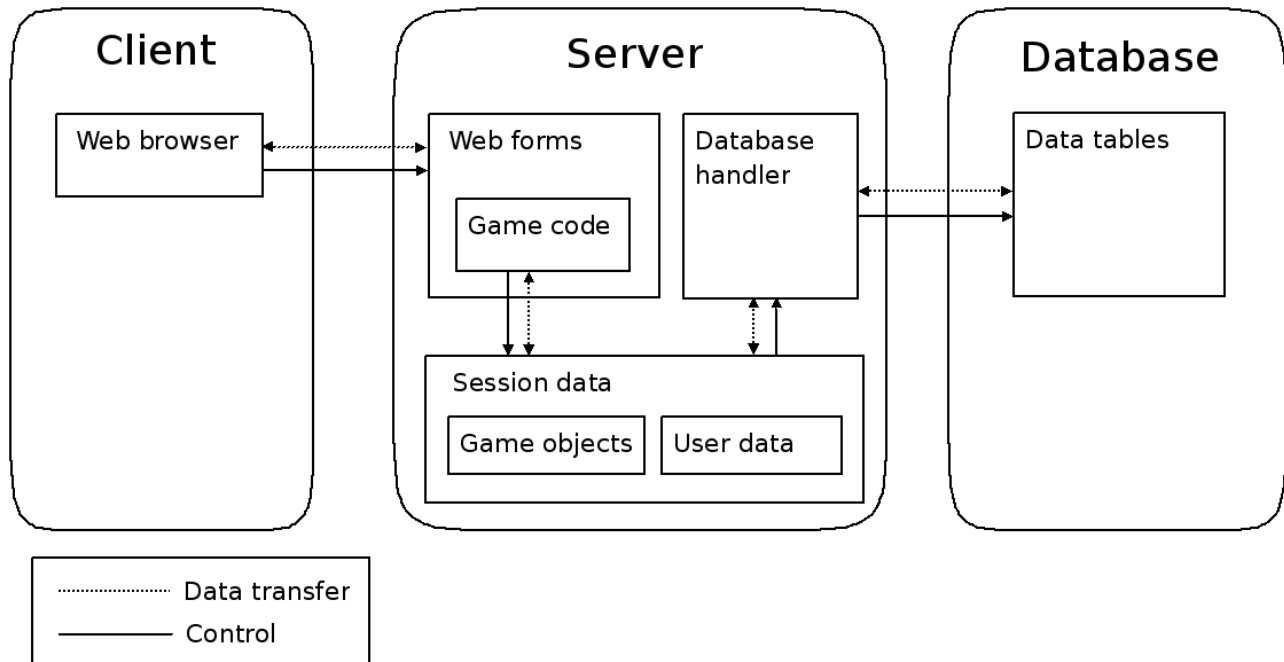## 2.2 Overall Architecture

The system will be a web-based game consisting of a server that clients can connect to through a web-browser. Users will play the game by navigating through, and interacting with, the web pages. In turn, the server will be connected to a database.

The Game code section on the server creates, and/or changes Session data based on the actions requested by the user. The Session data will be stored on the server and will contain information regarding the user (User data) and other necessary game information (Game objects). All Database enquiries will go through the Session data objects and will be handled by the Database handler.

Other than the graphical user interface (web-pages), each form will consist of Game code. The Game code governs all actions in the system, apart from the Client's actions and the Database enquiries.

2.3 Detailed Architecture
This section will describe the control- and data- flow between the system's components using Use case Gather Resource (Gather Resource: Requirements Document, page 43) as an example. The Use case will be presented by an Activity Diagram defined in the Unified Modeling Language (UML). The alphabetical letters in the picture relates to the corresponding sections in the Use case description further down.
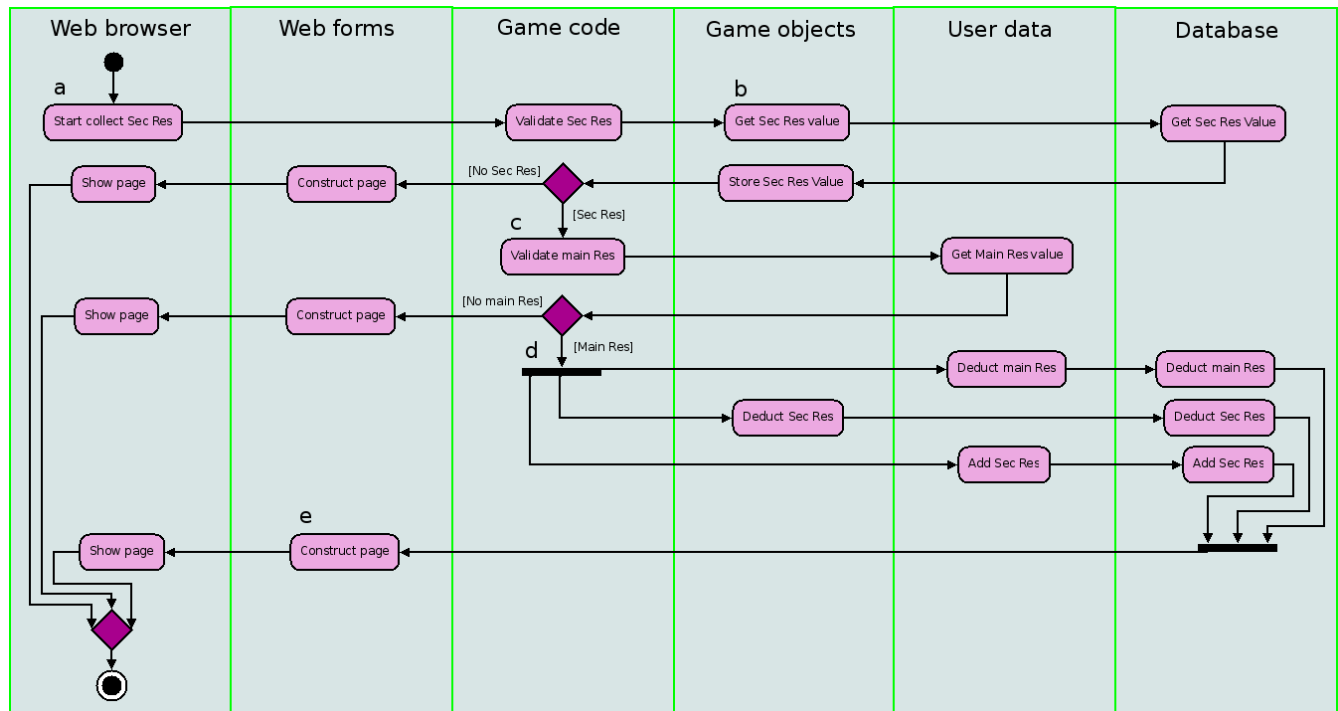
(Sec = Secondary, Res = Resource)

Now follows a detailed description of all Data transfers and Control flows in the Use case.

a
Control flow: The user sends a request through the web browser to the server that he/she wants to gather the secondary resource (Secondary Resoure: Requirements Document, page 23). The Game code validates the amount of secondary resources that are available at the resource Square (Resource Square: Requirements Document, page 23).
Data flow: None.

b
Conrol flow: The Game object loads and then stores the amount of secondary resources available at the resource square from the database and returns the data to the Game code. The Game code validates if there are resources to gather. We will assume that that is the case.
Data flow: The Database sends data to the Game object of interest and in turn to the Game code.

c
Control flow: The Game code loads the user's amount of main resources (Main Resource:

Requirements Document, page 23) from User data. This data will be independent from everyone except for the user. Therefore no database enquiries are necessary. The Game code then validates if the user has enough resources. We will assume that that is the case.
Data flow: User data sends data to the Game code.

<u>d</u>

*Control flow:*The Game code deducts a specified amount of main resources from the user. It also deducts a specified amount of secondary resources from the Resource square and adds it to the User data. The Game object, User data and the Database performs the operations described in **b** and **c**.
Data flow: Values that are to be deducted and added.

<u>e</u>

Control flow: The Game code generates a web-page and sends it to the user's Web browser.
Data flow: The web-page.