Many universities have developed interactive and web-based campus maps. The spatial features of Geographical Information Systems (GIS) are usually incorporated in such maps, thereby facilitating visual searches. In addition to spatial features, a GIS consists of hardware, software, data, personnel and methods used to collect, store, process, manage, and analyze geographical data, run location-based queries, and present the results to users (Yomralıoğlu, 2000; Dinçer, 2008). A mashup application, on the other hand, enables us to compose, arrange and present textual, audio and visual contents drawn from multiple sources and present them through new user interfaces (Yee, 2008).

We used the Map Cruncher (http://www.mekansal.com/dosyalar/mapcruncher.aspx) to create the mashup application. We wrote the programming code using the Google Code Playground (Google, 2009b). We used JavaScript libraries to modify the user interface and added zooming features to display the Google Maps API, which provides detailed maps and higher resolution satellite pictures. In addition, Google Maps API provides maps with a wide range of scales beforehand and presents them to the user in an efficient manner. We used Google Maps API application builder to design the user interface for our campus map.

In order to create a tree-like structure to display through the user interface, we arranged Google Spreadsheets data hierarchically (e.g., Academic Units – Faculties - Departments). New updates on an MS Excel-like interface can automatically be reflected on the Google Maps and the Beytepe Campus Map.

To develop the mashup application using Google Maps API, we obtained the dataset containing place name, category and coordinates of places. We used the programming code using the Google Code Playground (Google, 2009b) and created a temporary map (Fig. 3) with the mashup application.

The spatial features of CommunityWalk’s place-pointing feature (CommunityWalk, 2008, Fig. 3). As shown in Fig. 2, the Beytepe button is colored red. The user can click on the red button to search for that place. In the result (Fig. 4), the map is displayed containing the places in the Beytepe Campus Map.

We developed a simple ontology comprising eight categories, each with its own sub-categories to represent the places at the Beytepe Campus: Academic Units, Administrative Units, Sheltering, Nutrition, Health, Transportation, Entertainment and Sports Centre, and Others. We keyed in data for each category along with its icon to CommunityWalk (Fig. 5). We placed the ontology on the left-hand side of the user interface. We mashed up annotations and pictures linked to each place and displayed them on the right-hand side along with a search button.

In summary, the new campus map is more functional. The user interface can be improved in terms of design and functionality by adding new features. New applications can be developed to allow users to get access via their cell phones to the map wherever and whenever they wish to do so.

The aim of this study is to design and develop an interactive, user-friendly and web-based Beytepe Campus Map to process visual queries and make it available through the Hacettepe University website.

The Beytepe Campus Map mashup application informs users about places on campus. Four different types of places are shown on the map along with explanations on the right-hand side of the menu. Populating the map with texts, pictures and video will make the map even more useful. Keeping data in a database facilitates fast and easy updating. The ontology we created allows us to categorize related places together. Users can query the map and find easily what they search for under 8 major items. The Beytepe Campus Map is available online at http://www.beytepecampus.com.