

**Software Requirement Specification**

For Student Gymkhana System

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**Introduction**

**Purpose**

The aim of the document is to gather and analyse and give an in-depth insight of the complete Student Gymkhana System of IIITDM Jabalpur. It will define the users and functionality of the Software.

Also, we shall predict and sort out how we hope this product will be used in order to gain a better understanding of the Software, outline concepts that may be developed later, and document ideas that are being considered, but may be discarded as the product develops. This document describes the project's target audience and its user interface, hardware and software requirements. It defines how our client, team and audience see the product and its functionality. Nonetheless, it helps any designer and developer to assist in Software Development Lifecycle (SDLC) processes.

**Scope of Project**

The Software System Gymkhana which is available as a Online Web Services Portal and as a mobile application to make various events and activities of Gymkhana easier with various tools. Accessing the information and performing certain activities will be easy using the Software. Software will facilitate various Gymkhana Activities and Administration.

**Document Convention**

When writing this SRS for Student Gymkhana Software, the following terminologies are used:

* Web server (WS): Web Server over which all the data and information is stored.
* Database: Database is collection of data of the Institute’s various departments. Access will be given on proper authentication.
* Client: The user of the Software.
* Android: mobile operating system which runs in the mobile phones
* iOS: IDevice Operating System the primary control control program in Apple’s iphone
* App: application software , software designed to run on smartphones and other mobile devices

**Intended Audience and Reading Suggestions**

Intended Audience of the SRS are students (IIITDM Jabalpur as well as outside) and developers, faculties and Staff. It specifically addresses issues of Gymkhana System.

**References**

IEEE. IEEE Standard 830-1998 IEEE Recommended Practice for Software Requirements Specifications. IEEE Computer Society, 1998.

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**Overview of the Document**

The remaining sections of this document provide a general description, including characteristics of the users of this project, the product's hardware, and the functional and data requirements of the product. General description with functional requirements of the project is discussed in section ​Overall Description​of this document. ​External Interface​​Requirements​gives the Hardware, Software and Communication Interfaces designing the Gymkhana Software. It also gives the user viewpoint of product. ​System Features​also gives the specific requirements of the product. It also discusses about the various use cases included in the Project. Last Section of gives detail about Non Functional requirements.

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**Overall Description**

**Product Perspective**

Student Gymkhana System is itself a subsystem of College System. Software will take input from College Database of Students and Faculty.

There are specifically 6 Actors in the System, Dean Students (Head of Gymkhana), Convenor, Co-Convenor, Coordinator, Co-Cordinator and students. Different Activities are performed by different actors.

**Product Functions (Functional Requirements)**

Student Gymkhana will provide a number a functions:

* Allow the Election Controller to **hold elections** and hence Form Senate. Each student will be able to vote using the portal.

The result of elections will also be released online. Senate will constituted after results.

* Software will **ask for Nominations** for the Senate Elections and Committee Formation.

Students can nominate their representative online.

* Student Committees, Council and Core Team for Fest can also be formed Committee will be constituted after approval from the Senate.

Nominations will be filled prior the submission of candidature.

* Appointment of the Coordinators of Clubs

Coordinators will be appointed on approval of Senate.

Coordinators can be changed after required approval.

* Allocation of Budget to the Clubs

Requirements of Budget of each Club will be recorded.

Budget will be allotted when approved by Senate.

* Formation of New Club

Requirements and Need for new Club is recorded.

New Club is made after discussion in Senate.

* Hold Meetings and Create Minutes Dean Student can call and hold meetings. Minutes of the meetings are recorded.
* Propose a New Project in the Institute

Members of Senate can propose Projects for Student Welfare.

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Allocation of Budget of Fest(Technical, Cultural and Sports) Fest Budget is allotted after discussion in the Senate.

* Creation of Activity Calendar of all Clubs.

Year round activities of various clubs in the institute is created.

* Submission of Event Report

Report of events conducted by each club is also submitted.

This is submitted along with the expenses of the event.

* Issue of Notice/Notification

Notice can be issued by Dean Student.

* Modification of Rules, Regulations and Guidelines of Hostel, Mess, elections etc.

**User Classes and Characteristics**

The typical Student Gymkhana user is simply anyone that has access to the Internet a web browser or smart phone . It is assumed that the user is familiar enough with a computer to operate the browser, keyboard and mouse or has the knowledge of operating a smart phone and is capable of browsing to, from and within simple websites and literate enough to do basic operations.

**Operating Environment**

Gymkhana is made available in both web and mobile platforms.is operating in the following operating environments.

* Android
* Windows 10 (at least)
* iOS

**Design and Implementation Constraints**

The Software will be designed in English Language only. Native languages are not supported by software itself, although if the underlying platform allows it, there is no objection by the part of software developers.

**Assumptions and Dependencies**

It is assumed that the platform on which the software is operating is working correctly, such as Network connectivity, Operating system, as well as Hardware components such as Hard disk, RAM, processor, network interface card, are functioning as per requirements. Also, it is assumed that the required technology to run the software is present in the system. ( This software is dependent on the version of browser and /or mobile operating system being installed. Brower version should be used which have HTML5 support. Android 8+ version should be used. Windows operating system . iOS 10+ version should be used.With the screen the compatibility is with 15’’ inch screen for laptops.)

**System Features**



**USE CASE**

| UC ID | UC#1 | |  |
| --- | --- | --- | --- |
| Use case Name | submit\_event\_report\_to\_counsellor | | |
| Description | Reports of each event are submitted to counsellor by convenor | | |
|  |  | | |
|  |  | | |
| Actor | Convenor | | |
| Precondition | Event report should be created by convenor | | |
| Main Flow | 1. |  | Event report is created by convenor which contains detailed information of the event such as date, time, etc. |
|  | 2. |  | This report is submitted to convenor |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  | |
| Post Condition | Report details are verified by counsellor | | |
| Alternate Flow | If report is not proper,  ask convenor to resubmit the report. | | |
|  |  | | |
|  |  |  |  |
| Sub Flow |  |  |  |
| Global Alternate |  |  |  |
| Flow |  |  |  |

|  |  | |  |
| --- | --- | --- | --- |
| UC ID | UC#2 | |  |
| Use case Name | event\_report\_to\_co\_coco | | |
| Description | Reports of each event are submitted to co-ordinator and co\_coordinator by convenor | | |
|  |  | | |
|  |  | | |
| Actor | Convenor | | |
| Precondition | Event report should be created by convenor | | |
| Main Flow | 1. |  | Event report is created by convenor which contains detailed information of the event such as date, time, etc. |
|  | 2. |  | This report is submitted to co-ordintor and co\_coordintor by convenor |
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|  |  |  |  |
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|  |  |  |  |
|  |  |  |  |
|  |  |  | |
| Post Condition |  | | |
| Alternate Flow |  | | |
|  |  | | |
|  |  |  |  |
| Sub Flow |  |  |  |
| Global Alternate |  |  |  |
| Flow |  |  |  |
|  |  |  |  |

| UC ID | UC#3 | |  |
| --- | --- | --- | --- |
| Use case Name | new\_club\_form | | |
| Description | proposal for the formation of new club | | |
| Actor | Student | | |
| Precondition | Club should not exist | | |
| Main Flow | 1. |  | Students can propose the formation of new clubs to the |
|  |  |  | convenor with proper documentation of funds required for the |
|  |  |  | club and what is the purpose of the club. |
|  |  |  |  |
|  | 2. |  | Then the application is forwarded to the Dean (S) through the |
|  |  |  | counsellors for the final approval |
|  |  |  | |
| Post Condition | Club is formed and then coordinators, co-coordinators, and faculty | | |
|  | incharge are to be selected | | |
|  |  |  |  |
| Alternate Flow |  |  |  |
|  |  |  |  |
| Sub Flow |  |  |  |
| Global Alternate |  |  |  |
| Flow |  |  |  |
|  |  |  |  |

| UC ID | UC#4 | |  |
| --- | --- | --- | --- |
| Use case Name | club\_membership\_form | | |
| Description | Form for getting enrolled in a club | | |
| Actor | Student | | |
| Precondition | Club should exist | | |
| Main Flow | 1. |  | Student who are interested to get enrolled in a particular club, fills this form. |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  | 2. |  | Student information is verified and student is enrolled in that club. |
|  |  |  |  |
|  |  |  | |
| Post Condition | Student is enrolled in that club and his information is updated in members record. | | |
|  |  | | |
|  |  |  |  |
| Alternate Flow |  |  |  |
|  |  |  |  |
| Sub Flow |  |  |  |
| Global Alternate |  |  |  |
| Flow |  |  |  |
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| --- | --- | --- |
| UC ID | UC#5 | |
| Use case Name | approve\_club | |
| Description | Dean (S) should accept/reject the new clubs that are proposed by students | |
|  |  | |
|  |  | |
| Actor | Dean (S) | |
| Precondition | The proposal of new club should be in well defined manner. | |
|  |  | |
|  |  |  |
| Main Flow | 1. | The proposal of new club is forwarded to Dean Students by students |
|  |  |  |
|  |  |  |
|  | 2. | The proposal is accepted if there is no issues or rejected if any issues are found. |
|  |  |  |
|  |  |  |
| Post Condition | Students are notified by Dean Students according to the decisions. | |
| Alternate Flow | If proposal is not accepted, the students are notified. What changes are to be made to the proposals are also conveyed to students | |
|  |  | |
|  |  |  |
| Sub Flow |  |  |
| Global Alternate |  |  |
| Flow |  |  |
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| UC ID | UC#6 | |  |
| --- | --- | --- | --- |
| Use case Name | vooting\_pools | | |
| Description | Students can cast their votes for various elections held like senate election. | | |
|  |  | | |
|  |  | | |
| Actor | Student, counsellor, mess\_incharge | | |
| Precondition | Candidate for whom the vote is casted should exist. | | |
|  |  | | |
|  |  |  |  |
| Main Flow | 1. |  | Election candidate should be verified and listed |
|  |  |  |  |
|  |  |  |  |
|  | 2. |  | student can cast their votes for verified and listed candidate only |
|  |  |  |  |
|  |  |  |  |
| Post Condition | candidates count of vote increase | | |
| Alternate Flow |  |  |  |
|  |  |  |  |
| Sub Flow |  |  |  |
| Global Alternate |  |  |  |
| Flow |  |  |  |
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| UC ID | UC#7 | |  |
| Use case Name | view\_pools | | |
| Description | Dean Students can view the voting pools for conducted elections | | |
| Actor | Dean (S) | | |
| Precondition | Election should be conducted. | | |
| Main Flow | 1. |  |  |
|  |  |  | Voting pools and its result should be uploaded and can be viewed by Dean (S) |
|  |  |  | |
| Post Condition | Voting pools should be viewed only by Dean (s) | | |
| Alternate Flow |  |  |  |
|  |  |  |  |
| Sub Flow |  |  |  |
| Global Alternate |  |  |  |
| Flow |  |  |  |
|  |  |  |  |

| UC ID | UC#8 | |  |
| --- | --- | --- | --- |
| Use case Name | view\_club\_details | | |
| Description | this shows the details of the all the clubs present in the gymkhana | | |
|  | who are the co ordinators , co coordinators etc.. | | |
|  |  | | |
| Actor | Students, dean students,mess incharge,counsellors | | |
| Precondition | There should be representative from every batch | | |
| Main Flow | 1. |  | the actor selects the club to which he wants to know the info about |
|  |  |  |  |
|  |  |  |  |
|  | 2. |  | The data of the respective club will be shown |
| Post Condition |  | | |
|  |  | | |
|  |  | | |
|  |  | | |
| Alternate Flow |  | | |
|  |  | | |
|  |  |  |  |
| Sub Flow |  |  |  |
| Global Alternate |  |  |  |
| Flow |  |  |  |
|  |  |  |  |

| UC ID | UC#9 | |  |
| --- | --- | --- | --- |
| Use case Name | Members\_records | | |
| Description | Members list of various clubs is uploaded on the online portal | | |
| Actor | Club-coordinator | | |
| Precondition | Members should be registered. | | |
| Main Flow | 1. |  | Club-coordinators should upload the final list of the registered |
|  |  |  |  |
|  |  |  | members in the club. |
|  |  |  | |
| Post Condition | List should be made available to the concerned authorities. | | |
| Alternate Flow |  |  |  |
|  |  |  |  |
| Sub Flow |  |  |  |
| Global Alternate |  |  |  |
| Flow |  |  |  |
|  |  |  |  |

| UC ID | UC#10 | |  |
| --- | --- | --- | --- |
| Use case Name | Change\_co\_co | | |
| Description | The order of changing the co and the coco of the club is iniated | | |
| Actor | Dean.(s) | | |
| Precondition | there should be a alternative person in the club so that he can be assigned with that post | | |
|  |  | | |
|  |  |  |  |
| Main Flow | 1. |  | After the time period of the coco and co has been completed so the dean changes the designation |
|  |  |  |  |
|  |  |  |  |
|  | 2. |  | Dean sets the new student as the co and the coco. |
| Post Condition | Students are notified according to the Dean.(s) action. | | |
| Alternate Flow | If something went wrong or the Dean have some objection against | | |
|  | the changes then the counselor is notified and is requested to | | |
|  | re enter the new co and coco. | | |
|  |  |  |  |
| Sub Flow |  |  |  |
| Global Alternate |  |  |  |
| Flow |  |  |  |
|  |  |  |  |
|  |  | |  |
| UC ID | UC#11 | |  |
| Use case Name | event\_report\_to\_counsellor | | |
| Description | the event report of the event or the fest will be sent to the counselor by the dean | | |
|  |  | | |
|  |  | | |
| Actor | Dean Students | | |
| Precondition | There should be an event being conducted in the college | | |
| Main Flow | 1. |  | The dean students will send the event report to the counselor |
|  |  |  |  |
|  |  |  |  |
|  | 2. |  | the notification will be sent to the counselor |
| Post Condition | theri should be an event being conducted in the college | | |
|  |  | | |
|  |  | | |
|  |  | | |
| Alternate Flow |  | | |
|  |  | | |
|  |  |  |  |
| Sub Flow |  |  |  |
| Global Alternate |  |  |  |
| Flow |  |  |  |
|  |  |  |  |

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| UC ID | UC#12 | |  |
| --- | --- | --- | --- |
| Use case Name | event\_report\_to\_dean | | |
| Description | The order of changing the co and the coco of the club is iniated | | |
| Actor | counselor | | |
| Precondition | the event report of the event or the fest will be sent by the counselor to dean | | |
|  |  | | |
|  |  |  |  |
| Main Flow | 1. |  | the counselor forwards the event report give by the club member to the dean |
|  |  |  |  |
|  |  |  |  |
|  | 2. |  | Dean accepts the report given. |
| Post Condition | the report should be accepted by the Dean.(s) | | |
| Alternate Flow | if the dean is not satisfied with the report he will reject the report | | |
|  |  | | |
|  |  | | |
|  |  |  |  |
| Sub Flow |  |  |  |
| Global Alternate |  |  |  |
| Flow |  |  |  |
|  |  |  |  |
|  |  | |  |
| UC ID | UC#13 | |  |
| Use case Name | event\_report\_to\_convener | | |
| Description | the event report of the event or the fest will be sent by the counselor to convener | | |
|  |  | | |
|  |  | | |
| Actor | counselor | | |
| Precondition | the report should contain the money spent, prizes and the participants etc etc | | |
| Main Flow | 1. |  | The counselor will send the event report to the counselor |
|  |  |  |  |
|  |  |  |  |
|  | 2. |  | the notification will be sent to the convener |
| Post Condition | the report should be accepted by the convener | | |
|  |  | | |
|  |  | | |
|  |  | | |
| Alternate Flow | if the convener is not satisfied with the event report then he will ask to send the report again | | |
|  |  | | |
|  |  |  |  |
| Sub Flow |  |  |  |
| Global Alternate |  |  |  |
| Flow |  |  |  |
|  |  |  |  |

| UC ID | UC#9 | |  |
| --- | --- | --- | --- |
| Use case Name | Invite\_nomination\_for \_hostel\_committee | | |
| Description | notification is sent to the students for the formation of new hostel | | |
|  | committee | | |
|  |  | | |
| Actor | Warden | | |
| Precondition | There should be representative from every batch in the committee | | |
| Main Flow | 1. |  | Warden notifies students when there is need to form a new |
|  |  |  | hostel committee. |
|  |  |  |  |
|  | 2. |  | Forms are made available to the students to fill and apply. |
| Post Condition | Students who have applied are for being a part of committee are | | |
|  | called and the selection is done internally and the list is forwarded to | | |
|  | the Dean(S) | | |
|  |  | | |
| Alternate Flow | If something went wrong or the Dean have some objection against | | |
|  | the selected student then re-elect the member | | |
|  |  |  |  |
| Sub Flow |  |  |  |
| Global Alternate |  |  |  |
| Flow |  |  |  |
|  |  |  |  |

| UC ID | UC#10 | |
| --- | --- | --- |
| Use case Name | submit\_event\_report | |
| Description | Whenever any event happens of any club or during any fest the final | |
|  | and detailed report is submitted. | |
|  |  | |
| Actor | Counsellor | |
| Precondition | The report should contain each and every detail about fund spent, | |
|  | participation, prizes if any. | |
|  |  |  |
| Main Flow | 1. | co-ordinators submit their respective club activities report to |
|  |  | the convener. |
|  |  |  |
|  | 2. | convener then forward it to the counsellor and then it is |
|  |  | notified to the Dean(S) for final submission. |
|  |  |  |
| Post Condition | Report should be accepted by the Dean(S) | |
| Alternate Flow | If there is something wrong in the report then it is given back. | |
|  |  |  |
| Sub Flow |  |  |
| Global Alternate |  |  |
| Flow |  |  |
|  |  |  |

| UC ID | UC#11 | |
| --- | --- | --- |
| Use case Name | update\_activity\_calendar | |
| Description | Make the activity calendar of the college and upload it on the portal | |
| Actor | Counsellor | |
| Precondition | All events need to be decided and their dates need to be fixed | |
| Main Flow | 1. | counsellors make the event calendar listing all the fest dates |
|  |  | and further club activities. |
|  |  |  |
|  | 2. | Dean(S) approves the calendar and publish it. |
| Post Condition | Activities should not clash with each other and other academic | |
|  | affairs or semester examination. | |
|  |  | |
| Alternate Flow | if any event clashes then it need to be changed | |
|  |  |  |
| Sub Flow |  |  |
| Global Alternate |  |  |
| Flow |  |  |
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|  |  | |
| UC ID | UC#12 | |
| Use case Name | hold\_meeting | |
| Description | Dean (S) should inform all the Gymkhana members whenever there | |
|  | is any meeting. | |
|  |  | |
| Actor | Dean (S) | |
| Precondition | The meeting timings should not clash with any other activity or | |
|  | Gymkhana members should be free at that time | |
|  |  |  |
| Main Flow | 1. | Dean (S) should notify the Gymkhana members whenever |
|  |  | there is any meeting. |
|  |  |  |
|  | 2. | Mail should be sent to all the Gymkhana members about the |
|  |  | meeting. |
|  |  |  |
| Post Condition | Members should be present in the meeting. | |
| Alternate Flow | If any of the member is not able to attend the meeting then Dean (S) | |
|  | should be informed with prior notice. | |
|  |  |  |
| Sub Flow |  |  |
| Global Alternate |  |  |
| Flow |  |  |
|  |  |  |

**Other Non-Functional Requirements**

**Performance Requirements**

The software should be able to run day and night continuously without getting disrupted on its own.

If there is any delay in the connection of the database, Proper Error Message must be displayed.

System must not exit without informing the user.

**Scalability**

The application should be able to adopt itself to increased usage or able to handle more data as time progress. When the user data increases the application should be capable of handling them without delay by optimizing the way storage is done and accessed

**Availability**

**The** user can access the application either through browser or install the app and look for regular updates and give feedback from Google play store

**Screen Adaption:**

The application should be able to render it’s layout to different screen sizes , along with automatic adjustment of font size and image rendering.

**Safety Requirements**

Information transmission should be securely transmitted to server without any changes in information.

**Security Requirements**

The main security concern is for User account (Gymkhana Office Bearers and Administrator) hence proper login mechanism should be used to avoid hacking. The password must be kept in proper encrypted format. The software also send any kind of data to other machine than the user by itself unless tampered. The systems back-end servers shall only be accessible to authenticated administrators.

**Software Quality Attributes**

The software should be portable so that it can run over multiple platforms. The software should not crash the users machine or the remote server. It sends requests to download web pages. It should not eat excessive bandwidth on network. It should not put extra load on the users machine, making user handle to do any other work. The software should be extensible and should be able to get easily used as a component to larger systems. The software should be maintainable and testable easily. The software should be foremost usable and should work as per the software requirement specifications. The software should be intuitive to use and easy to learn.

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**Appendix A: Glossary**

**Gymkhana Office Bearer: ​**All the members associated with the Student Gymkhana. Allthe committee Members, Club Coordinators and Counsel Members.

**Student Senate: ​**These are elected student Representatives from each batch. Theyform Student Senate.

**Convenor: ​**The Student Head of Student Senate is called Convenor.

**Dean Student: ​**Student Gymkhana and all Activities under it are headed by DeanStudent.

**Student​**: All the students enrolled in the College.

**Cultural Council Convenor: ​**The head of Cultural Council.

**Technical Council Convenor: ​**The Head of Technical Council.

**Sports Council Convenor: ​**The Head of Sports Council.

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