**2b. Software Architecture Representation**

The following package diagram illustrates the decomposition of the software architecture:

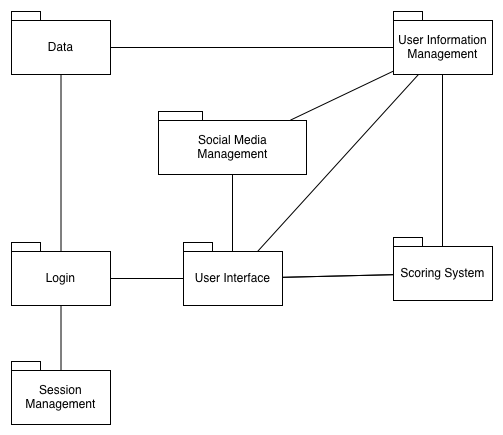


Figure 1: Package diagram for HealthyEatingApp

**Session Management Package**: a collection of classes associated with session management.

**Login Package:** a collection of classes related to gaining access to features available only to registered users.

**User Interface Package:** a collection of classes that enable visual interaction with the user.

**Social Media Management Package:** a collection of classes related to the interaction of the application with Facebook.

**User Information Management Package:** a collection of classes that handle user’s personal account data such as their food entries, status and friend list.

**Data:** a collection of classes that represent data objects used by the application; this package also includes any operations related to database interaction.

**Scoring System:** a collection of classes associated with evaluating user food logs and assigning appropriate scores. This package also contains operations linked to determining if the user needs prompts for healthier eating choices.

The architectural style used is the repository style. It is essential to describe each of the major components and connectors, as well as their interactions. Figure 2 illustrates the components and connectors present in the architecture.

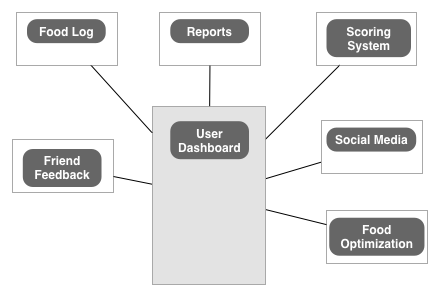


Figure 2: Components and connectors diagram for HealthyEatingApp

Description of Major Components

In accordance with the repository style there is one central data structure that represents the current state. This is the user’s dashboard. The user’s dashboard will contain a list of all the user’s food log entries for the current month (earlier entries can be seen by selecting a specific month and year). This component also has the option to display reports with graphical representation of user’s food related data for archiving. Furthermore, the user’s current score, and food optimization suggestions, friend’s feedback for logged entries and social media elements are to be be displayed and accessed from the dashboard.

Moreover, there are several independent components that operate on this central data structure. The Food Log component process all food entry related data. It displays the first line of each entry on the user dashboard, with the option to view the entire entry if required.

In addition, there is the Reports component. This component is responsible for processing all the calorie information in the entries present in the dashboard for the current month. The data is converted into different graphs that offer the user insight into their eating habits and patterns.

Further, the Scoring System component analyzes the data entries and calculates the user’s current score accordingly.

The Social Media component is responsible for taking information reachable via the dashboard and displaying it on a relevant Facebook page as well as allowing the user to import certain application related data from Facebook.

Lastly, the food optimization component analyzes the user’s food entries and statistics and suggests better food alternatives, if necessary.

Description of Major Connectors