**Aim**: To Preparing a project plan document for the system to be developed.

**Theory**:

A project plan, according to the Project Management Body of Knowledge, is: "...a formal, approved document used to guide both project execution and project control. The primary uses of the project plan are to document planning assumptions and decisions, facilitate communication among stakeholders, and document approved scope, cost, and schedule baselines. A project plan may be summarized or detailed. The objective of a project plan is to define the approach to be used by the Project team to deliver the intended project management scope of the project.

At a minimum, a project plan answers basic questions about the project:

Why? - What is the problem or value proposition addressed by the project? Why is it being sponsored?

What? - What is the work that will be performed on the project? What are the major products/[deliverables](http://en.wikipedia.org/wiki/Deliverable)?

Who? - Who will be involved and what will be their [responsibilities](http://en.wikipedia.org/wiki/Accountability) within the project? How will they be organized?

When? - What is the project timeline and when will particularly meaningful points, referred to as [milestones](http://en.wikipedia.org/wiki/Milestone_(Project_management)), be complete?

**Procedure**:

Here is a six-step approach to creating a project plan. It provides a road map for project managers to follow and acts as the project manager's premier communications and control tool throughout the project.

Step 1: Explain the project plan to key stakeholders and discuss its key components

"Project plan" is one of the most misunderstood terms in project management. It is a set of living documents that can be expected to change over the life of the project. Like a road map, it provides the direction for the project.And like the traveller, the project manager needs to set the course for the project. Just as a driver may encounter road works or new routes to the final destination, the project manager may need to correct the project course.

A common misconception is that the plan equates to the project timeline - that is only one of the components of the plan. The project plan is the major work product from the entire planning process, so it contains all the planning documents.For example, a project plan for constructing a new office building needs to include not only the specifications for the building, the budget and the schedule, but also the risks, quality metrics, environmental impact, etc.

Components of the project plan include:

* Baselines: These are sometimes called performance measures because the performance of the entire project is measured against them. They are the project's three approved starting points for scope, schedule and cost. These are used to determine whether or not the project is on track during execution
* Baseline management plans: These include documentation about how variances will be handled throughout the project
* Other work products from the planning process, which include plans for risk management, quality, procurement, staffing and communications

Step 2: Define roles and responsibilities

Identifying stakeholders - those who have a vested interest in either the project or its outcome - is challenging and especially difficult on large, risky, high-impact projects. There are likely to be conflicting agendas and requirements among stakeholders, as well as different slants on who needs to be included.For example, the stakeholder list of the city council where a new office building is being constructed could differ from that of an engineering consulting firm. It would certainly include the developer who wants to build the complex, the engineering firm that will build it, citizens who would prefer a park, consultants to study the environmental impact, the city council itself, etc.The engineering firm may have a more limited view. It is important for the project manager to get clarity and agreement on what work needs to be done by whom, as well as which decisions each stakeholder will make.

Step 3: Develop a scope statement. The scope statement is arguably the most important document in the project plan. It is used to get common agreement among the stakeholders about the project definition.It is the basis for getting the buy-in and agreement from the sponsor and other stakeholders and decreases the chances of miscommunication.

This document will most likely grow and change with the life of the project. The scope statement should include:

* Business need and business problem
* Project objectives, stating what will occur within the project to solve the business problem
* Benefits of completing the project, as well as the project justification
* Project scope, stated as which deliverables will be included or excluded from the project
* Key milestones, the approach and other components as dictated by the size and nature of the project

It can be treated like a contract between the project manager and sponsor - one that can only be changed with sponsor approval.

Step 4: Develop the project baselines. Scope baseline: Once the deliverables are confirmed in the scope statement, they need to be developed into a work breakdown structure of all the deliverables in the project.The scope baseline includes all the deliverables produced on the project, and therefore identifies all the work to be done. These deliverables should be inclusive.

Building an office building, for example, would include a variety of deliverables related to the building itself, as well as such things as impact studies, recommendations, landscaping plans, etc.

* Schedule and cost baselines
* Identify activities and tasks needed to produce each of the deliverables identified in the scope baseline. How detailed the task list needs to be depends on many factors, including the experience of the team, project risk and uncertainties, ambiguity of specifications, amount of buy-in expected, etc
* Identify resources for each task, if known
* Estimate how many hours it will take to complete each task
* Estimate cost of each task, using an average hourly rate for each resource
* Consider resource constraints, or how much time each resource can realistically devote to this one project
* Determine which tasks are dependent on other tasks, and develop critical path
* Develop schedule, which puts all tasks and estimates in a calendar. It shows by chosen time period (week, month, quarter or year) which resource is doing which tasks, how much time each task is expected to take, and when each task is scheduled to begin and end
* Develop the cost baseline, which is a time-phased budget, or cost-by-time period

This process is not a one-time effort. Throughout the project, you will most likely be adding to and repeating some or all of these steps.

Step 5: Create baseline management plans. Once the scope, schedule and cost baselines have been established, create the steps the team will take to manage variances to these plans.

All these management plans usually include a review and approval process for modifying the baselines. Different approval levels are usually needed for different types of changes.

Not all new requests will result in changes to the scope, schedule or budget, but a process is needed to study all new requests to determine their impact on the project.

Step 6: Communicate. One important aspect of the project plan is the communications plan. This document states such things as:

* Who wants which reports, how often, in what format and using what media
* How issues will be escalated and when
* Where project information will be stored and who can access it
* What new risks have surfaced and what the risk response will include
* What metrics will be used to ensure a quality product is built
* What reserves have been used for which uncertainties

Once the project plan is complete, it is important that its contents be delivered to key stakeholders. This communication should include such things as:

* Review and approval of the project plan
* Process for changing the contents of the plan
* Next steps - executing and controlling the project plan and key stakeholder roles/responsibilities

Developing a clear project plan takes time. The project manager will probably be tempted to skip the planning and jump straight into execution.

**Output**:

Step 1:

Due to leaps in social media and technology, Almost everyone is connected via a social network. Twitter is the most popular of the social media sites. It uses a simple follow model (you only recieve updates from the people you follow). Users update their wall by posting “tweets”.“Tweets” are one short (140 character limit) updates. Companies which also have a twitter account are followed by their customers.Such companies desire to know the how well their product is doing on the market by analyzing customer tweets.This analysis for positive and negative feedback is known as “Sentiment Analysis”. Its easy for human to decipher the tweets left by the customers and sort them into the three categories.But computers don’t understand human language or the context of the tweet or concepts such as sarcasm. The application of Natural Language processing together with Machine Learning helps close the gap between computers and humans. Sentiment Analysis uses Machine Learning to train a “Classifier”. The “Classifier” is trained using training data, In which tweets are fed with “labels” to the “Classifier”. Example of the Training Data set: "I love Holidays" , "Positive" "I hate when spiders appear out of thin air" , "Negative" "Choclate is the BEST" , "Positive" "The Rains are depressing" , "Negative" Then Feature Extraction using Natural Language processing to extract “Features” from the tweet. We get :

’Love’ , Positive probability 97.43%

’hate’ , Negative probability 94.64%

’BEST’ , Positive probability 88.41%

’depressing’ , Negative probability 84.43%

After Training the “Classifier” we can now Use it on test data. One may automate this so as to allow for self-learning  
**Step 2:**

Stakeholders:

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**Step 3:**

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 add stemming or other methods to improve accuracy. Alpha stage deliverable.
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.

The three main parts:

1. Get the tweets – Twitter streaming API
2. Parse and store the tweets - JSON and SQLite
3. Analyze the tweets – Sentiment analysis