**Aim**: Preparing a Work BreakDown structure for the project.

**Theory**:

A project work breakdown structure (WBS) is a deliverable or product-oriented grouping of project work elements shown in graphical display to organize and subdivide the total work scope of a project. The WBS is a particularly important project tool. Considerable thought and planning should be given to its development and implementation so that subsequent changes are minimized.

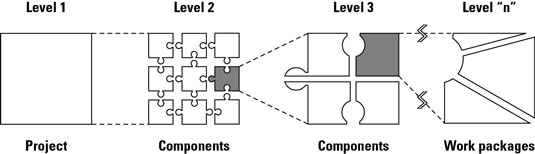
Major revisions to a WBS require both substantial effort and resources, due to its application to a wide array of project activities. Through the WBS, work is defined to a level where unique organizational and personal responsibilities can be established. This may occur at any one of several levels within the project and functional organization. The individual assigned responsibility for accomplishing work at the control account level is often designated a control account manager. Control accounts are divided into smaller, discrete scopes of work called work packages, and a work package manager is assigned to each work package. Integrating the WBS with the project and functional organizations assures that all contract work is accounted for, and that each element of work is assigned to the level of responsibility necessary for planning, tracking progress, accumulating costs, and reporting.

**Procedure**:

Creating a work breakdown structure (WBS) helps you be both comprehensive and specific when managing a project: Thinking in detail is critical when planning your project, but you also need to consider the big picture. If you fail to identify a major part of your project’s work, you won’t have the chance to detail it. A work breakdown structure is the key.

The diagram here shows that the entire project, represented as a Level 1 component, can be subdivided into Level 2 components, and some or all Level 2 components can be subdivided into Level 3 components.

You can continue to subdivide all the components in the same manner until you reach a point at which you think the components you defined are sufficiently detailed for planning and management purposes. At this point, you now have Level “n” components, where n is the number of the lowest-level component in a particular WBS branch. Level “n” components are called work packages.



1.Develop a work breakdown structure to determine the hierarchy of a project.

Suppose you’re responsible for creating and presenting a new training program for your organization. To get started, you’d develop a WBS for this project as follows:

2.Determine the major deliverables or products to be produced.

Ask yourself, “What major intermediate or final products or deliverables must be produced to achieve the project’s objectives?”

You may identify the following items:

* + - Training program needs statement
    - Training program design
    - Participant notebooks
    - Trained instructor
    - Program testing
    - Training program presentation

2. Divide each of these major deliverables into its component deliverables in the same manner.

Choose any one of these deliverables to begin with. Suppose you choose Training program needs statement.

Ask, “What intermediate deliverables must I have so I can create the needs statement?”

You may determine that you require the following:

         Interviews of potential participants

         A review of materials discussing the needs for the program

         A report summarizing the needs this program will address

Divide each of these work pieces into its component parts.

Suppose you choose to start with Interviews of potential participants.

Ask, “What deliverables must I have to complete these interviews?”

You may decide that you have to produce the following deliverables:

         Selected interviewees

         Interview questionnaire

         Interview schedule

         Completed interviews

         Report of interview findings

**Output**:

**Level 1:** Sentiment analysis of geo-tagged tweets

**Level 2:**

1. Prototype which runs on a pre-compiled corpus. Prototype deliverable.
2. Enhance tweet gathering system to make it easy to use. GUI version deliverable.
3. Implement either the Naïve Bayes classifier or the support vector machine. Alpha stage deliverable.
4. Enhance the feature extraction and improve accuracy. Alpha stage deliverable.
5. Implement a world map to display the real power use of the geo-tagged property of tweets.

**Level 3:**

1. **Prototype which runs on a pre-compiled corpus. Prototype deliverable. It has 3 main components:**
   1. Get the tweets – Twitter streaming API (tweepy for python).
   2. Parse and store the tweets - JSON and SQLite
   3. Analyze the tweets – Sentiment analysis. In the prototype a pre-compiled dictionary will be used to analyze the tweets.
2. **Enhance tweet gathering system to make it easy to use. GUI version deliverable:** This phase will involve developing a GUI to use the program since the prototype is command line only. It will involve taking filters as user input and displaying the results of the analysis as a table. Implementation will be done using python GUI.
3. **Implement either the Naïve Bayes classifier or the support vector machine. Alpha stage deliverable:** During this phase, a machine learning algorithm will be implemented for the sentiment analysis. The algorithms will be thoroughly compared based on their merits and demerits which would involve space and time complexity as well as ease of understanding and scope of improvement.
4. **Enhance the feature extraction and improve accuracy. Alpha stage deliverable:** During this phase, focus will be on optimizing the program using various techniques like stemming for performance improvement in terms of accuracy of the results, etc.
5. **Implement a world map to display the real power use of the geo-tagged property of tweets:** This allows companies to track the users of their product and the regional areas in which their product is facing problems. Beta and final product deliverable.

