Feasibility Study 31st January 2016

PES Times - A web portal for PES

Team Name: Team 3
Section: B
Team members:
1. Anirudh Agarwal
2. Manisha Rachel Dawson
3. Mohit Mayank
4. Nagasundar
5. Navneet Singh
6. Neha M Kalibhat
7. Niket Raj
8. Parikshit Maheshwari
9. Prafful U M
10. Rohan Ds
11. Romasha Suman
12. Sharath K P
13. Smitha

Revision History

Revision #	Date	Author	Where	Change	Approved by
1	31-01-16	Team	Entire Report	Baselining	Team
2	07-02-16	Neha	Section 3	Added the current scenario of book exchange in 3.1 and modified 3.3 to suit the context	1c
3	07-02-16	Neha	Section 7	Extended time allotted for work integration	
4	07-02-16	Parikshit	Section 4.3	Have elaborated the book exchange feature.	
5	07-02-16	Parikshit	Section 4.4	Have corrected the database requirement	
6	07-02-16	Anirudh	Section 4	Added a vague timeline for project development along with a mention of product's self-sufficiency.	
7	07-02-16	Manisha	Section 6	Rectified the changes by mentioning the competitors, talked about student exclusivity and stating the book exchange feature only once.	
8	07-02-16	Anirudh	Section 8	Reframed old and added new issues.	

Table of Contents

1. Problem Statement

PES Times. A unified PES University web portal for the students and by the students. From an information center for upcoming events to a social platform for the students to discuss and socialize, PES Times is an attempt at making all the scattered Facebook pages and groups for different clubs and events obsolete. This portal tries to solve the problem of students missing out on events and meetings just because they weren't properly notified or forgot to check the respective pages on Facebook. Additionally, it provides a means for student discussions, interactions and suggestions, regardless of the year or department the student belongs to. It takes a crack at making the signup process for different occasions easier and user-friendly. PES Times also makes an effort to organize the numerous clubs in PES University. Different clubs have different pages where they can upload photos, create events and keep a calendar of upcoming events, and a lot more. Finally, buying the books second hand from Campus Mart or asking around the seniors is always a real pain. This PES portal aims to ease this process with the "Book Exchange" feature, which is like a forum where users can put up books they are trying to sell and interested students can contact them. The object of PES Times is to create a globalized and unified portal so that the students do not need to look for anything more, anywhere else.

2. Executive Summary

PES University has a plethora of clubs, each having numerous events round the year. While these groups and their activities make the college diverse, it's obviously not easy to keep track of each one of them. This leads to interested students missing out because of no dedicated system to provide them with properly organized notifications. This is where PES Times comes into play. The primary objective of this web portal is to provide the students with every information about every clubs and events, whether past, ongoing or upcoming, at their fingertips.

Another key problem that students face is buying the books. Either they need to go around asking the seniors for help, or wait forever in the confined space of the Campus Mart. The "Book Exchange" part of the portal allows students to share books among each other at their own convenience.

Summarily, PES Times is a platform, created by and dedicated to the students, which tries to make their lives way more convenient at the university.

3. Current Systems and Processes

Every club uses social platforms like Facebook, Google etc., which is maintained by its respective admin (Club leader). Students need to follow these pages and track websites, in order to be updated.

3.1 Current Operations

As mentioned, clubs have their own platforms like pages, groups in social networking sites and software applications to post their upcoming events and other activities. Clubs maintain their own system (like forms and manual registration), to enable registrations to the events. To know and participate in any events organized by clubs, a student needs to explicitly check corresponding platform.

Discussions about the events are done through social networking sites and queries and clarifications are solved in person or over phone. Promotional messages and posters are sent amongst students through WhatsApp or email.

When it comes to the management of books, the current scenario is, newly joined students buy their textbooks online and buy photocopies of notes in campus while seniors who are about to pass out, sell their books at shops or simply dispose them. Only a few students have the privilege of obtaining books from seniors they know or are in touch with.

3.2 Physical Environment

There are no specific hardware requirements on such applications as they are mainly web-based but a browser is a must. Generally, there is a web server which will host the application and provide services to clients. The communication between client and server takes place using the Hypertext Transfer Protocol (HTTP). Pages delivered are most frequently HTML documents, which may include images, style sheets and scripts in addition to text content. Server will connect to and query the database using server-side scripting language.

In these applications there is usually an administrator who will view and manage the Website configuration through a simple Web interface. He can also create a database to store application services data, such as membership and roles information. Clients will access these services made available by a server through some software mainly web browsers.

There also exists a Notification Services application which will generate notifications, and distribute them to subscribed clients on regular interval. The application developer will determine how subscriptions are evaluated and what information goes into the notifications.

3.3 User Organization

- Clubs on campus, each having their own heads, organise various events throughout the year.
- There are event managers for every event whose job spans right from campaigning, making announcements, making posters, etc. to the actual organization on the day of the event.
- The students are informed about the events through Facebook, WhatsApp, class announcements, etc.
- The students are informed about the time and venue of the event through the same means and any queries are clarified by contacting the event managers directly.

● Students who contested in the events, obtain results or pictures of the event through Facebook pages or they are individually contacted.
● When it comes the management of books on campus, students who know their seniors, try to obtain some required textbooks.

4. System Objectives

PES Times is projected to be a website, with one page dedicated to each society/club to post their upcoming events and other activities. The main objective is to provide a common social ground for interaction and event promotion with proper interfacing between clubs and students. The website would be self-sufficient with one admin for each club to manage (update & delete) club content and supervise registration entries for their events. No manual activity from developers end would be required after product completion.

To access all the features, students will have to sign up initially after which they can login from their accounts. The registration process for upcoming events would just require a student to sign in and click on 'Register' button, thus, preventing the mundane task of entering same basic entries (like name, USN, contact info) again and again for each event. Students with an account would be provided with regular push notifications for their registered events. Students would also be able to communicate via discussion forums under each event where they can put across any queries, suggestions and experiences.

A book exchange forum would consist of students entering book details in either 'Needed' or 'Offered' section, based on which a search mechanism would find a suitable match from pre-existing entries.The development is likely to span over a period of 7-8 weeks with 5 weeks for development of both front and back end of different sections and the rest for collaborating them together along with some final touchups.

Thus, the system would not only inflate the rate of participation by students in college activities but would also serve as a general platform for partaking resources and interaction.

4.1 Description of Products and Services

● PES Times is an online web based portal that will serve as a common platform for all societies/clubs that are part of the college, to post and advertise their activities.
● In present scenario, there is no interface between students and societies/clubs in the college.
● The only means of spreading a word include obsolete PR approach of posters and class announcements.
● By this project, we expect to give each club web presence to post their content thus adding a new dimension to event promotions.
● The club content can vary from upcoming events, objectives of the club to its history and recruitment criteria thus, providing an informative guide.
● It will also serve as a forum for discussion among students regarding events in the college.

- The Book exchange forum would not only endorse partaking but also will promote interaction between students from different batches.
- The ease of event lookup and registrations, offered by this project, is bound to bolster student participation in activities.
- PES Times would not include any notifications/registrations for events organized by departments.
- It would also not handle any money transactions if required for any of the event registrations or book exchange deals.
- Only those students having an account would be able to access Book exchange and Event registration features.
- Content posted by clubs would be visible to any user visiting the site.

4.2 High level Block diagram showing the solution
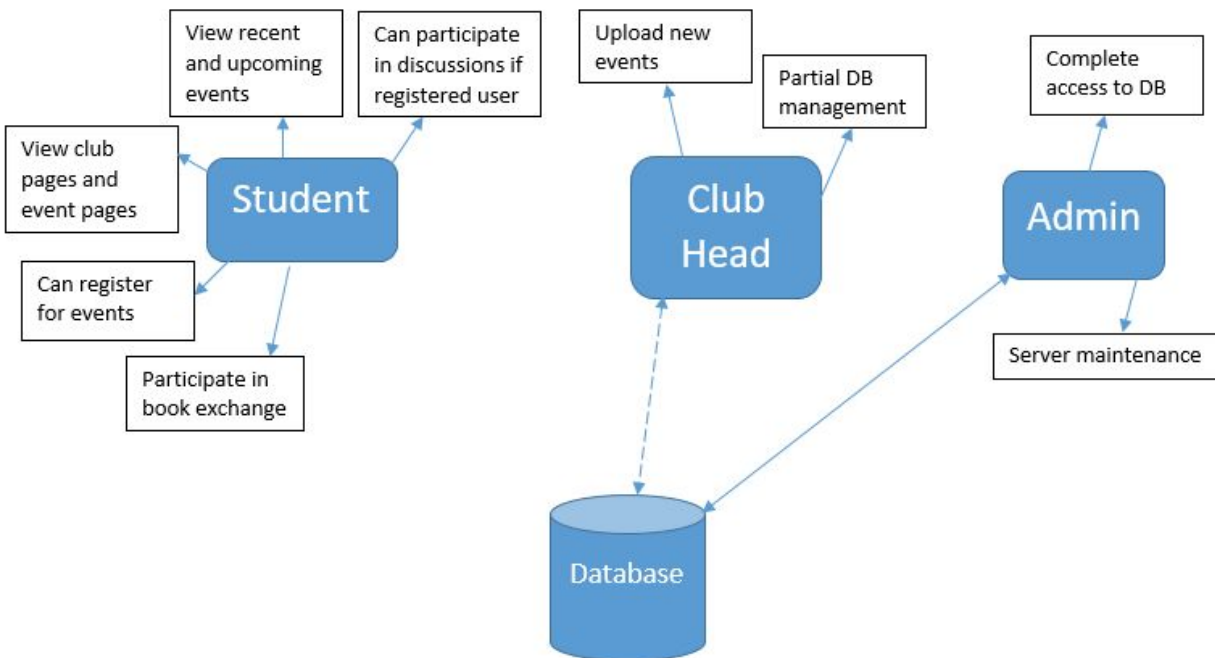
4.3 Targeted Customers and Benefits

The college life of a student is like enjoying the calm waters before diving into the treacherous oceans. He learns, he practices and he evolves so that he can face the merciless competition of outside. One of the key factors for that evolution is the participation in various kinds of events, which tries to bring the rules of outside world inside the walls of the colleges.

Our website is specifically dedicated to the students of a particular college (in this case: PES University). As already mentioned earlier, the birth of this idea came from the fact that there

was no centralized portal where all the clubs can put their event details for students to participate.

So this website in a very loose manner can be said as a website for the students, by the students and of the students.

As per the conclusion from the survey, most of the students who are the day boarders depend upon the information and updates provided by the hostel students. A tradition followed very rigorously, but still very ineffective. Not every student knows everything, and even if he/she knows it might not be what the other person is looking for. So to save the interested pupil from this endless loop, the website seemed to be the way out.

The content of the websites will range from the upcoming hackathons, to the volunteering work and covering every cultural and educational aspect of the respective clubs. The website will be well managed and displayed. For example, if a student wants to browse through the upcoming events according to the club or by the kind of the event, will have full control of the way he wants to do it.

In addition to that, the website will have a separate corner for study related things. There will be a feature for book exchanges between students of the college. The students can put up the names of the books up for sell and the interested buyers can send the request to the concerned seller. Internally database will create a list of these buyers as per the first come first serve basis. The student at the top of the list will be able to see the contact details of the student who is selling the book and vice-versa.

Most of the times in typical student's inbox, there is also high possibility of a good opportunity in a student's career like workshops, talks on higher studies as well as internship opportunities getting vanished. This website will keep track of all such opportunities and places it very systematically on the website.

In conclusion, this website is basically a digitization of the happenings around campus and it is open to all students.

4.4 Technology Considerations

As such there are no specific hardware requirements for the users. This service can be utilized using any device which can be used to access the Internet.

Software requirements are:
- Web Interface: a network that supports the HTTP/HTTPS protocol will be used.
- Server hosting: a JSP (Java Server Pages) servlet will be hosted by an Apache Tomcat web server.
- Database: PostgreSQL database
- Server- Database communication : Django
- Front End: HTML, CSS and Bootstrap
- Language for algorithm implementation: JavaScript

5. Product/Service Marketplace

A portal or platform to keep the students updated about college events and encourage interaction among them is an obligation for any college. It is a contemporary event promotion instrument to spread word across more effectually. The existing portal only has the transcripts and courses registered by every student. There also exist some apps but perhaps due to lack of marketing, these have not flourished well. Other colleges already have a platform in place for college events and registrations. By providing a more coherent way of sharing college event details and registrations for the same on a single platform we can expect participation rate to augment leaps and bounds.

The product is targeted to students of PES University. It is open and accessible to all but features can be explicitly used by students with an account.

The portal will allow various clubs to directly update their space in the platform. This will allow students to get the latest information without resorting to complex ways. It adds a new dimension to campaigning thus making the job of club members cushy, yet effective. Tedious form completions at the time of registration are reduced to a button click Vis a Vis internal database linking for logged in users.

6. Marketing Strategy

PES Times differentiates itself from its competitors such as other college related websites by allowing the students to find out about the latest news and events at PES and register for it all at one place. Instead of finding out about new events through disruptive promulgations and misleading posters, that hardly captivate any interest, the PES Times is an appealing alternative. The portal allows the students to register for any upcoming event on the site, independent of the club involved. Registered pupil would be provided push notifications regarding their upcoming events to their email-ids entered at the time of signup.

Some marketing methods to be implied on the product:

- *Creating a Facebook page:* PES Times will have a dedicated Facebook page where recent exploits of the product would be broadcasted.
- *Promoting its Uniqueness and Exclusivity:* This portal is one of its kind and is exclusively dedicated to the students of PES. There will be no teachers on the website, making it a free environment to express one's views.
- *Spreading a Word:* Approaching club heads with the perks of this product will be one of the most effective marketing strategies. The heads will inform the members of the club who will in turn inform the other members of the college.
  Word of mouth especially in a college campus is after all the fastest way of promulgation.
- *Captivating UI & Accessible features:* An appealing UI coupled with serviceable features is the perfect recipe for a successful product.

Thus, we plan to use contemporary materialistic templates to design the interface. The portal will also have exquisite features like a book exchange facility that will allow students to partake their books of the past semester with other students that need it for their current semester.

7. Schedule

It is important to plan a schedule and stick to it through the course of project development. The following are the dates with the significant stages of the project that need to be completed.

19 Jan 2016:   Project topic selection and discussion with mentor
23 Jan 2016:   Begin development of feasibility study
29 Jan 2016:   Design of framework
31 Jan 2016:   Submission of final draft of Feasibility Report to the evaluating team
3 Feb 2016:   Work division and beginning of product development
13 Mar 2016:   Completion of work assigned to each member
6 Apr 2016:   Developed product by combining the work of all members
7 Apr 2016:   Beginning of testing and debugging
17 Apr 2016:   Final product, ready for presentation

8. Issues

Following are a few issues that we may encounter during the course of the project:
- Creating separate interfaces for club admins and normal users
- Since the approach is a client-server model, the main issue remains the maintenance of the server. If the server crashes, the entire operation comes to a standstill.
- Authentication of new users is a big issue until unless a legit database of all USNs is obtained from college.
- No inclusion of any inter-college events or ones organized by departments.
- Difficult to implement queuing feature of book seekers in book exchange section
- Only one admin for one club is also an irrevocable issue. There may be different sections in big clubs but all will have to upload through one admin.
- Implementing push notifications along with facebook sharing is going to be tedious.
- No registrations for those events that require a fee for registration.
- Convincing club admins to use the product and upload their content on it is a big task.
- The portal is solely meant for students of PES. Students of other colleges will only have access to limited features of the website.
- Scalability of the website, since the number of students increase significantly every year.

9. Assumptions and Constraints

Following are the assumptions:
- Each user will be having a unique standard ID.
- Centralized Database on a dedicated server.
- No money exchange involved during book exchange and registrations.
- All clubs are headed by a single individual.

Following are the constraints:
- Only those students having an account would be able to access Book exchange and one click registration features.
- Only one club-admin to manage and update club content.
- No money transactions involved during book exchange would be entertained by the product.
- Product is dedicated to the students of a particular college where intercollegiate events wouldn't be visible.
- PES Times would not include any notifications/registrations for events organized by departments.

10. Alternatives

The following is an alternative functionality for the web portal:-

- ❖ The portal can have a section dedicated to academics. This section will include virtual classrooms. Additionally, it will have discussion forums for doubt clarifications. Teachers will be actively involved in these discussions. Following the lectures, assignments and relevant material will be uploaded on the portal. Through this feature, the student can track and manage his course work as well as record his backlog.

The primary reason for discarding this alternative feature was its conflict with our idea of the product being a social platform for students for cultural exchange, along with the complexity of its development. For the given amount of time, it is seemingly not feasible. The main intention remains, having a working product by the end of the course.

11.   Findings and Recommendations

This is a portal first of its kind keeping students updated about everything that is hot and happening in college. Targeted customers will be the college students themselves.

The following are the implementation details discovered through the study:
- A powerful backend built using Django to take care of generating news feeds and interact with the database
- PostgreSql for the RDBMS
- A website built using HTML5, bootstrap with the contemporary materialistic design
- A scalable website to accommodate increasing number of users.

The following are a few recommendations to make the product better:
- Developing a user friendly mobile interface along with the proposed website.
- Study corner should contain general study material related to the events currently happening. (For example, during a coding event we need pre-requisites related to algorithms, data structures .During a quiz event we need to read up about the topic on which the quiz is based on).
- All the clubs must be given equal importance and weightage.
- Restrict the number of admins per club who can access the database.
- Establishing a separate database for website activity thus maintaining a history of website activity.

These are a few pros of the proposed approach:
- Common platform for all the activities in college and thus it is easy to follow and keep track.
- Keeps the students updated about the latest events via the push notifications.
- Easy for the students to register with just the click of a button. No need of filling out endless forms.
- Increases overall participation as more students will be aware of the latest events.
- Separation is imposed between clubs so that we can maintain a record of all the activities of each club and the participation strength.
- Book exchange feature promotes partaking and interaction.

Here are the cons:
- Constant push notifications about events that may not be relevant to a user's interests.
- Books feature may appear disjoint with the fun activities in college.
- Not accounting for events being organized by departments.

The product success rate should exceed standards since this portal is the first of its kind for PES. Looking at the convenience and thrill that the portal provides, it is evident that it will be appreciated and operated by every student.

11.1 Project Objectives

Following are some issues concerning development and implementation.

- Assumptions, Constraints and Limitations:
    - College will give us the adequate permissions to host our project on their server.
    - Students/Staff in the college make frequent use of our service.
    - Students/Staff keep periodically updating information about events happening and also post required data in the "books exchange corner".
    - Database is centralized.
    - All monetary issues are solved in person. Our project is not liable to any such issues that could appear.

- Results of research on hardware and software alternatives, technology, marketing, finance:
    - Technology:

        Backend is built using Django and PostgreSQL to fill the tech stack. Here are a few reasons for choosing Django:

        - *Django is time-tested*
        - *Django has been crowd-tested*
        - *Tons of Django packages available*
        - *Django has excellent documentation*
        - *The Django community is amazing and supportive*

        Having said this about Django, now it's time to let you know why PostgreSQL? Here are some key points to understand why we chose PostgreSQL.

        - PostgreSQL predicates are just ordinary expressions.
        - Ordinary SQL
        - Better support for JSON
        - Updatable and materialized views

    - Marketing:

        The whole motive behind PES Times is "Everything in one Place". Eg : All events now have a common interface. Many activities like book exchange, placement information broadcasting explains "Everything in one Place". Now let's try to understand why everything being kept at one place is such a big deal.

        - **Personal Level** - On the personal level, it saves me a lot of time/energy. Me as a student now, do not have to go looking for the admin or event

head to know more about the event, or keep asking my seniors if they're ready to exchange books with me.
- **Team level** - The event admins now do not need to break their heads thinking about the best way to reach out all the people at college. They do not have to create google forms for every new event that happens. Those factors can have a measurable effect on getting the project done faster.

People would definitely prefer a system which is more efficient and one where things happen more systematically than something that doesn't meet those criteria. PES Times sets itself apart from its competitors by allowing the students to find out about the latest news and events at PES and register for it all at one place. Instead of finding out about new events through disruptive promulgations and misleading posters, that hardly captivate any interest, the PES Times is an appealing alternative.

o Organizational:

Once the project is finished and up on the server, there is so need for more staffing. Maybe minimal increases might be required to only monitor or do some analytics. There is no work involved in managing any new users or the authentication process to some extent.

Anyone who is identified as a student of the college, is given a USN and that is all he/she needs to use our service. Absolutely no need of other facilities or capital investments.

- Significant Risk Factors:
  - o There is only one server and if it crashes for any unanticipated reason, the entire operation will come to a standstill.
  - o In the current implementation of the project, there hasn't been any specific measures or use of methods like OAuth and OAuth2 which is used to take care of authentication. A simple Django-based authentication has been used.
  - o There is no backup of the data that we might be storing whatsoever. Which means we aren't taking into consideration the database size.
  - o Flexibility is not given to event admins. There can be only one event admin and it's only him or conceptually his account if anything exists which can make changes to their event.

- Feasibility Recommendations:

  Keeping aside all the above factors mentioned in the report like assumptions, constraints, risks and marketing strategy, this project intended to be accomplished within the given span seems definitely doable.

  To best implement our project, there are certain points that we have to keep in mind. The following recommendations will explain how we can make our work more feasible.

  - We should think more about building a product with more functionality than thinking more about how its appearance could affect the project once it's complete. Having a basic and simple UI with a completely functional project seems more appealing. So ensuring that the UI/UX is kept as simple as possible could count as one recommendation.
  - More discussions regarding the problem we are trying to solve is needed. Meeting the clubs, enquiring what they would want to have in a platform like PES Times if they were to use it would definitely help.

Project Plan

1. **Deliverables of the Project :**

The final product is a unified PES University web portal for the students and by the students. It is an information center for upcoming events to a social platform for the students to discuss and socialize, PES Times is an attempt at making all the scattered Facebook pages and groups for different clubs and events obsolete.

There will be features such as newsfeed. The web portal has a menu for recent events, upcoming events and all other events happening in the collage. There will be option for both registered user and anonymous user. Registered users can start a discussion, comment, set personal remainder and also share the events on other social networking sites. Anonymous user will just be having read privileges. The event organizer can set up an event page with event details and registration link. The web portal provides automatic input of details if user is logged in and pushes mail are also sent once the user is registered. There will also be a page for the college clubs and for incoming and outgoing events. Effective searching is also provided to the users that can give them option like search by club or search by domain. A book exchange corner is also provided to the user for exchanging, donating and reserving books.

The team who reviewed our feasibility report found the project idea innovative and found that it focuses on current issues of PESIT.

Some points were specified by them such as:

1. Plays and performances by college groups for event announcements and promotions have not been mentioned in the current systems.

2. Information regarding whether the system will be fully automated or it will include any manual activities hasn't been provided.
3. Info like means of communication between person offering the book and person receiving the book is not specified (like phone number or address).

We are going to consider the suggestions given by the other team and are going to implement them in the project.

Customers are expected to sign up the registration page with the help of their USN and password. Then they can login to register for the events. Customer can view the time, date and the venue for the event happening in the collage.

There are other website which are already used for event management and are successfully running but there is no specific website for the P.E.S. collage. Currently all the events pages are made in facebook and specific website is made for each of this event. Thus making of this website will allow all the event organizer of the collage to post about their events in the single website made for the college itself.

2. Process Model which you intend to follow :

Software systems come and go through a series of passages that account for their inception,initial development, productive operation, upkeep, and retirement from one generation to another. It begins with background and definitions of traditional software life cycle models that dominate most textbook discussions and current software development practices. This is followed by a more comprehensive review and high level planning. The PES times project plan intends to follow a lightweight agile framework, scrum. Requirements would be divided into sectors and assigned to each scrum. Sprints are on weekly basis and scrums will be cross-functional.

Benefits of choosing the scrum methodology:

● In a nutshell this means that the development can start fast, but with the caveat that the project scope statement is "flexible" and not fully defined. It is a lightly controlled method which insists on frequent updating of the progress in work through regular meetings. Thus there is clear visibility of the project development.
● Daily meetings make it possible to measure individual productivity. This leads to the improvement in the productivity of each of the team members. Issues are identified well in advance through the daily meetings and hence can be resolved in speedily
● Due to short sprints(weekly) and constant feedback, it becomes easier to cope with the changes.
● It is easier to deliver a quality product in a scheduled time.

3. Identification of the upstream-downstream partners needed for the product :

Upstream:-

Products used in the development of the web portal:

● HTML, CSS

- ● Javascript
- ● Bootstrap
- ● Django

Downstream:-

The usage of this project is exclusive to the students of PES University. Among these users, the people involved with the clubs and events, for instance, the admins, are supposed to be in touch with the portal more directly. A more direct involvement comprises of being in contact with the developers of the website, and being active on the portal in order to update and create the events and post news related to the same.

4. Resources needed for the project/product :

Since the product is an application software, It has no requirements for hardware or cost as a resource. Effort and software are only resources to be worried about. All the frameworks and tools required for this product are open source and so availability of this resource is not an issue.Since time is of the essence, the resources that we really need to efficiently manage are time and effort. Some of the tools/frameworks required are :

- ● Django (python based web framework)
- ● Postgres library for python
- ● A browser (For running html-css and JS code)

Apart from this, we also need information about different clubs,their objective,history,members and other similar data. Effort is required for development but before that both time and effort is needed in getting the team familiar with new tools and mechanisms. Efficient resource management will be done using tight deadlines for learning and development phase.

5. How are you organizing your team in the project :

The Project is divided into subteams, each handling one of the mentioned postulates:-

- ● The home page for the portal
- ● The Club Pages
- ● Event registration
- ● Administrator interface
- ● Book Exchange

The reason for the nature of division was to minimise interdependencies between different sectors so that the product can be developed concurrently thus, utilizing time,effort and other resources efficiently.

In our development section, there is no need to freeze requirements and wait for the completion of a section.

Whatever interdependencies are there can be satisfied using dummy values to facilitate parallel creation of modules.

The admin interface needs the signup table database which will be a part of the home page section.The homepage needs the event table that will be a part event registration section and lastly the club pages needs the event table.All the dependencies are database related and can be compensated using dummy values.

The Book exchange feature is an add on with no interdependency whatsoever. The work has been evenly divided into self organising teams, each with a deliverable and a time constraint, in accordance with the scrum framework for product development.

6. Standards-Guidelines-Procedures :

Development Guidelines:(Course of action)

The project began with narrowing down the problem statement. After assessing the feasibility of the idea,we framed certain requirements. An in-depth analysis of the initial requirements was done and we partitioned the project into non-repeating interdependent activities. Each activity has a sub-team working on it and has its own backlog and a separate module as deliverable. Integration of all the modules would be done towards the end. We plan to schedule timely meetings to monitor the progress and manage development time and other resources.

Development Standards:(Established Practices)

The product is following incremental and agile models of development.

- Feasibility Analysis - Taking into consideration the scope,scale and realization of the project in scheduled time, along with effort estimation
- Planning Requirements - Planning what frameworks,languages and designing tools that would be required.
- Defining Requirements - Django framework for server with HTML-css for user interface and javascript for client end.
- System Design - Designing database with certain interdependencies between tables and drawing a rough layout for client interface.
- Implementation - Creation of separate modules by different teams and integrating them into one product.
- Testing - Testing various cases and boundary conditions.
- Deployment and Maintenance of the portal.

Procedures:

- Creating a main page having link to all hot events and club activities.
- Maintaining a database of students with accounts for one click registration.
- Making separate pages for clubs to post their contents.

- Designing an event management interface for creation of new events and a database having registered entries for the event.
- A book exchange interface with a database maintaining records of donors, recipient and transactions.
- Linking all the modules together in one portal.

7. Communication Mechanism :

Communication among team members proves to be very crucial as it ensures all the members are up to date with the strategies, changes in code and ideas. It is essential to have good platforms for conversation between team members so that ideas can be put across effectively.

For project-related communication among team members WhatsApp and Google groups have been created. Through these groups we can communicate ideas, carry out discussions and make important decisions.

For code sharing, regular team meetings and sub-team meetings are carried out. In addition, a GitHub repository will be created to upload the working code of each sub-team. Here, all the bits of code are combined. The repository will help us implement practices like pair programming for efficient deployment of the product.

8. Risks :

Following are few of the known risks:

- Not all club admins would prefer to login through our portal and promote their event. They might prefer to have their own website.
- In the book exchange section we aren't verifying the authenticity nor the condition of the books that have been put up for sale. Buyers may be misled into buying older versions or end up paying more than the book's resale value.
- From a user's perspective his news feed might get spammed with unwanted event updates and he might overlook some events or stop following the news feed.

Why we are willing to take these risk and stick to our plan:

Despite all these risks we strongly believe that our portal will be popular and successful in keeping the students informed about the intra college events and encourage more students to take part in them. Here are a few solid reasons to back it up :

- Process of registration made very simple and user-friendly.
- Students will not miss out on any event.
- Easy for the club admins to keep track of their past events
- Once few events start receiving a good response from the students , more clubs will definitely want to promote their events through   our portal.
- Easy for the club admins to create a new event page. Since we've already designed a standard template they need not worry about it.
- Club admins can share their event page on Facebook and other social networking websites with just the click of a button.

- Club admins need not worry about building websites from scratch for every event.
- The book exchange section can be used to gain access to expensive books at pocket-friendly prices.

9. Quality Criteria :

The quality of a software product normally depends upon two things:

1. How well software is designed (quality of design)

2. How well software conforms to that design (quality of conformance)

(i)   Quality of Design

Quality of Design depends mainly on two factors. The way the code is being written and the way the different code from the sub teams is integrated. The whole team has been divided into 4-5 groups and each group has a responsibility of creating one aspect of the website. So, this goes without saying that the code generated by all groups has to provide ease of maintenance, high readability and scalable. To achieve this, each group has been given a timeline by which they have to complete their given task. After which the whole team will sit down and merge everything. There will be some errors and some un-synchronization, which will form the next part of the project; to clear all the minor backlashes and generate the final product.

One advantage which our team will be exploiting a lot is that the backend and the front end of a given task are done by the same group instead of a separate group for backend and front-end. In the latter case we have seen that the time delay on the delivery of the product is more as compare to the former way which we have opted for.

Hence, the quality of design may not be perfect, but it will surely be on the standards of any given product.

(ii)   Quality of conformance

Is the product as a whole ready for the consumer?

Are there any minor glitches in the product which may eventually crash the whole system?

Is the product fully compatible with the majority of the systems available?

The answers to these questions will form the basis for the second type. After the final integration of the product, a good quality of time will be spend on the various types of testing to see whether the product can withstand all the normal queries as well the tricky end cases.

With the normal procedure of doing all the different types of testing (unit testing, functional testing, performance testing), we will try to have a beta audience to test the product. Also while developing, each of us will keep in mind any loopholes coming into the picture and looking for a way to overcome it.

For the final presentation, each and every module along with each and every feature will be checked and performance documented, thus completing the *quality of conformance.*

10. Work Packages :

We have divided the project into 5 domains.Each domain has its own back-end and front-end part. After the completion of all domain work,we have to integrate those domains into a single domain by removing the redundancies. Five domains are as follows.

a. Book exchange: This domain is related to study related things. Student who wish to sell the books can put up the name of the books and student who wish to buy the book can request the seller. Request is served on First come first serve basis. There will be internal database designed to handle these.

b. Admin Interface: Interface is accessible to admin who is head of the respective club. Page consists of three parts,database,create event and promote. Admin can create new event as well as can share it in social networking sites. Admin can also update the club page by removing or adding information related to the club by maintaining the database.

c. Main Page(news feed): This page contains information about events like ongoing events,upcoming events and recent events. Page displays all the clubs in PESIT. Once student sign up,they can log in and use the website. Admins can login separately from this page.

d. Event Page: Page displays all the details of an event selected by user. It also supports the user to register to an event via registration link.

e. Club Page: Page has all the information about the club(objective,members,history,gallery etc), Ongoing events,upcoming events and recent events organized by club. Page is maintained by head of the club who has separate interface called admin interface to update the club page.

11. Budget and Schedule :

High level schedule:

Date	Action to be completed
19 Jan 2016	Project topic selection and discussion with mentor
23 Jan 2016	Begin development of feasibility study
29 Jan 2016	Design of framework
31 Jan 2016	Submission of final draft of Feasibility Report to the evaluating team
3 Feb 2016	Work division and beginning of product development

13 Mar 2016	Completion of work assigned to each member
6 Apr 2016	Developed product by combining the work of all members
7 Apr 2016	Beginning of testing and debugging
17 Apr 2016	Final product, ready for presentation

Detailed work breakdown with individual ownership:

Anirudh Agarwal	Admin interface: Back-end development Reports and reviewing Planning and database design for Admin interface
Mohit Mayank	Main page(News Feed): Back-end development Reports and reviewing
Manisha Rachel Dawson	Event page: Back-end development
Nagasundar	Book exchange: Front-end design
Navneet Singh	Admin interface: Front-end design
Neha M Kalibhat	Main page(News Feed): Back-end development Meetings, deadlines, management of groups and docs Reports and reviewing
Niket Raj	Club page: Back-end development
Parikshit Maheshwari	Admin interface: Back-end development Reports and reviewing Planning and database design for Admin interface
Prafful Um	Book exchange: Back-end development Reports and reviewing Planning and database design for Book exchange
Rohan Ds	Book exchange: Back-end development Planning and database design for Book exchange
Romasha Suman	Main page(News Feed): Front-end design
Sharath Kp	Club page: Front-end design
Smitha	Event page: Front-end design

12. Delivery means :

The working and tested product will be deployed on a server and when it goes live, it can be accessible by any student. The links to the website are shared extensively through social networking sites, WhatsApp groups etc.

Club heads may approach and obtain admin logins from the developers. Once admins have been identified they can go ahead and upload upcoming events and share the same on social networking websites.