User>
- assignments: ArrayList<Assignment>

+ Dataset(int id, String name, int quantity)
+ exportOutput(): boolean
+ addLabel(Label label): bool
+ addInstance(Instance instance):bool
+ addAssignment(Assignment
assignment):bool
+ addUser(User user): bool
+ getId(): int
+ getName(): String
+ getInstanceLabelingLimit(): int
+ getLabels(): ArrayList<Label>
+ getInstances(): ArrayList<Instance>
+ getUsers(): ArrayList<User>
+ getAssignments(): ArrayList<Assignment>
+ setId(int id): void
+ setName(String name): void
+ setInstanceLabelingLimit(int limit): void
+ setUsers(ArrayList<User>): void
+ setLabels(ArrayList<Label>): void
+ setInstance(ArrayList<Instance>):void
+ setAssignment(ArrayList<Assignment>):void
+ toString(): String

Instance

- id: int
- instance: String

+ Instance(int id,
String instance)
+ getId(): int
+ setId(int id): void
+ getInstance(): String
+ setInstance(String
instance): void
+ toString(): String

Relationships:
- User — labels — 1 ... * — Assignment
- User — contains — * ... 1 — Dataset
- Assignment — has — * ... * — Label
- Label — contains — * ... 1 — Dataset
- Assignment — has — * ... 1 — Instance
- Instance — contains — * ... 1 — Dataset

LabelingMechanism {abstract}

+ label(Instance instance, User user,
ArrayList<Label> labels,
int instanceLabelingLimit): Assignment {abstract}

KeywordLabelingMechanism

- keywords: ArrayList<String>

+ KeywordLabelingMechanism()
+ KeywordLabelingMechanism(ArrayList<String>
keywords)
+ label(Instance instance, User user,
ArrayList<Label> labels,
int instanceLabelingLimit): Assignment
+ addKeyword(String keyword): bool
+ getKeywords(): ArrayList<String>
+ toString(): String

RandomLabelingMechanism

- random: Random

+ RandomLabelingMechanism()
+ RandomLabelingMechanism(Random random)
+ label(Instance instance, User user,
ArrayList<Label> labels,
int instanceLabelingLimit): Assignment
+ getRandomClass(): Random
+ setRandomClass(Random random): void
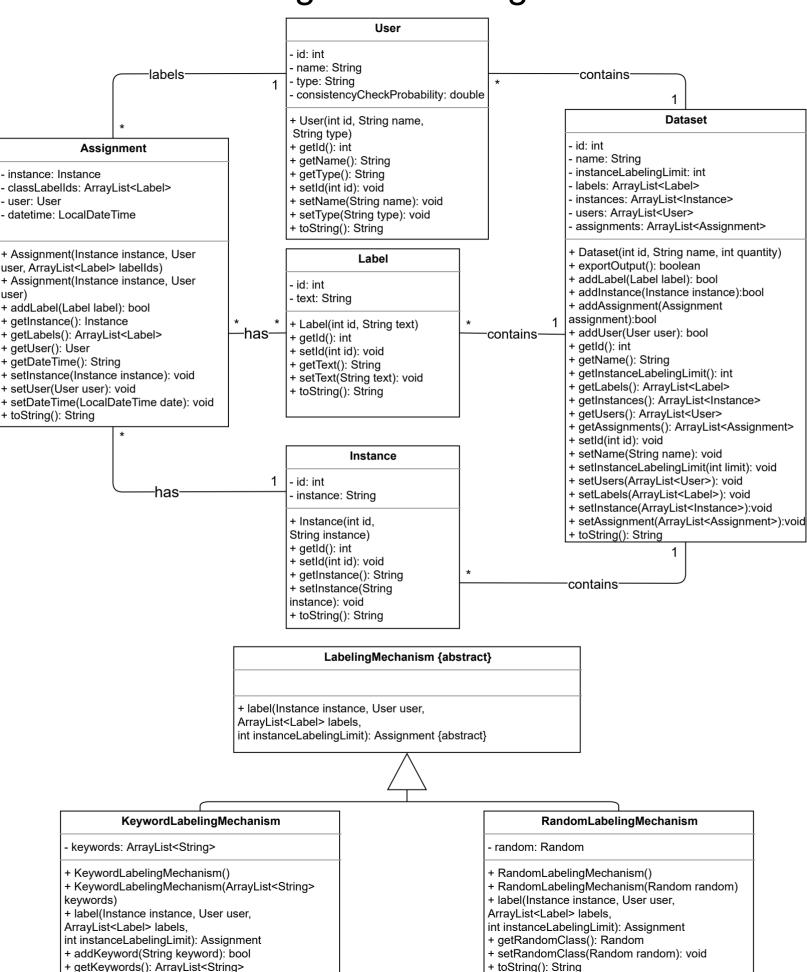+ toString(): String

Logger

- date: date
- type: String
- operation: String

+ Logger(String type, String operation)
+ getType(): String
+ setType(String type): void
+ getDate(): String
+ getOperation(): String
+ setOperation(String operation): void
+ getLogMessage(): String

UserManager

- user: User

+ UserManager(String type, String operation, User user)
+ getLogMessage(): String

DatasetAuditor

- dataset: Dataset

+ DatasetAuditor(String type, String operation, Dataset dataset)
+ getLogMessage(): String

LabelProvider

- label: Label

+ LabelProvider(String type, String operation, Label label)
+ getLogMessage(): String

InstanceTagger

- assignment: Assignment

+ InstanceTagger(String type, String operation, Assignment assignment)
+ getLogMessage(): String

DatasetReadModel

- id: Integer
- name: String
- filePath: String
- isCurrentDataset: boolean
- users: ArrayList<User>

+ DatasetReadModel(Integer id, String name, String filePath, boolean isCurrentDataset, ArrayList<User> users)
+ DatasetReadModel(Integer id, String name, String filePath, boolean isCurrentDataset)
+ getId(): Integer
+ setId(Integer id): void
+ getName(): String
+ setName(String name): void
+ getFilePath(): String
+ setFilePath(String filePath): void
+ getCurrentDatasetStatus(): boolean
+ setCurrentDatasetStatus(boolean isCurrentDataset): void
+ getUsers(): ArrayList<User>
+ addUser(User user): void
+ toString(): String