Upsc - software requirement specification srs

Software Engineering (Lovely Professional University)

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Software Requirements Specification

for

upsc.gov.in

Prepared by - Kanwalpreet Kaur

LPU

11th November, 2016

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Revision History

Name	Date	Reason For Changes	Version

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1. Introduction

1.1 Purpose

This document is a Software Requirement Specification of upsc.gov.in. The document has been prepared on the basis of IEEE convention. This SRS will be further used for the case analysis ofupsc.gov.in.

The aim of this document is to specify complete description of Union Public Service Commission (UPSC)a constitutional body that recruits the candidates for the various posts through a rigorous examination process which goes on for almost a year. It mainly refers to the posts of Indian Administrative Services(IAS), Indian Police Service(IPS) and Indian Revenue Services(IRS) and other government exams. To be specific, this document is going to describe functionality, performance, attributes and the design constraints of the system which is going to be developed. Therefore, upsc.gov.in will help the interested candidates to apply for this exam through this site and can get online access to all the information and important announcements for the same.

1.2 Document Conventions

Throughout this documentation, the following conventions have been used :-

· Font: Times New Roman

· Size 18 For Main Headings

· Size 14 For Sub Headings

· Size 12 For the Rest of the Document

· Words in Bold are important terms, and have been formatted to grab the attention of the reader.

1.3 Intended Audience and Reading Suggestions

This document is meant for users, developers, project managers, testers, and documentation writers. The SRS document aims to explain in an easy manner, the basic idea behind the upsc.gov.in and how the developers aim to achieve their goals. It also aims to introduce to the candidates the main features of the upsc.gov.in.

1.4 Product Scope

UPSC conduct several reputed government exams every year. Through UPSC, one can apply for this exam and can get the prestigious posts of India like IAS, IPS, Air force, CBI, IES, Railways, IFS, CDS, CPF etc. after clearing it. UPSC gives a great financial and social status through the versatile and reputed

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jobs that is provided by it. This system provides an easy application to the interested candidates for this exam along with the easy access to the latest trends in the exam and the important updates as well as announcements regarding the same. It gives complete accessibility of application forms and other related forms and documents to its applicants.

1.5 References

http://www.upscpotal.com

http://www.upscforums.com/

http://www.upscguide.com/

2. Overall Description

2.1 Product Perspective

This site is developed to make the recruitment process of the government jobs easy and simple. All the details of the exams for the vacant posts will bedeployed to web site and all the users can access itby use of the website. Website is the main user interface where users can operate all the provided information for all of the posts that are vacant and also the recruitment tests related to them. However, this web site is only a part of the larger system. Website is just an interface to make it easy for the users to check which of the government posts are vacant and for which they can apply and can check the eligibility criteria, previous years' cut-offs, previous question papers etc.

To check all the required details, users are required to register through the web interface. Whenever a newuser registered, all the required data will be created in the database and a predefined workspace willbe assigned for the user. Later, user will be able to login and logout the system anytime he wants.

Users can check their account anytime to get the latest updates about the exams they had applied for and can also check the details of the new posts for which the recruitment test is available at that time. They can also register for any of the listed government jobs via upsc.gov.in for which they are eligible and can upload their documents that are required along with their registration forms.

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2.2 Product Functions

The website will allow access only to authorized users with specific roles (Administrator- maintains the website, Institutes-Register to conduct the exams, Students-Fill and submit the forms for the recruitment test.)

A summary of the major functions that the website will perform:

a. Provide facility to the candidates to check all the details for the required exam post including last years' question papers, cut-off marks etc.

b. Candidates can check the number of questions, positive, negative marks, questions and answers and the list of eligible students.

c. Candidates can check the answer keys also for the recently conducted exams and then can get an idea about the result and plan for the future accordingly.

2.3 User Classes and Characteristics

Graduates: Students who has just completed their graduation will use upsc.gov.in to apply for civil services examination and many other govt. examinations.

IAS aspirants: Students who aspire to become an IAS Officer will use this site to see the exam patterns, every year cutoff marks etc. in order to set their target marks.

Government: To recruit people on various reputed govt. posts like IAS, IPS, CDS etc. , govt. will use this to enroll interested candidates.

2.4 Operating Environment

Upsc.gov.in is able to operate on various Operating System platforms.

Operating Systems: Windows, Android, Mac

Software: Web Browser, Adobe Reader (just to download pdf files)

2.5 Design and Implementation Constraints

Developer has to face a lot of critical situations while developing.

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The design of the website should be as understandable so that the naïve user who is not aware of what is going on the back end can easily operate.

It should be kept in mind that the downtime should be minimized.

Also the copyrights should be preserved so that no other site can copy the content and Serve it through their own name.

Since the DBMS being used is MS Access 2000, which is not a very Popular DBMS, it will not be able to store a very huge number of records.

Due to limited features of DBMS being used performance tuning features will not be applied to the queries and thus the system may become slow with the increase in number of records being stored.

An extra security as SSL must be used to secure the marks details and other examination information.

2.6 User Documentation

Upsc.gov.in provides all the information regarding the civil services examination and other government examinations. It keeps all the updates in the pattern of the examination and the important announcement of dates, registration for the recruitment etc. The users can also see their results and cut off marks on this website of the concerned government examination.

2.7 Assumptions and Dependencies

Assumptions: We have made the following assumptions -

We assumed the user is having an operational device such as laptop, tab, desktop or an smart phone to run the website.

Along with it the user is having internet access so that no interrupt can occur.

The user has some previous knowledge of using similar websites.

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Dependencies:

1. This site would need Adobe Reader for downloading pdf files related to marks, forms etc.
2. It will need a web browser for viewing the content of the site.

3. External Interface Requirements

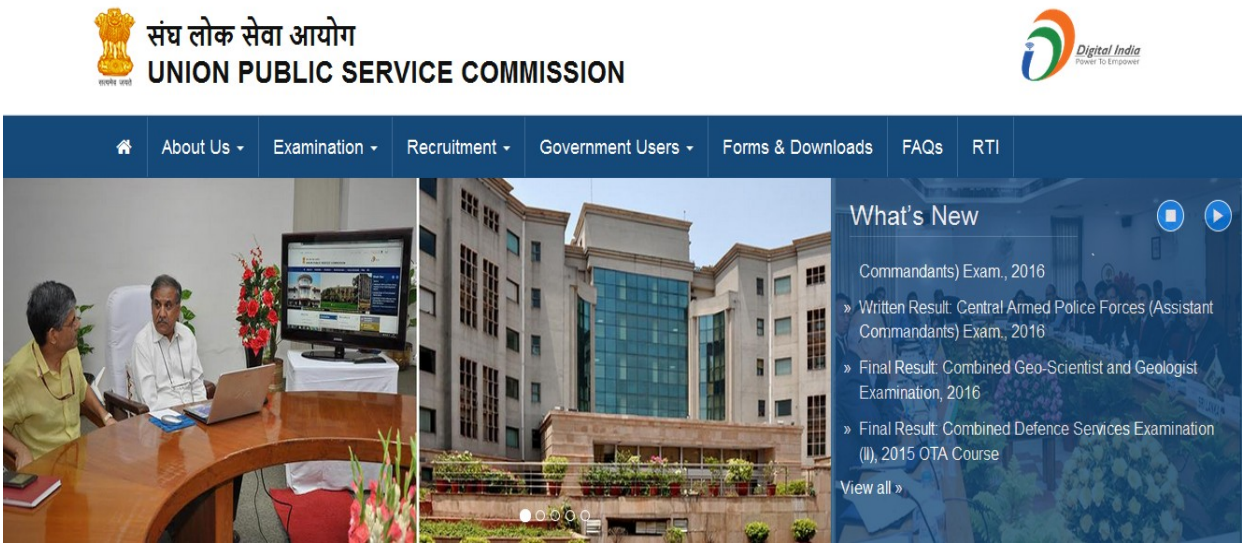
3.1 User Interfaces

The user interface for the software shall be compatible to any browser such as Internet Explorer, Mozilla or Netscape Navigator by which user can access to the system.

The user interface shall be implemented using any tool or software package like Java Applet, MS Front Page, EJB etc.

This software will have graphical user interface that are very user friendly. The user will have

no difficulty in working with these user interfaces.



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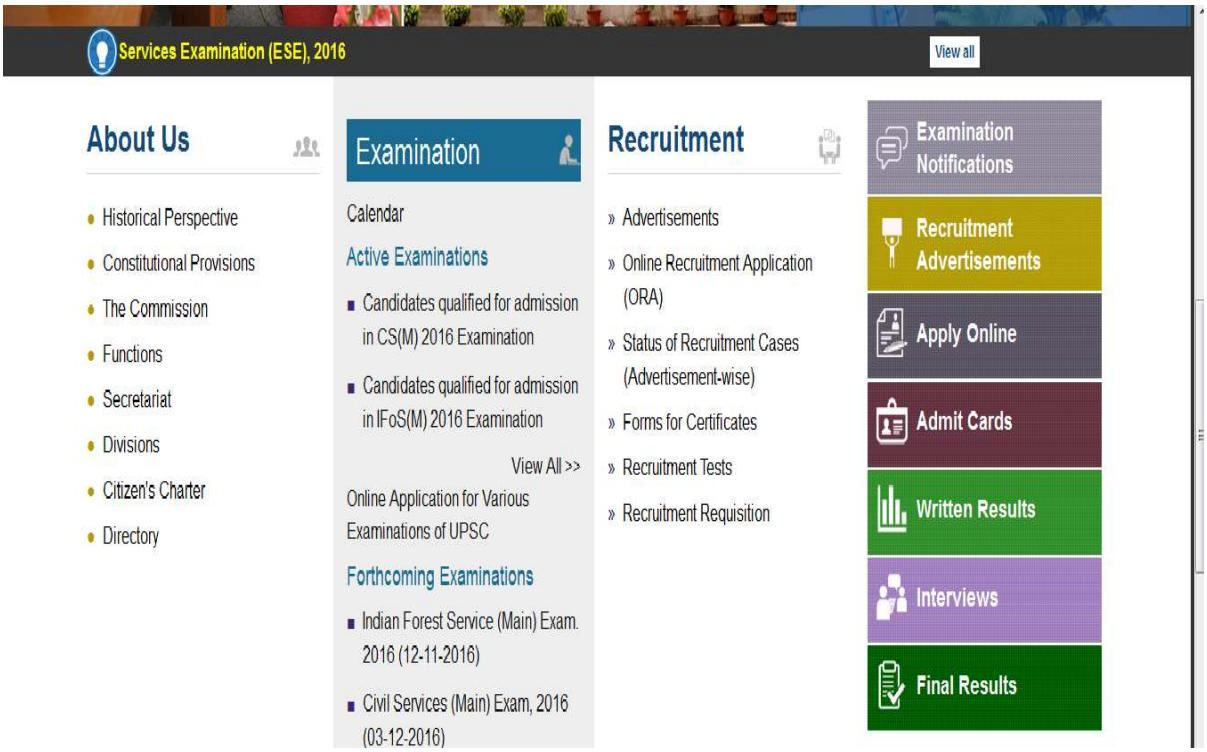

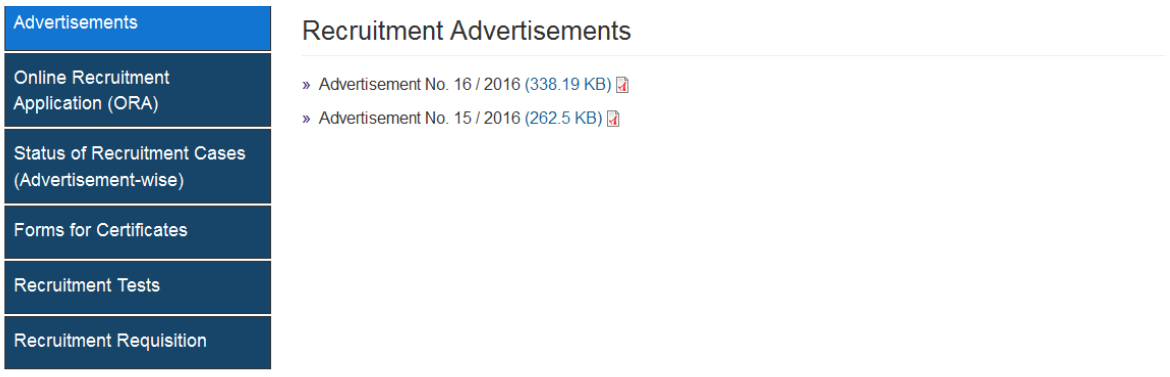

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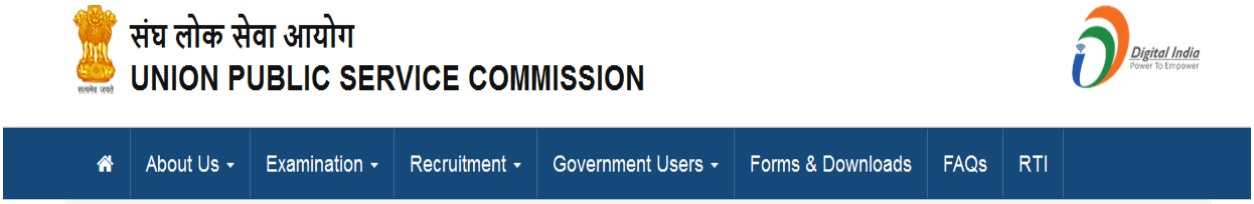

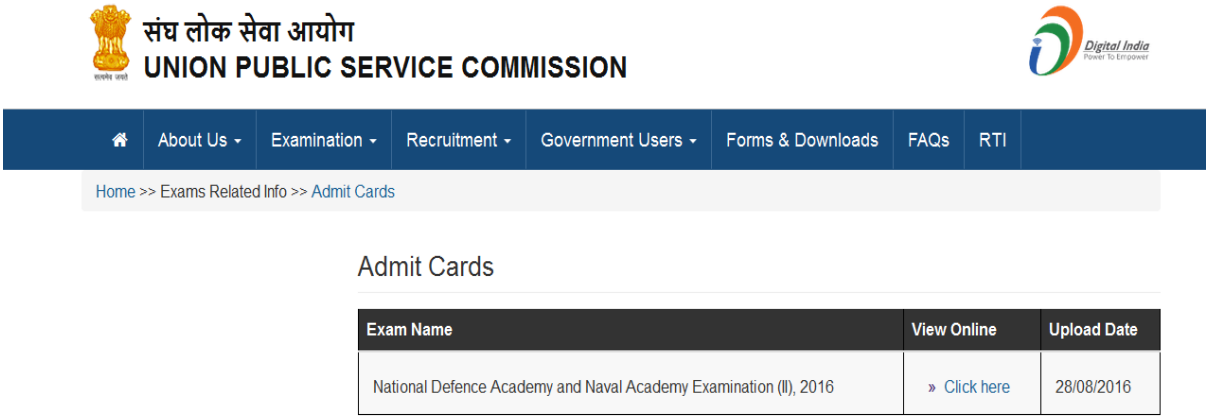

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Interview Schedules

Exam Name	Download	Link	Date of Upload
Combined Geo-Scientist and Geologist Examination, 2016	» (85.65 KB)		04/08/2016
Engineering Services Examination, 2016	» Civil Engineering (38.83 KB) » Mechanical Engineering (36.28 KB) » Electrical Engineering (33.3 KB) » Electronics & Telecommunication Engineering (36.11 KB)	» For e-Summon Click Here	19/08/2016
Combined Medical Services Examination, 2016	» (227.88 KB)	» For e-Summon Click Here	05/08/2016

Final Results

Exam Name	Download	Date of Upload
Combined Geo-Scientist and Geologist Examination, 2016	» (42.9 KB)	06/09/2016
Combined Defence Services Examination (II), 2015 OTA Course	» (37.21 KB)	29/08/2016
IES-ISS Examination, 2016	» (35.13 KB)	19/07/2016

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3.2 Hardware Interfaces

Since the application must run over the internet, all the hardware shall require to connect internet will be hardware interface for the system. As for e.g. Modem, WAN – LAN, Ethernet Cross-Cable.

Support for printer for printing results then and there.

Screen resolution of at least 800*600 or above will be preferable for viewing the site.

3.3 Software Interfaces

OS: Windows, Android, Mac

The system shall communicate with billPay system to identify available payment methods, validate the payments and process payment during the application procedure.

The system shall be verisign like software which shall allow the users to complete secured transaction. This usually shall be the third party software system which is widely used for internet transaction.

MS Access 2000 as the DBMS-for database.

4. System Features

In this subsection, we will examine the features of the system in detail by categorizing them according to their functionality.

4.1 Logging/sign up-

There will three form of logging provided by the system. First logging will be a New user

to register, from which user will provide certain details about himself to Facilitate

efficient configuration of the system. Second form of logging will be for existing user to

log on to the system. Third form of logging will be for anonymous user to enter the

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system but with certain restricted functions.

Normal Flow of Events-

1. User opens the registration page
2. User specifies his information
3. System validate the specified information
4. User is registered to the system

Alternative Event Flow 1 4.

User cannot register to the system due to inappropriate information

Functional Requirements

REQ 1: The system shall provide a registration page

REQ 2: The system shall provide a login page

4.2 Cut Off marks -

The candidate will be able to see cut off marks of the exam in which he or she has appeared.

Normal Flow of Events

1.Candidate opens the examination tab.

2.Candidate clicks on the cut off marks option.

3.Candidate chooses the examination category.

4.Candidate downloads the pdf containing cut off marks.

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Functional Requirements

REQ 1: The system shall provide all the examination category page.

REQ 2: The system shall provide a cut off marks pdf.

4.3 Application Fee Payment-

The website provides us a payment option so that we can pay application fee for the examination. The website provides an online interface to transfer the fees to their account by us online.

Normal Flow of Events

1. User selects the course and choose to pay fee.

2. User is transferred to the merchant website where it specifies the bank details.

3. Merchant validate the specified information

4. After successful transaction the course has been bought.

Alternative Event Flow

User cannot pay the fee due to inappropriate information

Or any system failure

Functional Requirements

REQ 1: The system shall provide a merchant for transaction.

REQ 2: The system shall provide a safe transaction.

REQ 3: The system should validate the info and then only process the transaction.

REQ 4: The system should monitor the course for which the fees had been is reflected correctly.

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4.4 Marks Information-

The upsc.gov.in provides the information about marks scored by a candidate in the examination.

Normal Flow of Events

1. Candidate log in to the website and selects the Examination tab
2. Candidate chooses the Marks Information option and clicks on it.
3. Candidate selects the examination name.
4. Candidate enters the roll no., DOB and captcha code and submits.

Alternative Event Flow

Marks Information is not displayed due to insufficient or incorrect details provided.

Functional Requirements

REQ 1: The system shall provide an examination category page.

REQ 2: The system shall provide a detail filling page.

REQ 3: The system should provide marks information pdf.

4.5 Answer keys-

The website provides us an answer key option so that we can cross check the answers that we have marked in the examination. The website provides an online interface to check the answers online.

Normal Flow of Events

1. User selects the examination option and choose the answer key option.
2. User is transferred to the webpage containing variety of examination answer keys.

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3. User selects his or her related examination answer key pdf file and the file gets opened in new window tab.

4.User can download the pdf file and check their answers .

Alternative Event Flow

User is unable to open & download the pdf file due to any missing software in its system.

Or any system failure.

Functional Requirements

REQ 1: The system shall provide an answer key page.

REQ 2: The system shall provide the pdf file of the answer key.

REQ 3: The system should validate the info and then only process the transaction.

REQ 4: The system should monitor the examination name for which the answer key had been is reflected correctly.

4.6 Forms for Certificates-

The website provides user with aforms for certificates option so that user can request for the certificates online.

Normal Flow of Events

1. User selects the recruitment option and choose the Forms for Certificates option.

2. User is transferred to the webpage where there is a list of various category of performas.

3. User has to click on the related performa category and fill the form.

4.After completion of this form, user needs to submit it.

Alternative Event Flow

User cannot fill the form without proper internet.

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Or any system failure

Functional Requirements

REQ 1: The system shall provide a form for certificate.

REQ 2: The system shall provide the pdf file of the form for certificates.

4.7 Forms and downloads-

The website provides user with aforms and downloads option so that user can request for the certificates online.

Normal Flow of Events

1. User selects the recruitment option and choose the Forms and downloads option.

2. User is transferred to the webpage where there is a list of various list of performas forms and other category of forms.

3. User has to click on the related category of form.

4.After completion of this form, user needs to submit it.

Alternative Event Flow

User cannot fill the form without proper internet.

Or any system failure

Functional Requirements

REQ 1: The system shall provide a forms.

REQ 2: The system shall provide the pdf file of the forms.

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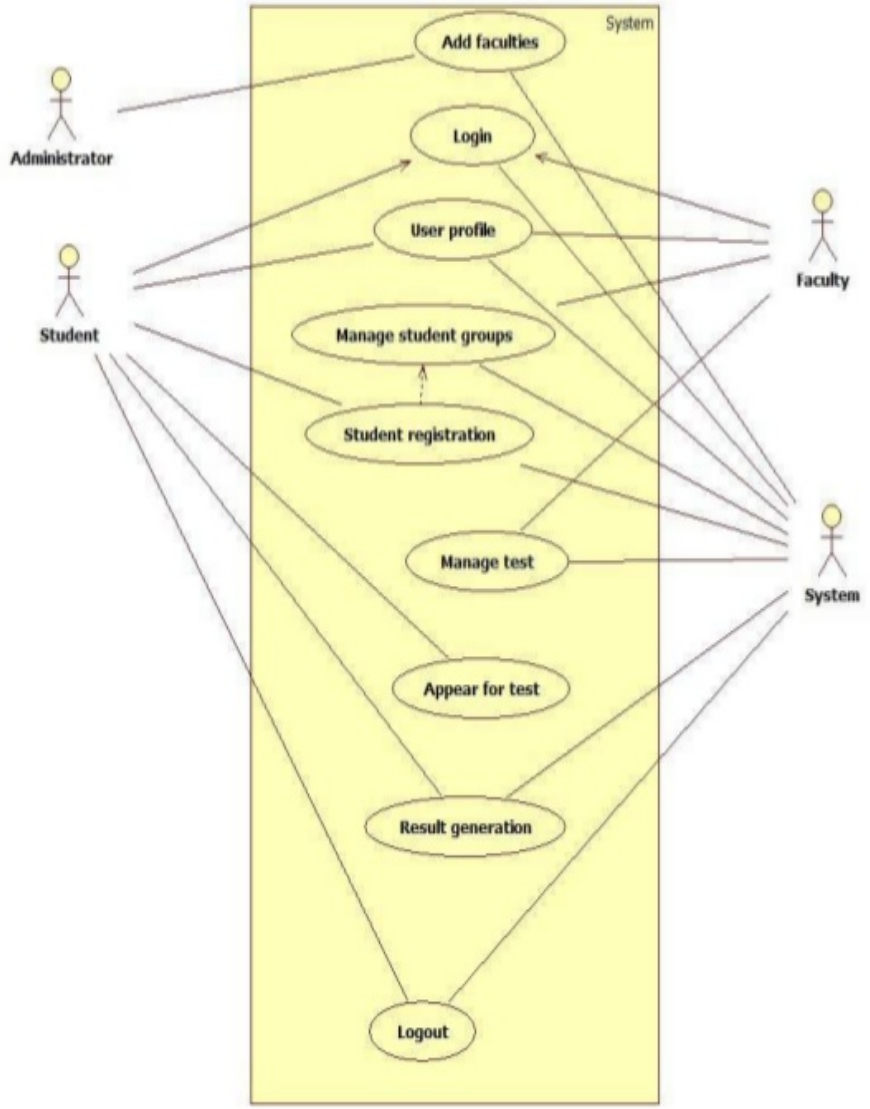

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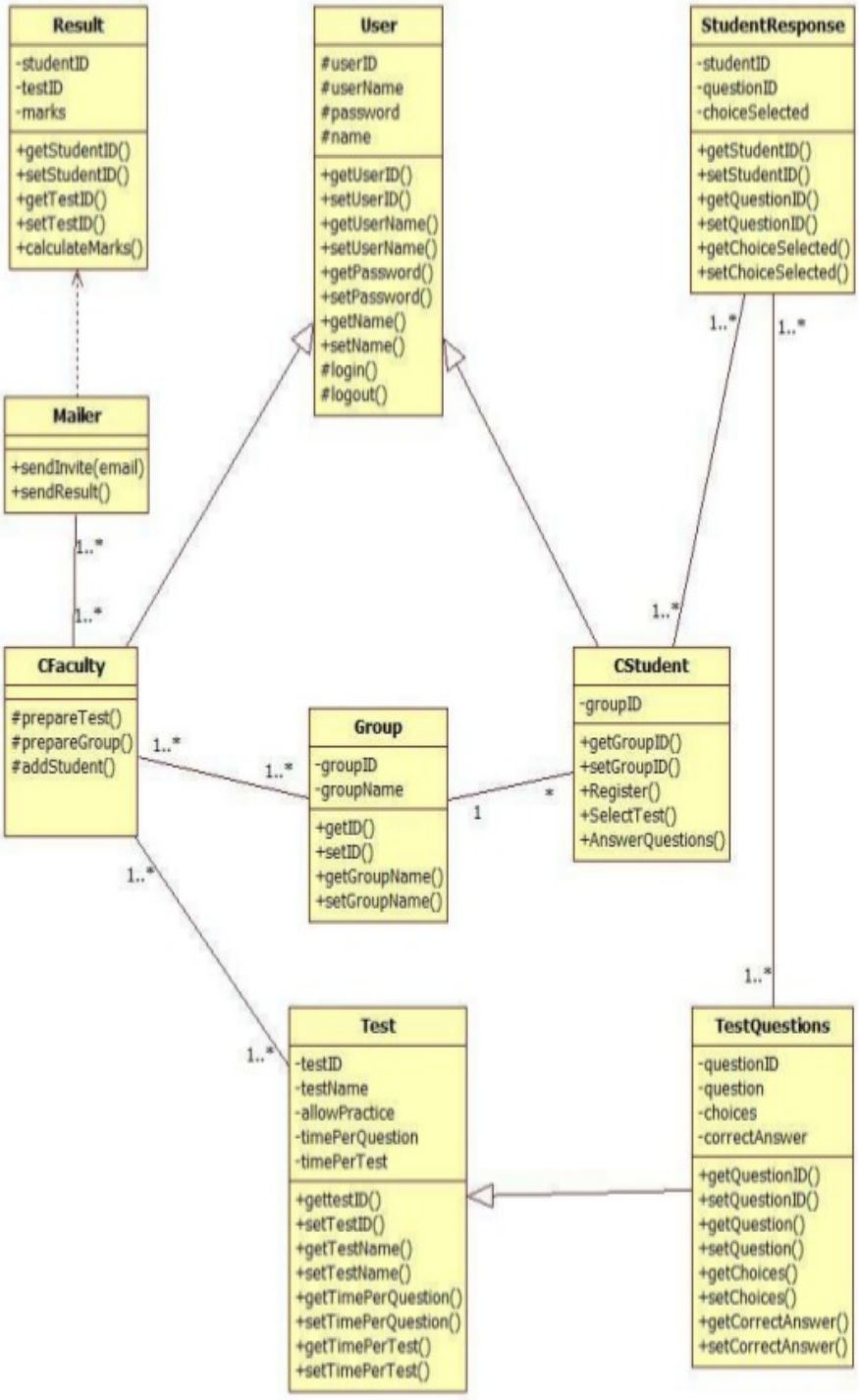

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5. Other Nonfunctional Requirements

5.1 Performance Requirements

The product shall be based on web and has to be run from a web server.

The product shall take initial load time depending on internet connection strength which also depends on the media from which the product is run.

The performance shall depend upon hardware components of the client/customer.

5.2 Safety Requirements

The system shall use secure sockets in all transactions that include any confidential applicant information.

The system shall automatically log out all applicants after a period of inactivity.

The system shall not leave any cookies on the applicant's computer containing the user's password.

The system shall not leave any cookies on the applicant's computer containing any of the user's confidential information.

5.3Availability

Upsc.gov.in site has 24*7 availability. It can be accessed for 24 hours a day.

For this UPS support must be on the server site with a backup of at least 8 hours in case

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of power failure.

Students can take exam only during the previously allotted time slots, however can open site anytime to access other information.
Colleges can register for the exam anytime.

5.4 Reliability

It means the extent to which program performs with required precision.

The website developed should be extremely reliable and secure so that information about any applicant is not leaked ever.

5.5 Usability

The website should be user friendly and should require least effort to operate.

The web server used should provide services like session management to maintain sessions in the application.

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6. Other Requirements

Appendix A: Glossary

SRS- Software Requirement Specifications

UPSC-Union Public Service Commission

DA- Database administrator

WD- Web Developer

Info- Information

OS-Operating System

Appendix B: Analysis Models

Please refer the following document

Use case analysis.

Structural models.

Behavioral models.

Nonfunctional requirements model.

Project Plan

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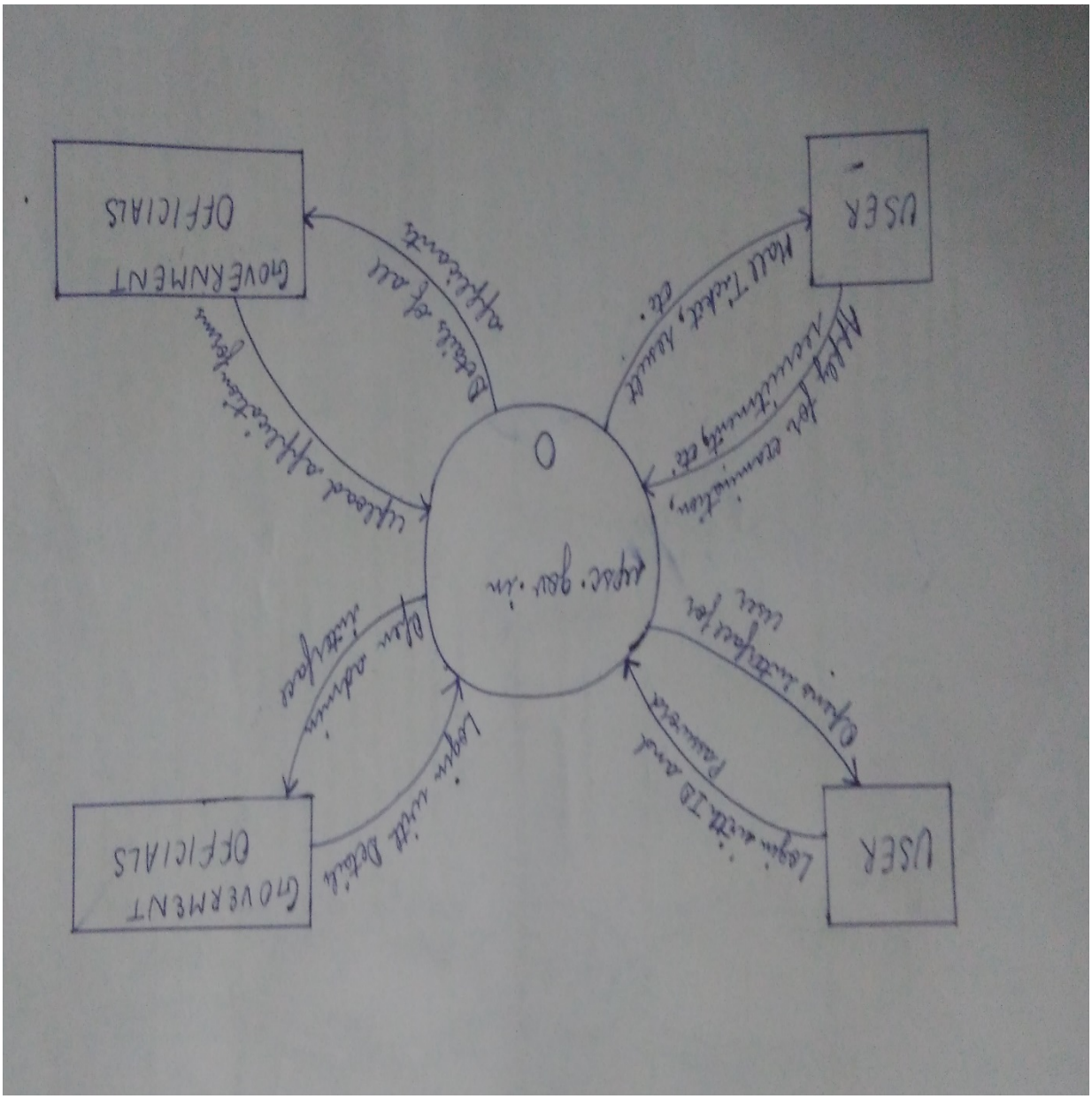
7. Design-

LEVEL 0 DFD



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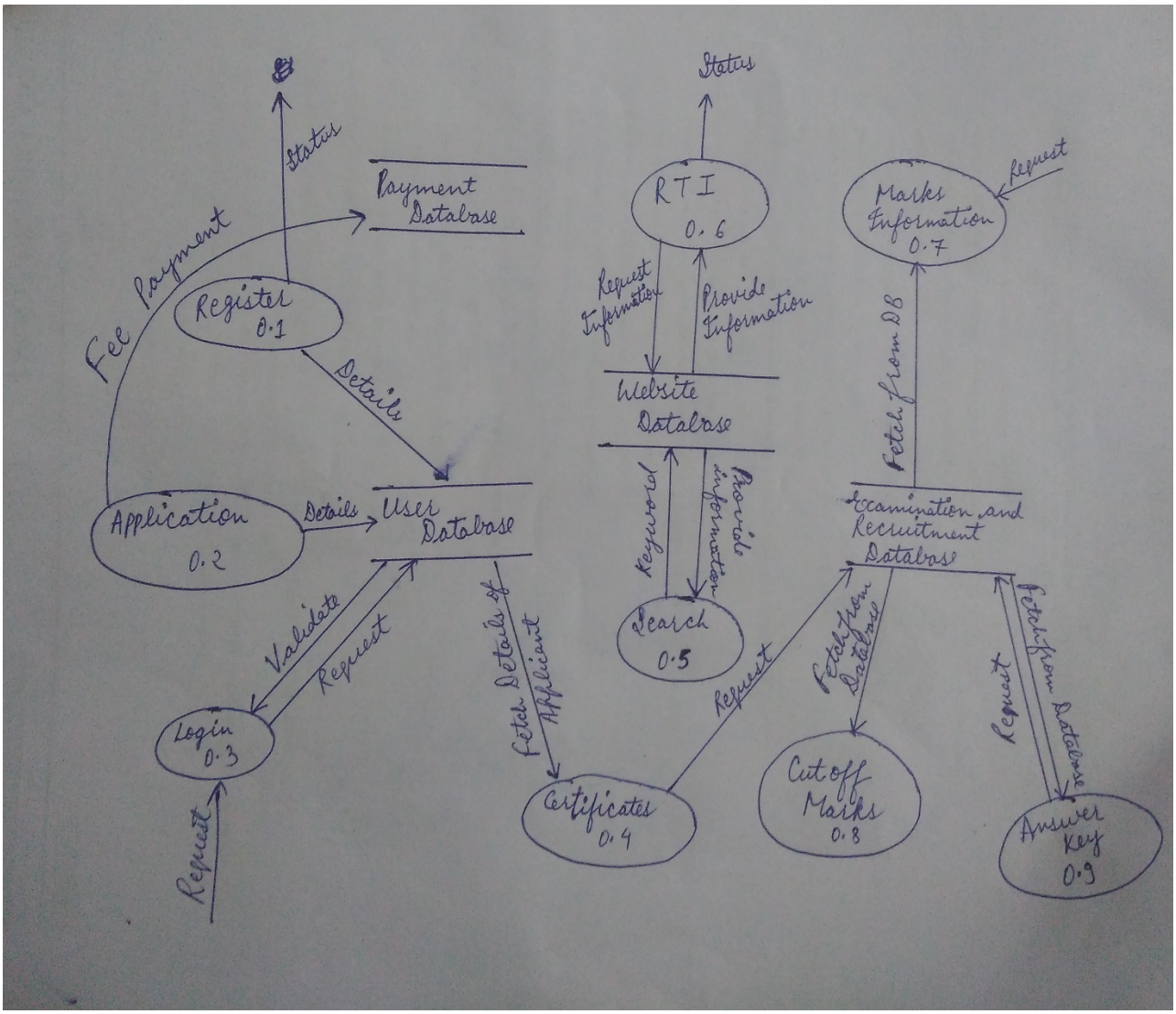
LEVEL 1 DFD



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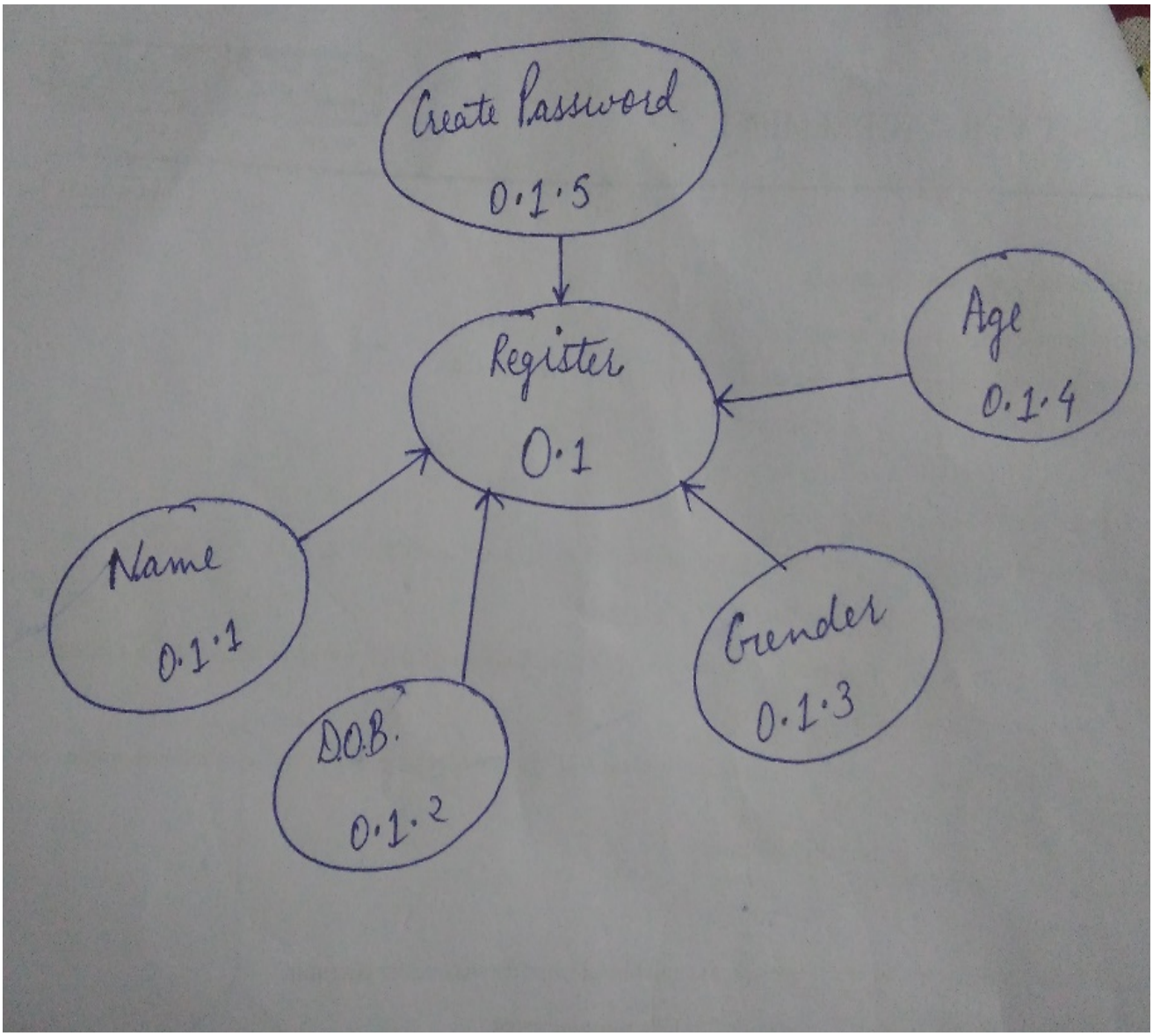
LEVEL 2 DFD



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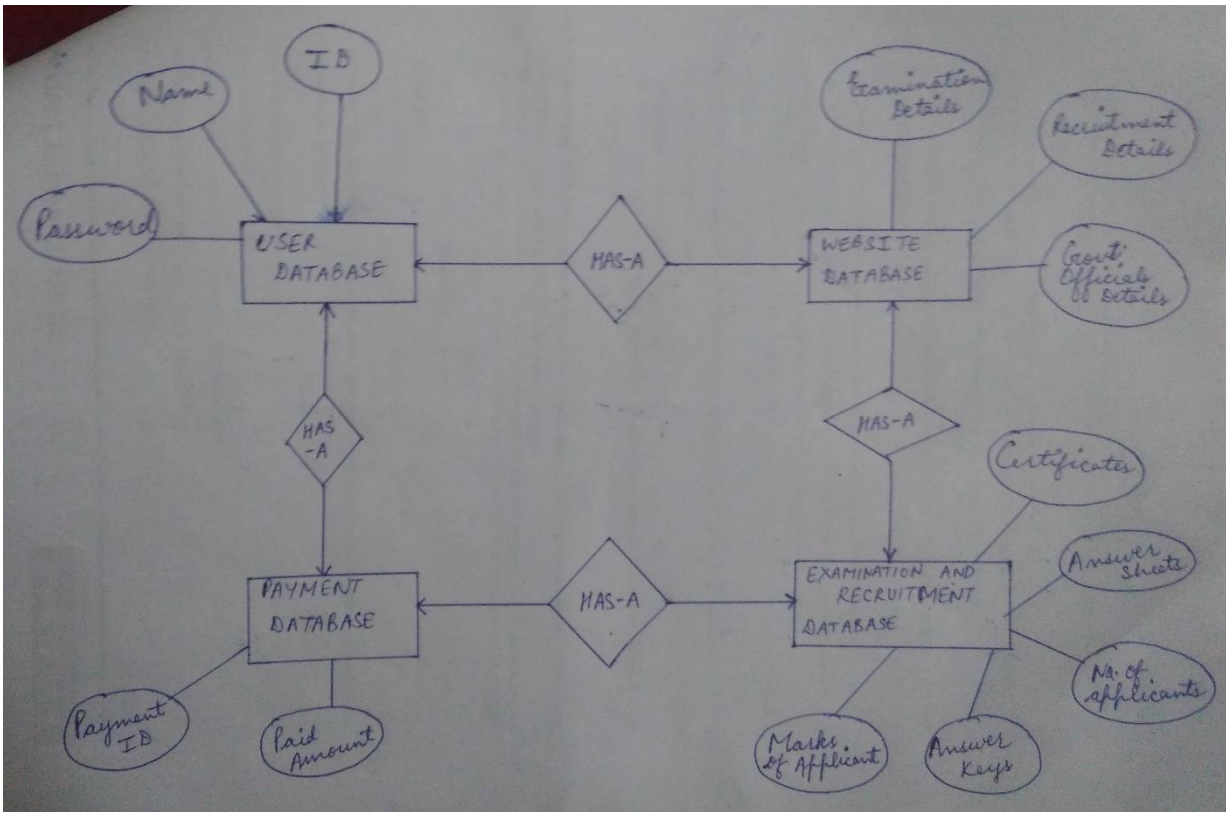
ER DIAGRAM

7.



Testing-

Case1-

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Title– Register

Pre-condition- User should have internet access.

Assumption- User is having a valid email address and phone number.

Expected Result- User will be able to register themselves on the website by providing the necessary information.

Case2-

Title- Login

Pre-condition- User should have internet access.

Assumption-User had already registered with upsc.gov.in.

Expected Result-The home page will be displayed.

Case3-

Title- Application Fee Payment

Pre-condition- The internet access is available.

Assumption- User has activated e-banking facility.

Expected Result- User will be able to apply for examination, recruitment,

etc. by paying the fees successfully.

Case4-

Title- Answer keys

Pre-condition- User should have internet access and is logged in with valid user ID and password.

Assumption-User had appeared for the examination and had selected the correct examination answer key to be viewed.

Expected Result-The answer key will be displayed.

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Case5-

Title- Cut Off marks

Pre-condition- User is logged in with the valid user ID and password.

Assumption- User had appeared for the examination and had selected the correct examination name for the cut off marks to be viewed.

Expected Result- User will be able to view the cut off marks.

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