**SE 339 - Group 9 Paste**

**TEAMMATES**

**Essay 4**

**Introduction**

TEAMMATES is a Web application that runs on Google App Engine. It has four main components:

* UI Component
* Logic Component
* Storage Component
* Common Component

The Logic component handles the business logic of TEAMMATES and serves as a bridge between the UI component and the storage component. The logic component includes:

* Managing relationships between entities, e.g. cascade logic for create/update/delete.
* Managing transactions, e.g. instruct atomicity of a transaction.
* Sanitizing input values ​​received from the UI component.
* Connecting to GCP or third-party services, e.g. for adding tasks to the task queue and for sending emails with third-party providers.

Package overview:

* logic.api: Provides the API of the component to be accessed by the UI.
* logic.core: Contains the core logic of the system.
* logic.external: Holds the logic of external services such as task queue service.

**Logic API**

Represented by these classes:

* Logic: A Facade class which connects to the several \*Logic classes to handle the logic related to various types of data and to access data from the Storage component.
* UserProvision: Retrieves user information (based on request cookies).
* EmailGenerator: Generates emails to be sent.
* EmailSender: Sends email with the provider chosen based on the build configuration.
* TaskQueuer: Adds tasks to the task queue, i.e. to be executed at a later time.
* FileStorage: Manages CRUD of binary files such as profile pictures.
* LogsProcessor: For more advanced usage of logging that cannot be captured by the standard logger class.
* RecaptchaVerifier: For verification of the reCAPTCHA token.

Many classes in this layer make use of proxy pattern, i.e. they only connect to production services such as Google Cloud Storage in the staging/production server.