



5/11/2017

SRH Web Portal

Software Architecture Development

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[HTTPS://GITHUB.COM/DIVYA-BALAKRISHNA/SAD-ACS](https://github.com/DIVYA-BALAKRISHNA/SAD-ACS)

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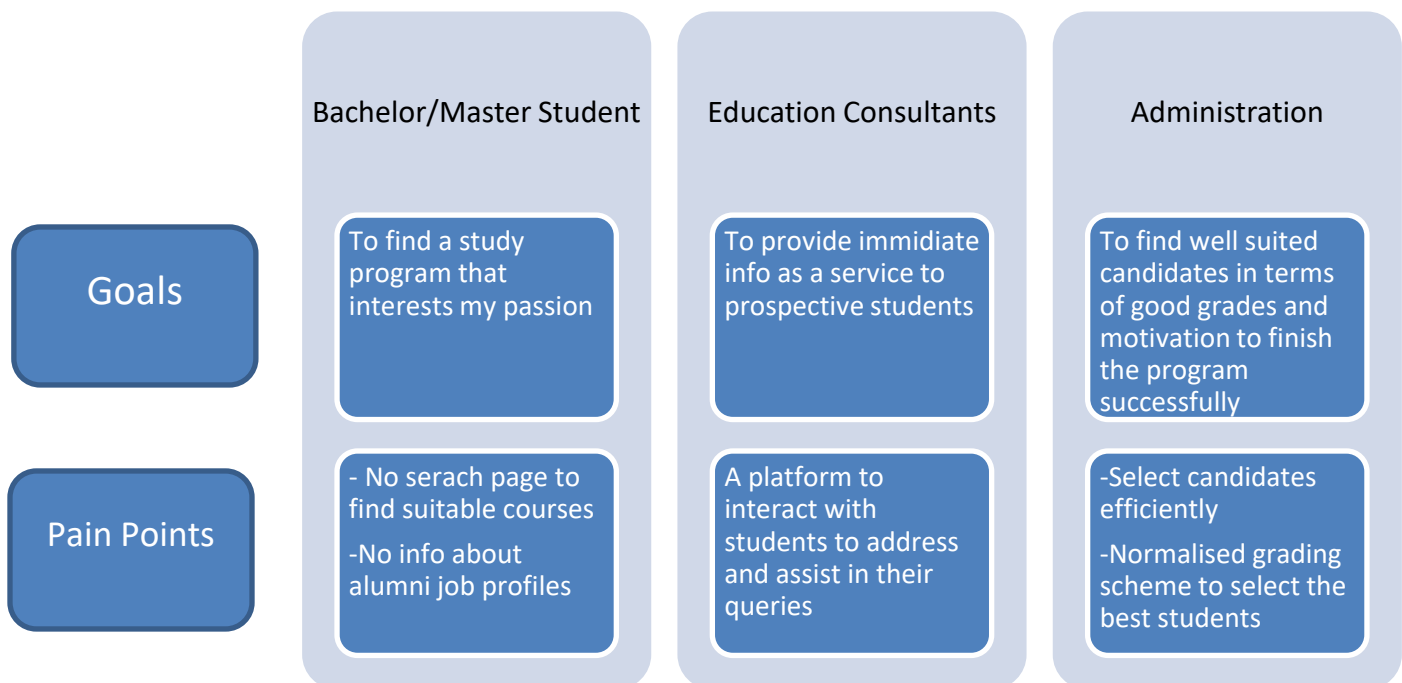
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1. Abstract

The application that is to be developed is called SRH Web Portal. It is a responsive web based application that can be accessed from website as well as hand held devices. Through this application, the aspiring student can view and apply for a particular course/program from vast variety of bachelor and master courses/programs that is being offered by the university.

The main purpose of developing this application is to provide an easy and simple platform for students to apply for a course/program who have the aspiration and dream to study their favorite subjects. Through this portal, the university can find/pick best deserving students who will be brand ambassadors of the university to the outside world. Here, it is a win-win situation for both the students and the university as the student gains knowledge and uses his gained knowledge during inter-university competitions/conferences/seminars and in turn brings fame and recognition to himself and the university. This application is mainly targeted towards enthusiastic students who wish to be graduates and post graduates. The portal is basically categorized into different section of students using the application. The 2 categories: Bachelor and Master are taken into consideration while selecting/applying for a course/program. This application can be used on the desktops or even on mobile phones as this a responsive web based application.

2. Personas



3. Interviews

The second step towards building our application was to conduct interviews. Conducting interviews was very important as it gives an overview of the required features in our application. We conducted interviews with bachelor/master students and university administration authorities in our university to get an idea of what features do they want out of an application and also their valuable feedback. We conducted interviews in three different ways to get a feedback from Students and University Administration since everybody has different comfort level during confrontation in front of a microphone or a camera. So, we had to be very flexible while conducting interviews. The below interviews describe the user and the features they would love to have in an application. Some people didn't want to reveal their identity and hence chose to be anonymous. We also lost a fair bit of time while interviewing as most of the students that we approached were either exchange students or directly enrolled to the university or had been working on a project with the university.

3.1. Interview type 1:

This was a voice based interview where we first presented the questionnaire sheet to the interviewee for a quick glance and then questions were shot one after other. Our team members then went through the recording, analyzed it and was later documented. Attached below is the recorded audio clip.

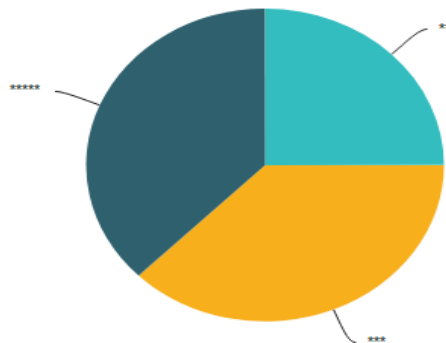
The audio interview can be found here [SAD Final\Interview Pawan SAD.m4a](#)

3.2. Interview type 2:

We used Facebook which is one of the popular social networking sites to interview people as we posted an online survey published in 'Survey Monkey' and requested people to take up the survey and give us an honest opinion. Below are a few results.

How was the quality of the Content and Information provided about the courses?

Answered: 8 Skipped: 1



	*	**	***	****	*****	Total	Weighted Average
★	0.00% 0	25.00% 2	37.50% 3	0.00% 0	37.50% 3	8	3.50

Comments (5)

● Responses (5)
☁ Text Analysis
📁 My Categories

PAID FEATURE
Use text analysis to search and categorize responses; see frequently-used words and phrases. To use Text Analysis, upgrade to a paid plan .

[Upgrade](#) [Learn more »](#)

Categorize as... Filter by Category

Search responses

Showing 5 responses

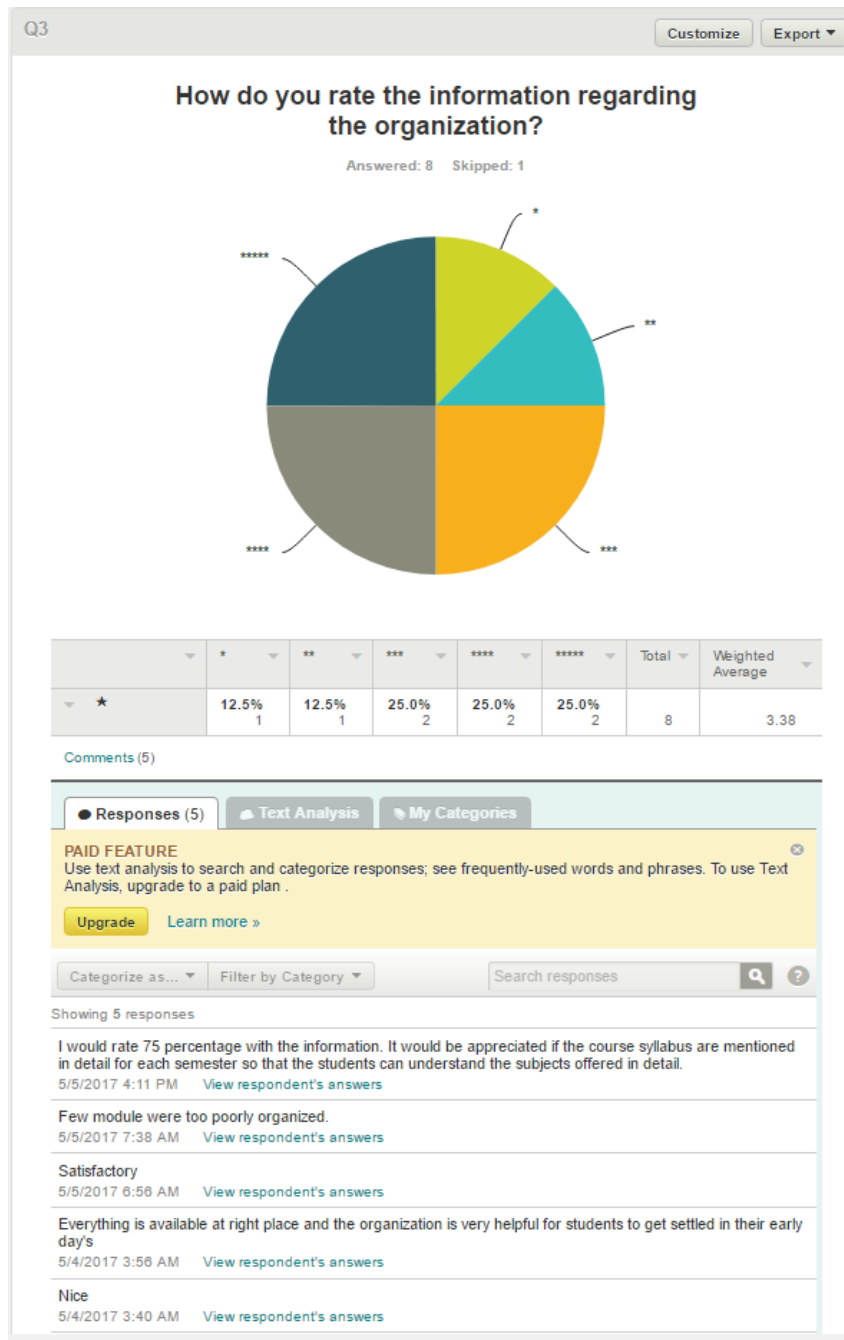
The Master course content is unique and gives the advance knowledge in the field of IT field.
5/5/2017 4:11 PM [View respondent's answers](#)

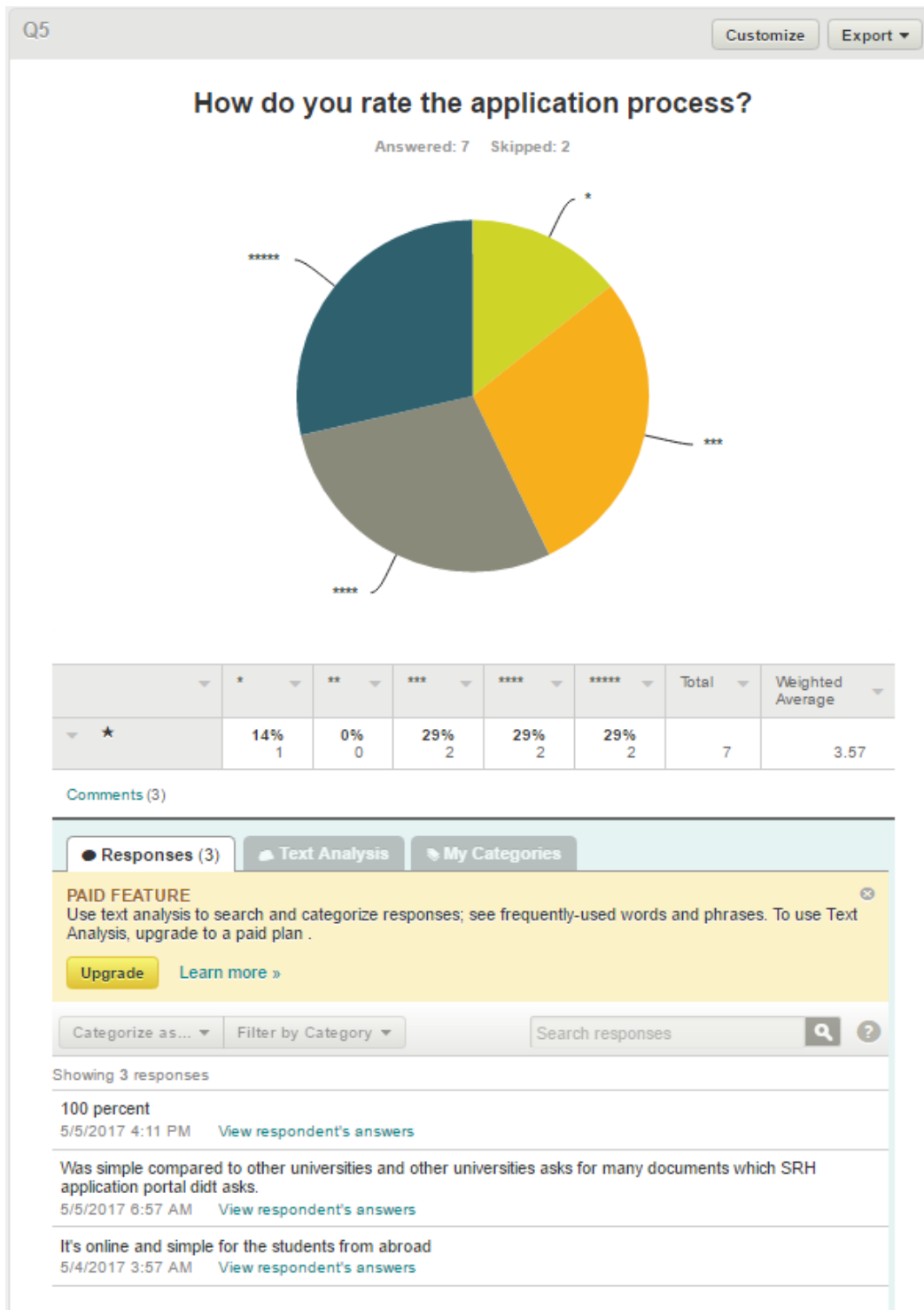
Seems to be management is focused in earning more money rather than giving quality education. At times it makes to think are we doing something worth for the money that we pay. In some situation makes me to feel this happens only for certain courses.
5/5/2017 7:38 AM [View respondent's answers](#)

It was good.
5/5/2017 6:56 AM [View respondent's answers](#)

Quality of education is better as we are been trained on what industry wants.
5/4/2017 3:56 AM [View respondent's answers](#)

Good
5/4/2017 3:40 AM [View respondent's answers](#)





The rest of the survey results can be found here [SAD Final\Survey Scrnshts](#)

3.3. Interview type 3:

The third type was a simple paper and pen interview. Here we directly approached random people in our university and requested them to fill out the questionnaire sheet and give us their feedback on paper.

We couldn't meet the college administration in person, so we got the feedback from them through e-mail.

4. Questionnaire Construction

Depending upon our target group we framed a set of questions for the interview so that we could get a better picture of our application. Below are the following questions and the reasons for forming these questions in particular.

4.1. Questionnaire for Students:

Questions Asked	Reason Behind it
Would you prefer to have a simpler website to make the application process easier than the existing website?	To evaluate whether our website's core feature is practical
How desirable is to make the website self-explanatory? Comment	To get the feedback regarding the design of the new website
What do you think of the interaction with the existing website	To know the current information regarding the existing website
How desirable is to keep track of your application process?	To evaluate whether the application records are to maintained or not
Would you like guidance in the form of interaction from the college management during the application process?	To evaluate whether the management team of the university would be in constant contact with the student

Would you like to track your application status regularly, instead of the traditional method used?	To know whether one of our goals is required or not
Would you like to use a Mobile Application to apply for the university?	To get an idea if the need for mobile application is present
What are your views regarding signing-up to the website before actually applying for the university?	To know the how the psychology of the person visiting the website works
Would a Live Chat feature with the university administration department be helpful during the registration process?	To understand if the application process would be easier
Are there any additional features would you like to see in the university portal?	To know any desirable features the user would like to have
How would you rate the current existing university website? (Out of 5, where 5 is the maximum)	To evaluate the efficiency of the current website

4.2. Questionnaire for college administration:

Questions Asked	Reason Behind it
How long does it take to make a decision on the application once the process has started?	To evaluate the time taken for the process to complete
What are the factors considered when selecting a student for the applied course?	To know the deciding factors for selection

Is Curriculum Vitae really required to be uploaded for applying to the university, apart from academic certificates?	To know whether the uploaded documents are actually necessary during decision making process
Does the university have an online presence? How good is it?	To find out whether there are any services unknown to us which are in use by the university
What are the marketing strategies taken up to attract new students?	To know if our website could be providing a better platform for to advertise
Do you think it would be helpful to have an interaction system other than E-mail and phone calls with the applicants?	To know any other means to reach a student
What are the general issues faced by students while applying through the university portal for which they contact the university?	To know the atmosphere of the existing portal
What are your views on adding Live Chat feature to the University portal?	To know if this would make the process easier
Are there any drawbacks that you are aware of that is existing in online web portal	To know the current problem of the existing website
Are there any additional features you would like to see in the website?	To know if any new features is needed

4.3. Student Interviews

Student 1:

Name: Not Disclosed

Department: BWC Bachelor

Year of joining: April 2015

1. Would you prefer to have a simpler website to make the application process easier than the existing website?
No

2. How desirable is to make the website self-explanatory? Comment
No comments
3. Would you try to look for specific fields of study before applying?
Yes
4. What do you think of the interaction with the existing website?
Well structured
5. How desirable is to keep track of your application process?
No comments
6. Would you like guidance in the form of interaction from the college management during the application process?
No
7. Would you like to track your application status regularly, instead of the traditional method used?
Yes
8. Would you like to use a Mobile Application to apply for the university?
No, not needed in my point of view
9. What are your views regarding signing-up to the website before actually applying for the university?
No comments
10. Would a Live Chat feature with the university administration department be helpful during the registration process?
No
11. Are there any additional features would you like to see in the university portal?
Yes, I would like to know if there any special events
12. How would you rate the current existing university website? (Out of 5, where 5 is the maximum)
4

Student 2:

Name: Not Disclosed

Department: BWC Bachelor

Year of joining: April 2015

1. Would you prefer to have a simpler website to make the application process easier than the existing website?

No

2. How desirable is to make the website self-explanatory? Comment

Would be nice for other students to make it happen, so that they can find their own solution

3. Would you try to look for specific fields of study before applying?

Yes

4. What do you think of the interaction with the existing website?

Well structured

5. How desirable is to keep track of your application process?

No comments

6. Would you like guidance in the form of interaction from the college management during the application process?

No

7. Would you like to track your application status regularly, instead of the traditional method used?

Yes

8. Would you like to use a Mobile Application to apply for the university?

No

9. What are your views regarding signing-up to the website before actually applying for the university?

I think it's good because you don't have to put your address, name etcetera, later on during the application process

10. Would a Live Chat feature with the university administration department be helpful during the registration process?

No

11. Are there any additional features would you like to see in the university portal?

I would like to see Events, Appointments of lectures

12. How would you rate the current existing university website? (Out of 5, where 5 is the maximum)

3

Student 3:

Name: Alonso Morelos

Department: MIBE

Year of joining: April 2015

1. Would you prefer to have a simpler website to make the application process easier than the existing website?

Not really, was simple I guess.

2. How desirable is to make the website self-explanatory? Comment

Not Very, it is simple than most other pages I guess

3. Would you try to look for specific fields of study before applying?

Yes

4. What do you think of the interaction with the existing website?

It is simple and practical enough

5. How desirable is to keep track of your application process?

It's very desirable, but the website already does that I guess

6. Would you like guidance in the form of interaction from the college management during the application process?

Not really, perhaps a hotline if there are any doubts during the application process

7. Would you like to track your application status regularly, instead of the traditional method used?

It is quite enough, Plus I guess the college answers swiftly

8. Would you like to use a Mobile Application to apply for the university?

No

9. What are your views regarding signing-up to the website before actually applying for the university?

It's pretty standard, I don't mind

10. Would a Live Chat feature with the university administration department be helpful during the registration process?

Oh yeah, that would be good

11. Are there any additional features would you like to see in the university portal?

No

12. How would you rate the current existing university website? (Out of 5, where 5 is the maximum)

4.5

Student 4:

Name: Sunil Kumar Saini

Department: Informatics

Year of joining: April 2017

1. Would you prefer to have a simpler website to make the application process easier than the existing website?

Although the website is already simple, if it's made simpler it will be helpful for the student, for example some of them may get confused Informatics with Information technology.

2. How desirable is to make the website self-explanatory? Comment

Like I mentioned above, sometime students may get confused between Information Technology and Informatics, so clear information would be helpful

3. Would you try to look for specific fields of study before applying?
Yes, I try to look at the fields which are related to databases and give the information about Business Intelligence also
4. What do you think of the interaction with the existing website?
It is very good
5. How desirable is to keep track of your application process?
Although its good, but it's usually helpful if there is stage wise analysis meaning where exactly or at which state is my application id currently
6. Would you like guidance in the form of interaction from the college management during the application process?
Yes
7. Would you like to track your application status regularly, instead of the traditional method used?
Yes
8. Would you like to use a Mobile Application to apply for the university?
Yes
9. What are your views regarding signing-up to the website before actually applying for the university?
It's simple
10. Would a Live Chat feature with the university administration department be helpful during the registration process?
Although I have never used, but I believe it will be a very good feature
11. Are there any additional features would you like to see in the university portal?
It will be good if it suggests about sports area and other facilities
12. How would you rate the current existing university website? (Out of 5, where 5 is the maximum)
4

Student 5:

Name: Pooja

Department: Informatics

Year of joining: April 2017

1. Would you prefer to have a simpler website to make the application process easier than the existing website?

I think it's as simple as it can get

2. How desirable is to make the website self-explanatory? Comment

A little more elaboration about the courses would be good

3. Would you try to look for specific fields of study before applying?

Definitely, If not the exact fields of study, but at-least the most relevant

4. What do you think of the interaction with the existing website?

It could be more detailed. For example, about accommodation

5. How desirable is to keep track of your application process?

They are pretty efficient

6. Would you like guidance in the form of interaction from the college management during the application process?

No, it is very straight forward

7. Would you like to track your application status regularly, instead of the traditional method used?

Yes, that could be an easier method

8. Would you like to use a Mobile Application to apply for the university?

No

9. What are your views regarding signing-up to the website before actually applying for the university?

Could be helpful, maybe it could help in answering any questions that we may have during or before applying

10. Would a Live Chat feature with the university administration department be helpful during the registration process?

Definitely

11. Are there any additional features would you like to see in the university portal?

Something that could help with dorm facilities or to provide any options about accommodations

12. How would you rate the current existing university website? (Out of 5, where 5 is the maximum)

3

Student 6:

Name: Ohress Er-Rodriguez Laura

Department: International Business Bachelor

Year of joining: 2016

1. Would you prefer to have a simpler website to make the application process easier than the existing website?

Yes, I will prefer a simpler website

2. How desirable is to make the website self-explanatory? Comment

Very desirable because at the moment it is difficult, need help every-time, and not very well explained

3. Would you try to look for specific fields of study before applying?

yes

4. What do you think of the interaction with the existing website?

Not easy

5. How desirable is to keep track of your application process?

Yes

6. Would you like guidance in the form of interaction from the college management during the application process?

yes

7. Would you like to track your application status regularly, instead of the traditional method used?

Yes

8. Would you like to use a Mobile Application to apply for the university?

Yes

9. What are your views regarding signing-up to the website before actually applying for the university?

Takes long time

10. Would a Live Chat feature with the university administration department be helpful during the registration process?

Yes

11. Are there any additional features would you like to see in the university portal?

Frequently asked questions (Forum)

12. How would you rate the current existing university website? (Out of 5, where 5 is the maximum)

3

Student 7:

Name: Chethan Kumar

Department: Information Technology

Year of joining: 2017

1. Would you prefer to have a simpler website to make the application process easier than the existing website?

It is simple, but having less navigation between pages would be better

2. How desirable is to make the website self-explanatory? Comment

More clear details about subjects will be good

3. Would you try to look for specific fields of study before applying?

Yes, I would like to know courses offered before I apply

4. What do you think of the interaction with the existing website?

Its nice

5. How desirable is to keep track of your application process?
It would be great to know the status of our application, I had to call or send mail to the university each time I wanted to know the status of my application
6. Would you like guidance in the form of interaction from the college management during the application process?
Not required for me
7. Would you like to track your application status regularly, instead of the traditional method used?
Yes
8. Would you like to use a Mobile Application to apply for the university?
No, maybe for tracking application
9. What are your views regarding signing-up to the website before actually applying for the university?
Would have been better if it was required during application to the college rather than as a first step
10. Would a Live Chat feature with the university administration department be helpful during the registration process?
Yes, it might be useful
11. Are there any additional features would you like to see in the university portal?
Application tracking would be a good feature, instead of calling and asking to the university
12. How would you rate the current existing university website? (Out of 5, where 5 is the maximum)
3.5

Student 8:

Name: Not disclosed

Department: International Business Bachelor

Year of joining: 2016

1. Would you prefer to have a simpler website to make the application process easier than the existing website?

It's simple compared to some of the universities I have applied, but I feel it would have been better if it had fewer pages to navigate and fewer fields to enter

2. How desirable is to make the website self-explanatory? Comment

It would definitely answer many of the questions that may arise during the application process, and may avoid contacting the University for Trivial Doubts

3. Would you try to look for specific fields of study before applying?

I guess it would be better to know the complete details of the course, before applying

4. What do you think of the interaction with the existing website?

It's not bad; although I'm sure there is room for lots of improvements in the application portal

5. How desirable is to keep track of your application process?

I guess it would be good to know the status of the application once the application process from the student end is done

6. Would you like guidance in the form of interaction from the college management during the application process?

I personally wouldn't want, I'm sure there are few students who may need guidance from the university

7. Would you like to track your application status regularly, instead of the traditional method used?

Yes, it's good to know the status of the application after applying for the specific course

8. Would you like to use a Mobile Application to apply for the university?
No, I feel applying through website is more convenient, at least for me as I have all the necessary documents in my laptop
9. What are your views regarding signing-up to the website before actually applying for the university?
I'm sure it's not required unless one is applying to the university. If they want to apply then it's very important.
10. Would a Live Chat feature with the university administration department be helpful during the registration process?
Yeah that's sounds like a wonderful feature, if someone is stuck somewhere or has some minor doubts they can easily get it corrected in just a few minutes
11. Are there any additional features would you like to see in the university portal?
I guess new look and feel can be added like Design, interactive buttons and few other changes to the existing website application portal
12. How would you rate the current existing university website? (Out of 5, where 5 is the maximum)
3.5

4.3.1.1. Evaluation:

After receiving the completed questionnaires from students, we could get an idea of the problems students encountered and also scope of improvements from the existing application.

4.4. University Administration Interviews

Interview 1:

Name: Nicole Weingartner

Designation: Diplom-Finanzwirt (FH)

Communication & Services

Registrar's Office / Keyuser Campusnet (Student Manager)

1. How long does it take to make a decision on the application once the process has started?
I am not involved in the process
2. What are the factors considered when selecting a student for the applied course?
Grades, motivation letter and curriculum vitae
3. Is Curriculum Vitae really required to be uploaded for applying to the university, apart from academic certificates?
Yes
4. Does the university have an online presence? How good is it?
Yes, quite good, I guess
5. What are the marketing strategies taken up to attract new students?
Usually it is decided by marketing and international office
6. Do you think it would be helpful to have an interaction system other than E-mail and phone calls with the applicants?
Maybe
7. What are the general issues faced by students while applying through the university portal for which they contact the university?
Visa issues, Housing issues and money refund.
8. What are your views on adding Live Chat feature to the University portal?
Might be good for facilities
9. Are there any drawbacks that you are aware of that is existing in online web portal?
Not enough man power
10. Are there any additional features you would like to see in the website?
No
11. Do you have any recommendations for us?
No comments

Interview 2:

Name: Ada Ehrmann

Designation: International office Coordinator, Counselor/Lecturer

1. How long does it take to make a decision on the application once the process has started?

There are two decisions to take:

- Is the applicant eligible – that is fast done if all the documents are uploaded (3 to 7 days)
- Does the faculty agree – takes 1-3 weeks

2. What are the factors considered when selecting a student for the applied course?

Below are the factors

- Application complete
- Documents authorized
- Grades for the master applicants
- Tuition fee paid

3. Is Curriculum Vitae really required to be uploaded for applying to the university, apart from academic certificates?

Yes, it helps

4. Does the university have an online presence? How good is it?

Yes, it can be improved

5. What are the marketing strategies taken up to attract new students?

A lot of personal contacts and Mouth to mouth recommendation

6. Do you think it would be helpful to have an interaction system other than E-mail and phone calls with the applicants?

Like personal contact over Skype or WhatsApp. It might attract some more

7. What are the general issues faced by students while applying through the university portal for which they contact the university?

These might be a few issues faced by students

- Losing their password

- Not understanding issues like semester 1,2,4,6
- Confusion about the duration of the courses

8. What are your views on adding Live Chat feature to the University portal?

That's a good idea

9. Are there any drawbacks that you are aware of that is existing in online web portal?

Not that I know of

10. Are there any additional features you would like to see in the website?

Maybe there are, but I don't know them

11. Do you have any recommendations for us?

No

4.4.1.1. Evaluation

We got a complete picture of the university application after receiving feedback from the university administration/selection committee. Some factors that the university administration/selection committee has to address are like the selection procedures, mandatory documents and a few new features in the application that would make the selection procedure easier.

5. MoSCoW Analysis

We also did a lot of research with other university portals like 'The Heidelberg University', 'University of Mannheim', 'Technical University of Darmstadt', 'Ludwig Maximilian University of Munich', 'Free University of Berlin' and 'Technical University of Munich'. Based on the research on other university portals and analysis of the interviews and online survey feedback, we decided to do the MoSCoW analysis. We got a clear picture of the Must have, should have, could have and Would have features in the application. The tabular column below represents the results of the MoSCoW analysis

MoSCoW Analysis	
Project Name:	College Student Application Portal
Project Description:	Goal of this project is to Improve the University Student Application portal from the feedback received from interviews and the MoSCoW analysis.
M(ust have):	<ul style="list-style-type: none"> - Rich UI interface with simple navigation - Complete overview of the courses offered and faculty - Overview of available facilities - Minimum navigational pages - Simple student registration process - Application tracking
S(hould have):	<ul style="list-style-type: none"> - Live Chat with the University Help Desk - Registration to university portal only if Applying
C(ould have):	<ul style="list-style-type: none"> - Forum - Mobile Application - Mobile Application Tracking
W(ould have):	<ul style="list-style-type: none"> - Auto fill feature - Multilingual Support - Accommodation

6. User Stories

Below are the 6 user stories that we framed and these user stories give us detailed information with respect to building our website.

6.1. User Story 1

My name is Binay Singh, I am a bachelor student from university in India. I would like to pursue an international master course. I lack the information about master programs in universities that fits my passion in a particular engineering stream. I wish I could find a study program that fits my interest

User story title: User is a Bachelor student, wants to pursue Masters

Story decomposition:

As a bachelor student from India,

I would like to know the prospective master study program

So that I can choose my next educational career step

Story Boarding:

As is situation	Action Course	Targeted Outcome
Binay Singh cannot find a master course that fits his passion. He likes to be an expert in an engineering stream.	-Give his basic info. - Search master course - get basic info and additional info. Eg: Basic info- Curriculum, fee structure, language of instruction. Additional info: Pre-requisites	Binay finds a master course that fits his interests and applies.

6.2. User Story 2

I was a bachelor student from a university in India and have identified a master study program in SRH that interests me. I lack the information about the prospective job profiles and companies that the master program would prepare me for, I wish I could know what could be my profile after completing my masters.

User story title: To know prospective job profiles and companies

Story decomposition:

As a bachelor student,

I would like to know the prospective job, if I select the respective master study program,

So that I am aware of the potential job that I can look for.

Story Boarding:

As is Situation	Action Course	Targeted Outcome
A student does not have an information about potential job profiles that the master course would prepare him for in the future	<ul style="list-style-type: none">- Give his basic info and current profile- Identify suitable master course- Get info about potential job profiles for students who have completed the identified master course.	<ul style="list-style-type: none">- List of job profiles, skills, competencies, that the student would have acquired and completing the master course.

6.3. User Story 3

I am an applicant to the SRH university who have submitted my application. I lack information about the progress and status of my application and wish to know that in different phases

User story title: User is a bachelor student, wants to know the application status

Story decomposition:

As an applicant to the Master program,

I would like to know the different phases and status of my application

So that I am aware when to anticipate the final decision.

Story Boarding:

As is Situation	Action Course	Targeted Outcome
The applicant cannot find the information about the status of his application after the submission.	- Applicant gets the tracking number - Applicant provides tracking number and the other info	Current status of the application and expected date of decision.

6.4. User Story 4

I am an applicant to the master's program who has submitted the application and aware of the technical course offered in the program. I am in need of information about other non- technical courses such as German language courses, soft skills, etc. offered in the university. I wish to know the information about this to enhance my soft skills.

User story title: User is an applicant, additional information about non-technical knowledge

Story Decomposition:

As an applicant to the master program.

I would like to know about the additional courses to improve soft skills besides technical courses

So that I can decide on which of those courses to take and to prepare myself to the job market

Story Boarding:

As is Situation	Action Course	Targeted Outcome
The applicant does not have an information about non-technical courses	-give his basic information and current profile -identify suitable master course -get info about additional courses	-list of additional courses that are offered besides the technical courses offered from the master program

6.5. User Story 5

My Name is Sebastian, I am an applicant to the SRH university, I would like to pursue my career step master program, I am not sure about whether my current degree skills competencies fulfill the criteria to my next educational career step. I wish, I could get information whether I am eligible or not.

User story title: User as an applicant, would like to know his eligibility to the study program

Story Boarding:

As an applicant to the master program,

I would like to know whether my current degree skills and competencies satisfy the pre-requisites,

So, that I can apply for the respective program

As is Situation	Action Course	Targeted Outcome
-Sebastian is not aware whether he or she is eligible to apply for the study program of his interest	-Give his basic information. -Identify master course. -Provide his current degree, grades, skills and competencies.	-Applicant gets to know his eligibility for the applied course

6.6. User Story 6

I am an educational consultant from SRH university who provides the services to prospective student. I lack the platform to interact with the students to discuss queries and to assist about chosen study program as per their interests, skills and competencies.

User story title: User is an educational consultant, would like to assist student's queries

As an educational consultant

I would like to assist students with live chat

So that I can help them to move in a right direction toward their career

Story Boarding:

As is Situation	Action Course	Targeted Outcome
- Huge time lag between the queries posted by the students and the information provided by the consultant. Due to lag of suitable platform	-Students starts live chat, education consultants start conversation. - Students ask queries educational consultants clarifies.	- Consultant addresses queries and assist the students to go ahead in the right direction towards their career.

7. Vision and Mission Statement

7.1. Mission Statement:

Our team will develop a new website for the aspiring students to apply for study programs in the university.

This project mission will be considered complete when the students all over the world have access to it.

This project supports SRH University's objective of selecting the right students to get into the courses in the university.

7.2. Vision Statement:

Improving the lives of prospective students through simplicity

7.3. User Experience Map

User experience map gives us a picture about different phases and scenarios that a student might face while using the application.

We are mainly concentrating on the end users i.e. the bachelor and master students and their experiences through this map. A student's entire experience is described below

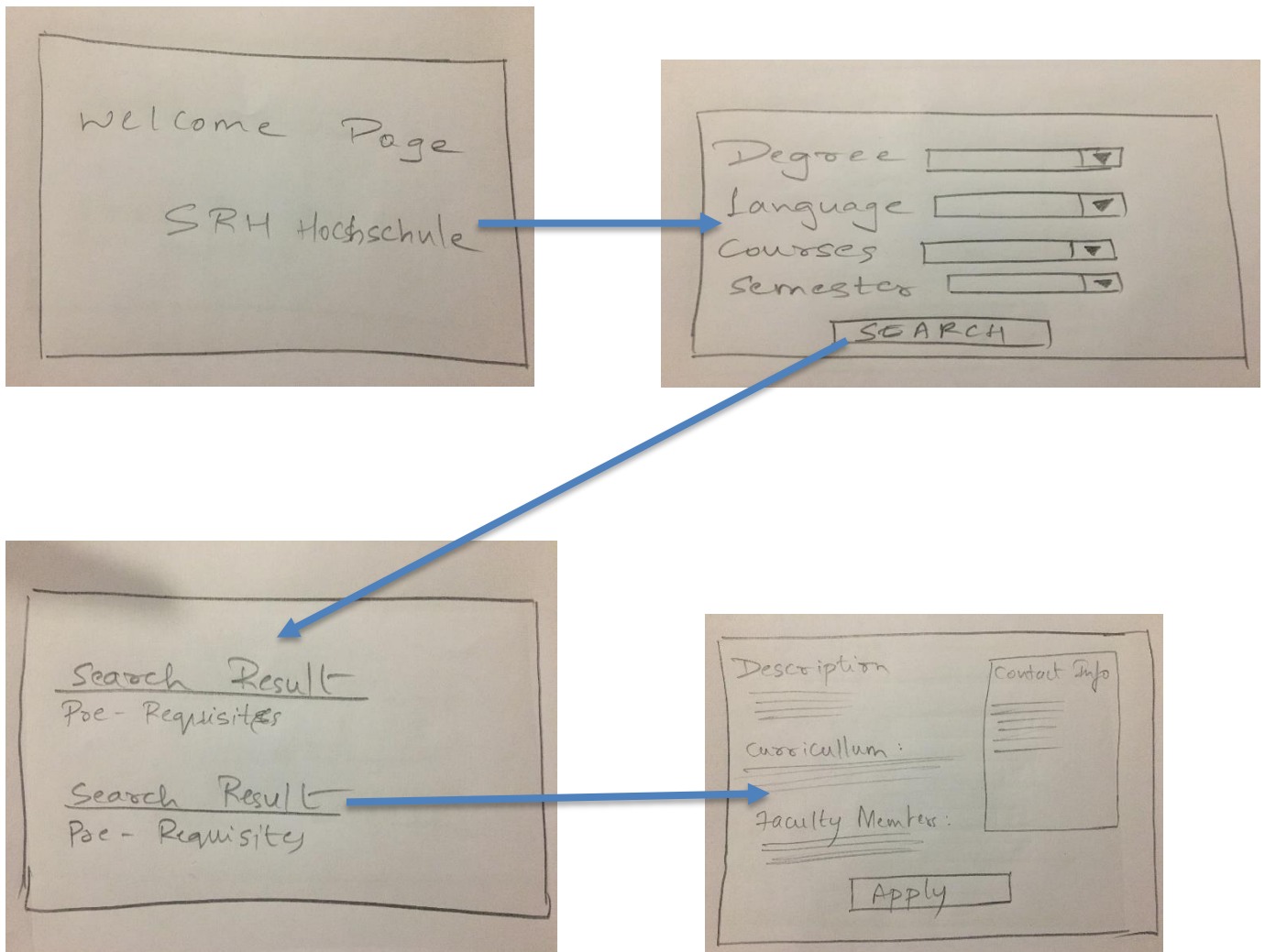


The full experience map can be found here [SAD Final\New Experience map.xlsx](#)

8. Prototypes

A prototype is very much necessary to develop any application. Prototype puts a vision of the application into reality and gives us a feel of how the application might look and it also gives us a clear idea about building our application. There are two categories of prototype

8.1. Low-fi prototype Iteration 1



A hand-drawn rectangular box containing the following text:
User Name _____
Password _____
[Login] [Sign up]

A hand-drawn rectangular box containing the following text:
First Name: _____
Last Name: _____
D.O.B: _____
Nationality: _____
E-Mail: _____
Password: _____
Confirm Password: _____
[Sign up]

A hand-drawn rectangular box containing the following text:
Application Form :
Personal Details: _____
Eligibility Certificate _____
CV _____
Declarations _____
[SUBMIT]

A hand-drawn rectangular box containing the following text:
Thank you for Applying.
Your tracking number is
XXXX. You will be notified
about the decision

8.2. Major Findings

- Inclusion of Admin page and functionality
- Better Interface and navigation
- Checking the pre-requisites

8.3. Low-fi Prototype Iteration 2

GENERAL INFO

ABOUT SRH

Bachelor's

Master's

Interest Language Semester

☒ Engineering science ☒ English ☐ Summer

☐ Business Mgmt ☐ Deutsch ☒ Winter

☐ Architecture

☐ Music

Study Assistant:

I would like to specialise in _____

To become a _____

Master of Science (MSc) ACS

Description

Course Details

Apply

Candidate Profile

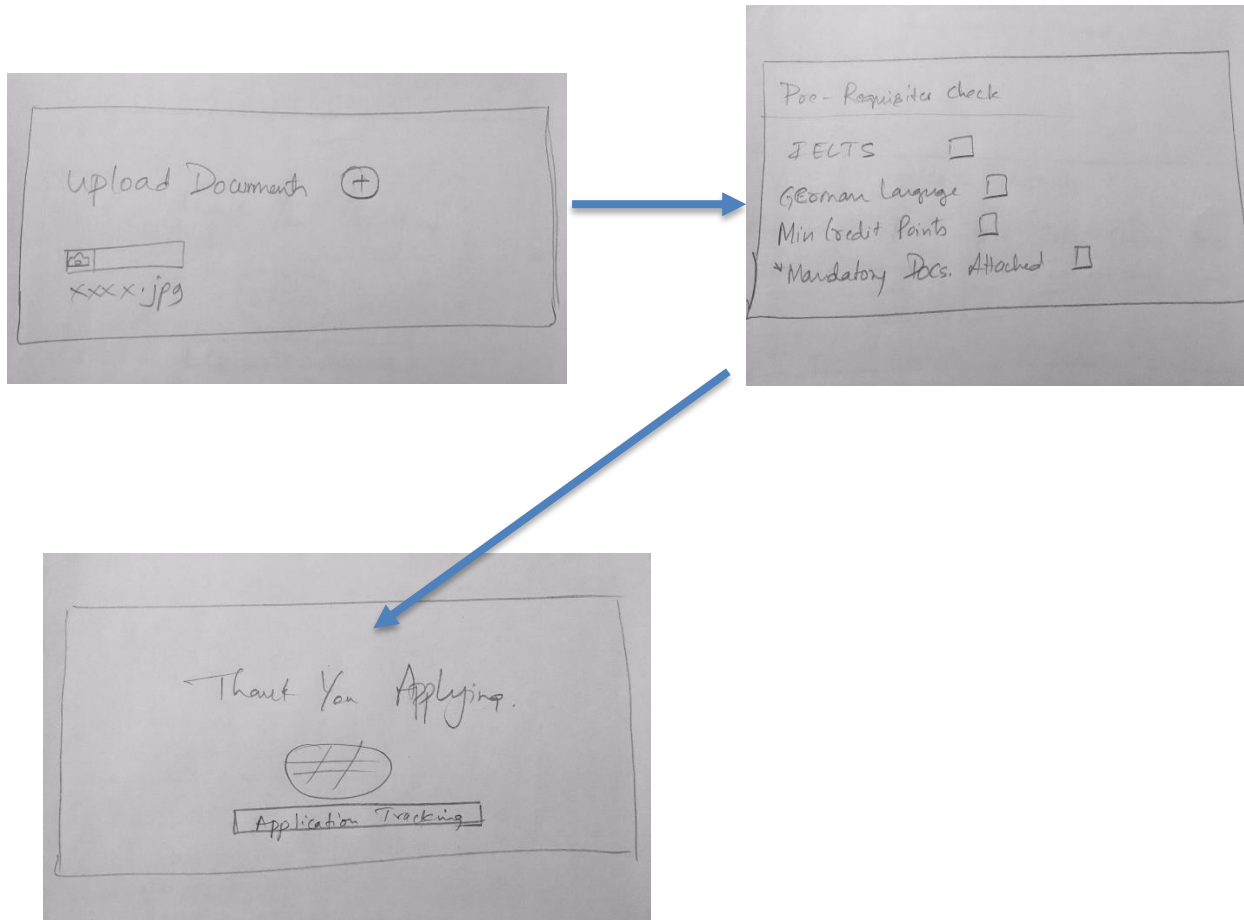
Profile Info.

Name : _____

Education Details : _____

Language Skill : _____

D.O.B : _____



Admin's Page:

Welcome Admin

Sr. No	Name	Course	Degree	Date	Status	Fees
1	XXX	ABC	XXX	01/01/2017	OK	Paid
2	YYY	PQR	XXX	02/01/2016	OK	Not paid
3						

Logout

Student Detail

XYZ

Personal Details

Documents

Syllabus Video

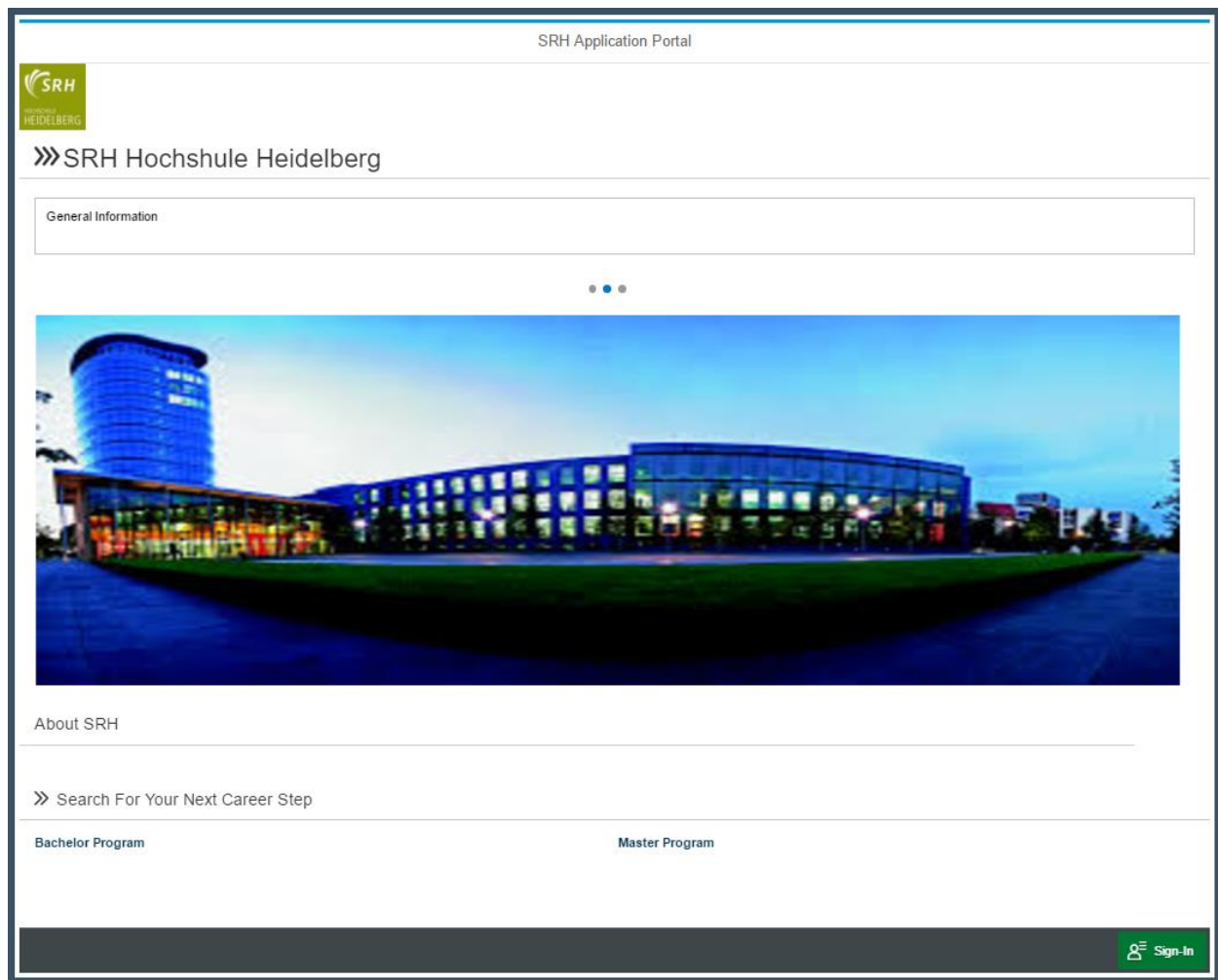
Back Logout

Download

Download

8.4. Hi-fi Prototype: Iteration 1

High fidelity prototype is the digital version of paper prototype which gives us the look and feel of the application. Our high-fi prototype can be presented on a laptop/desktop. Below are the images of our high-fi prototype during initial development phase.



<

Find the right path

Passion/Interest

☒ Engineering Science

☐ Business Management

☐ Architecture

☐ Music

Language Preference


☒ English

☐ Deutsch

Semister Preference


☐ Summer


☒ Winter

 SRH Study Assistant

I would like to specialize in:

To become a:

 Search

 Master Courses

▼ Master Of Science (M.Sc) Applied Computer Science

During the master program "Master of Science applied Computer Science" we convey the knowledge and skills on a high level. Furthermore, the degree is a requirement for the admission of a graduated program in computer science.

Course details

Credit Points: 120

Normal Period: 2 Years


Languages: English

Tuition Fee: 670 € per month


Apply

➤ Master Of Arts (M.A) Music Therapy

Candidate Profile



Info



3

Profile Info


Name:

Education Details:

Language Skill:


Date of Birth:


MMM dd, yyyy




Pre-Requisites


Candidate Profile


Info



3

Attachments go here ...





Upload Documents 

 OVPtanker.jpg
2016-11-26 · J. Doe

Pre-Requests

Pre-Requisites

Pre Requisites Check

IELTS:	Score 7	
German Language:	A1	
Min Credit Points:	120	
*Mandatory Documents Attached:	Text	

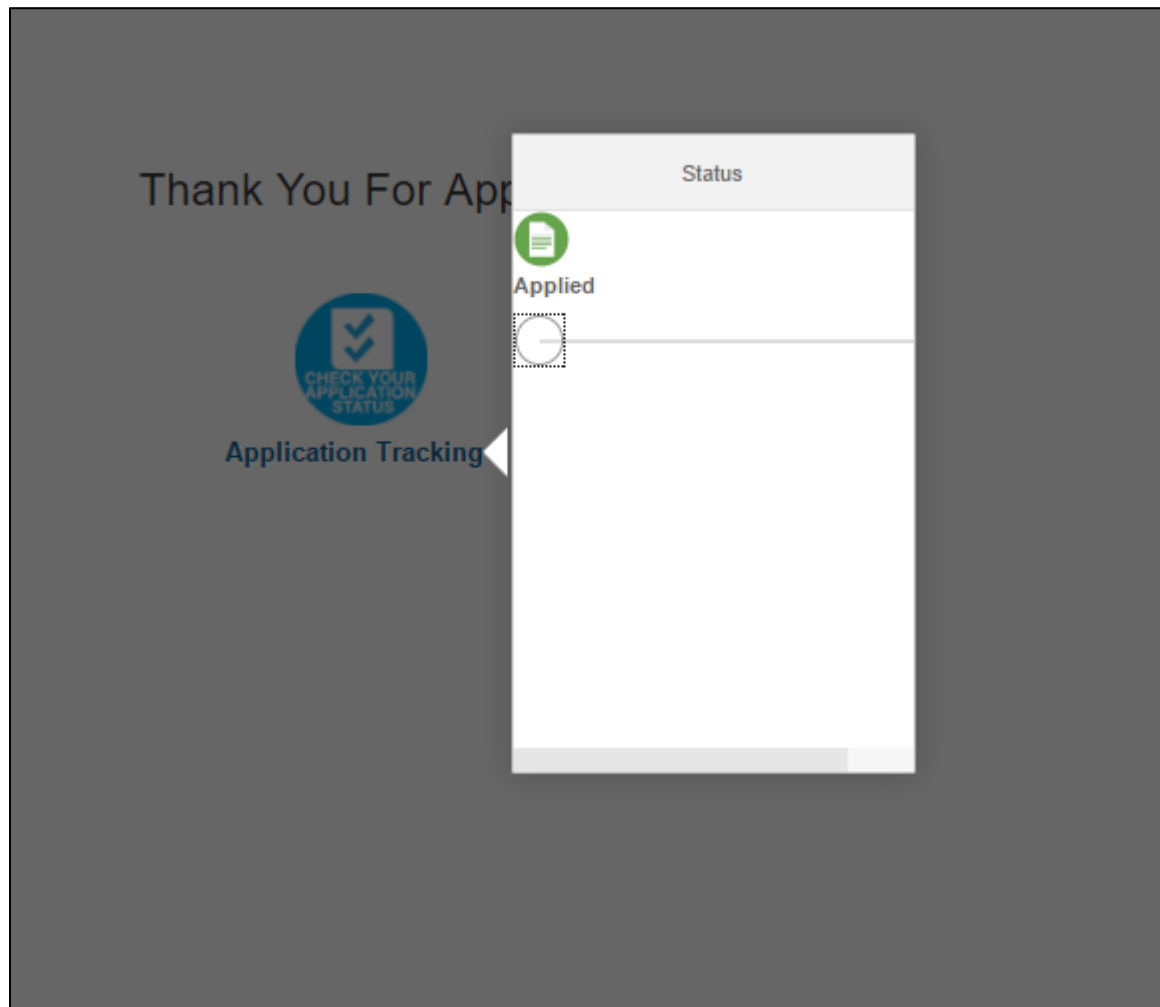
Apply

Application Status

Thank You For Applying



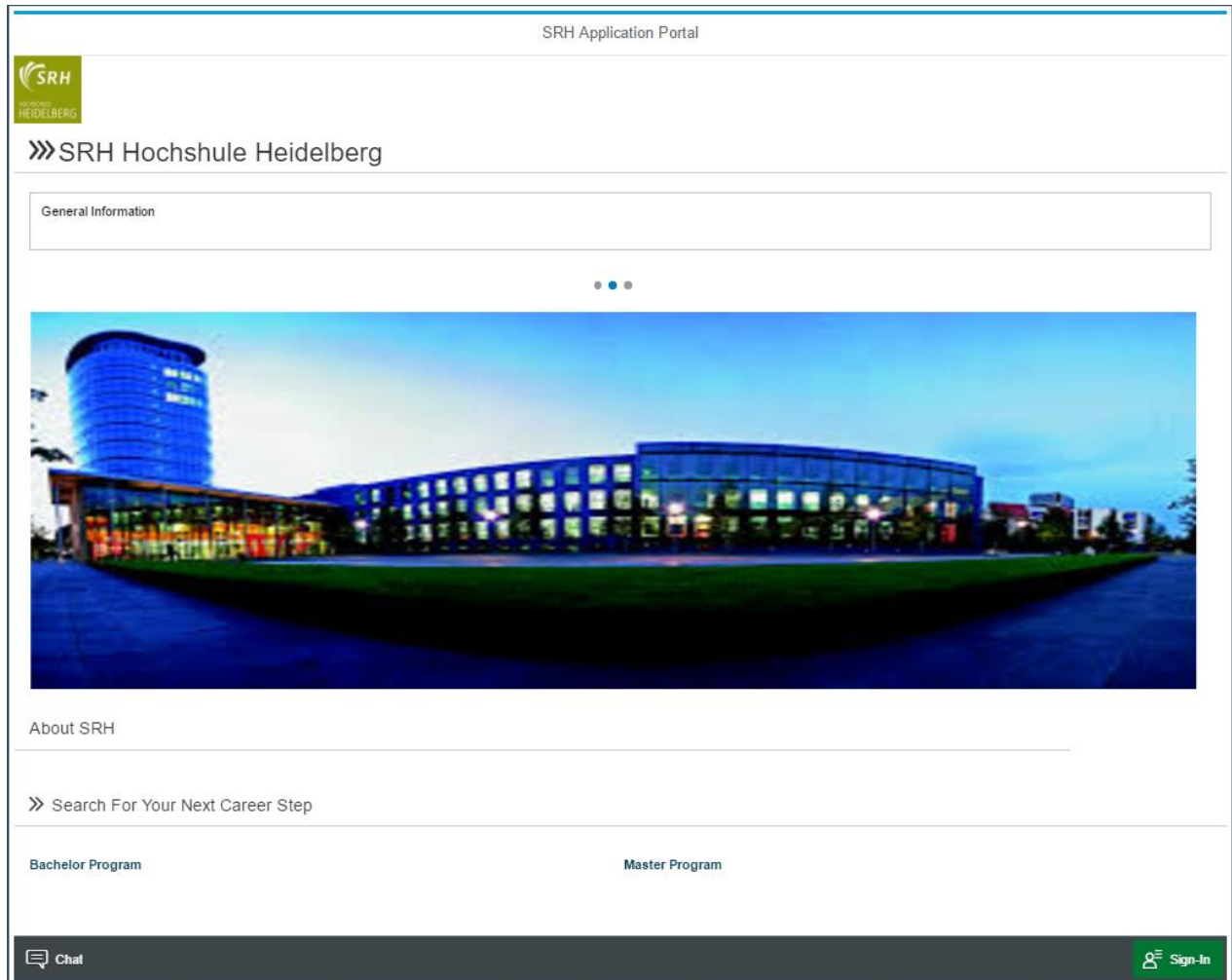
Application Tracking



8.5. Usability Test 1

1				Version 1					
2	Reviewer	Sandesh BS							
3	End User	Nithin BNR							
4	Date Tested	May 9, 2017							
5									
6	Test Scenario	Apply through the university portal to any of the Master Program							
7									
8	Step #	Step Details	Expected Result	Actual Result	Pass / Fail				
9									
10	1	Search for an Master program	Based on the input given by the applicant, the page provides result	The page provided results based on user input	Pass				
11	2	Forward between Pages	Easy movement between pages	Easy Movement Between pages	Pass				
12	3	Returning to previous Pages	Able to navigate to previous pages	Unable to navigate to previous Pages	Fail				
13	4	Sign Up	New applicant should be able to sign up before	User able to provide documents and personal information	Pass				
14	5	Logout	Logout after submission	User not able to logout or go to home after submission of documents	Fail				
15	6	Application Tracking	Get the status of the applied course, by logging in from	User is able to track the application portal after logging in	Pass				
16	7	User Interface Fields	All buttons are working and field names are clear	Missing some buttons and field information not clear	Fail				
17									

8.6. Hi-fi prototype- iteration2



Find the right path

[Previous Applications](#)

Passion/Interest


☐ Engineering Science
☐ Business Management
☐ Architecture
☐ Music

Language Preference

☐ English
☐ Deutsch


Semister Preference

☐ Summer
☐ Winter

 SRH Study Assistant

I would like to specialize in:

To become a:

 Master Courses

▼ Master Of Science (M.Sc) Applied Computer Science

During the master program "Master of Science applied Computer Science" we convey the knowledge and skills on a high level. Furthermore, the degree is a requirement for the admission of a graduated program in computer science.


Course details


Credit Points: 120
Normal Period: 2 Years
Languages: English
Tuition Fee: 670 € per month

Apply

> Master Of Arts (M.A) Music Therapy

Candidate Profile


Info


3


Profile Info

Name:


Education Details:

Language Skill:





Date of Birth:



Pre-Requisites

 Pre-Requisites

Pre Requisites Check

IELTS:	Score 7	
German Language:	A1	
Min Credit Points:	120	
*Mandatory Documents Attached:	Text	

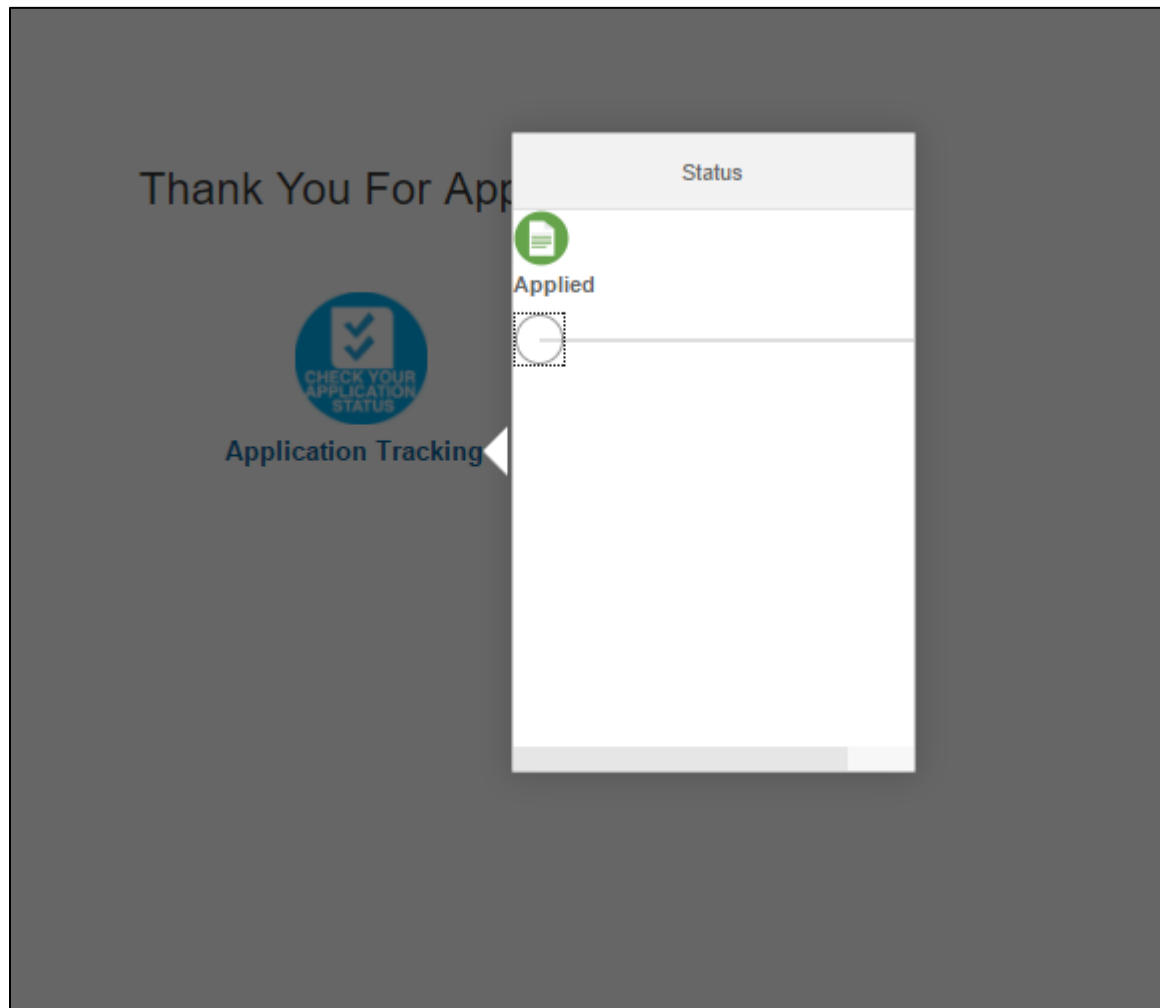
Apply

Application Status

Thank You For Applying



Application Tracking



<

Status

Details

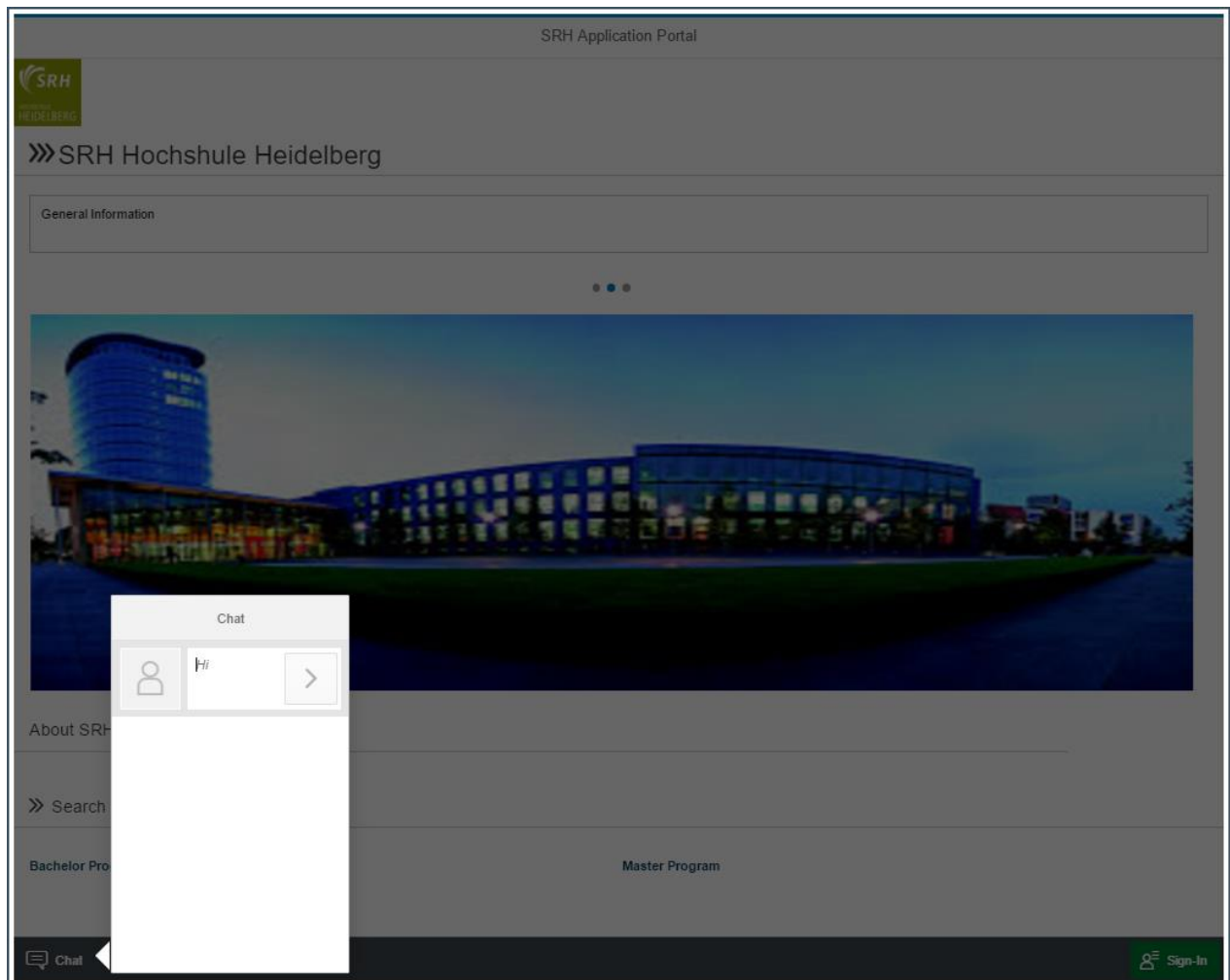
Applied to: Infomatics

Applied Date: 08.05.2016

Last Status Changed: 12.05.2016

Rejected

Sign-Out



Admin Interface

Welcome Admin					
Sr.no	Name	Applied to	Applied date	Status	Fees
1	Amulya	Infomatics	08.05.2017	Accepted	Paid
2	Nitya	Infomatics	08.05.2017	Accepted	Not Paid
3	Divya	Infomatics	08.05.2017	Accepted	Paid

<

Applicants Detail

▼ Applicant Details

Personal Details

First Name: Ankit
Last name: Chaurasia
Mobile: +91 9821155779
Address: Mumabi

▼ College Grades


Personal Details

Grads: 2.0
Previous university: Thankur
Address: Mumabi

▼ Documents


Attachments (1)

+

 OVPtanker.jpg
2016-11-26 · J. Doe

↓

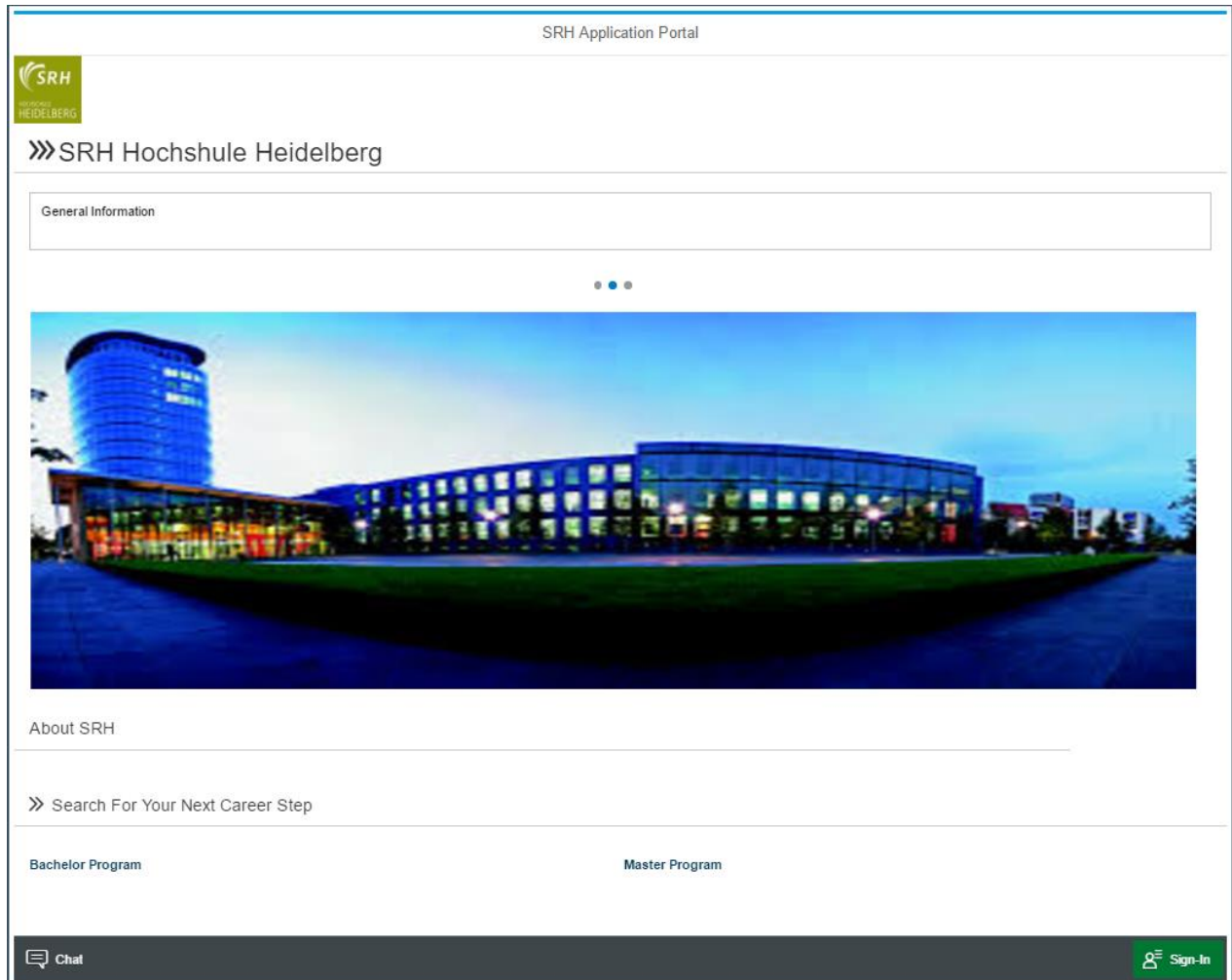
Reject Approve

 Sign-Out

8.7. Usability Test 2

1				Version 2	
2	Reviewer	Sandesh BS			
3	End User	Chetan			
4	Date Tested	May 9, 2017			
5					
6	Test Scenario	Admin Log's in and verifies the applicant document and sets the status, which the user then checks			
7					
8	Step #	Step Details	Expected Result	Actual Result	Pass / Fail
9					
10	1	Returning to previous Pages	Able to navigate to previous pages	Seamless flow between pages	Pass
11	2	Logout	Logout after submission	User not able to logout or go to home after submission of documents	Pass
12	3	User Interface Fields	All buttons are working and field names are clear	Missing buttons and field information added	Pass
13	4	Admin Log's In	The page directs the admin to Admin Home Page	The page redirected to Admin page	Pass
14	5	Admin Sets Status	The admin sets the status of the application by accepting or rejecting the application	the admin is able to download the file, verify contents of the applicant and set status	Pass
15	6	Applicant Status Check	The applicant log's in and checks the status of the	The applicant checks the status of the application after logging in	Pass

8.8. Hi-fi prototype: Iteration 3



Find the right path

[Previous Applications](#)

Passion/Interest


☐ Engineering Science
☐ Business Management
☐ Architecture
☐ Music

Language Preference

☐ English
☐ Deutsch


Semister Preference

☐ Summer
☐ Winter

 SRH Study Assistant

I would like to specialize in:

To become a:

 Master Courses

▼ Master Of Science (M.Sc) Applied Computer Science

During the master program "Master of Science applied Computer Science" we convey the knowledge and skills on a high level. Furthermore, the degree is a requirement for the admission of a graduated program in computer science.

Course details

Credit Points: 120
Normal Period: 2 Years
Languages: English
Tuition Fee: 670 € per month

[Apply](#)

> Master Of Arts (M.A) Music Therapy

Candidate Profile

i

Info

3

Profile Info

Name:


Education Details:

Language Skill:

Date of Birth:





MMM dd, yyyy

Pre-Requisites

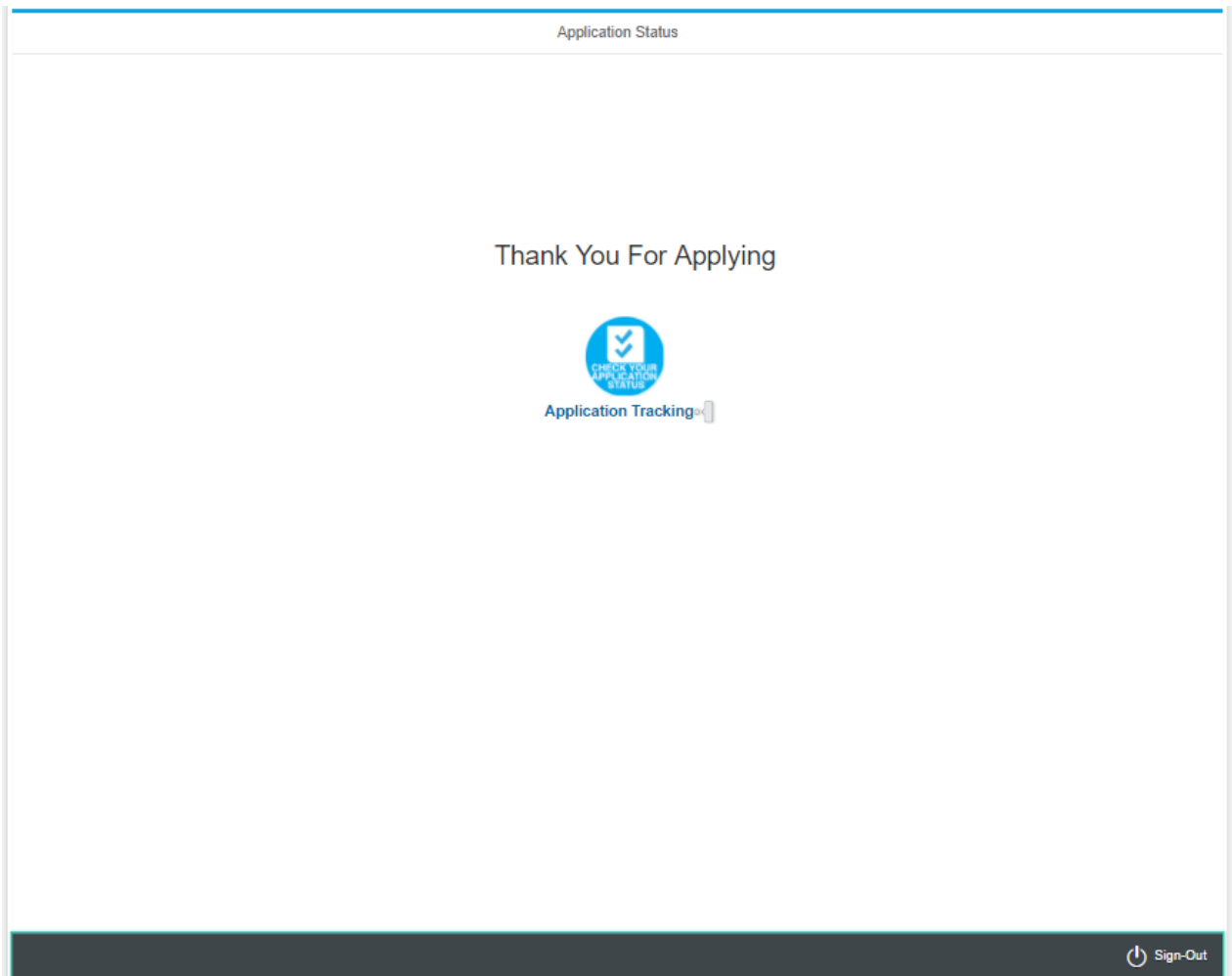


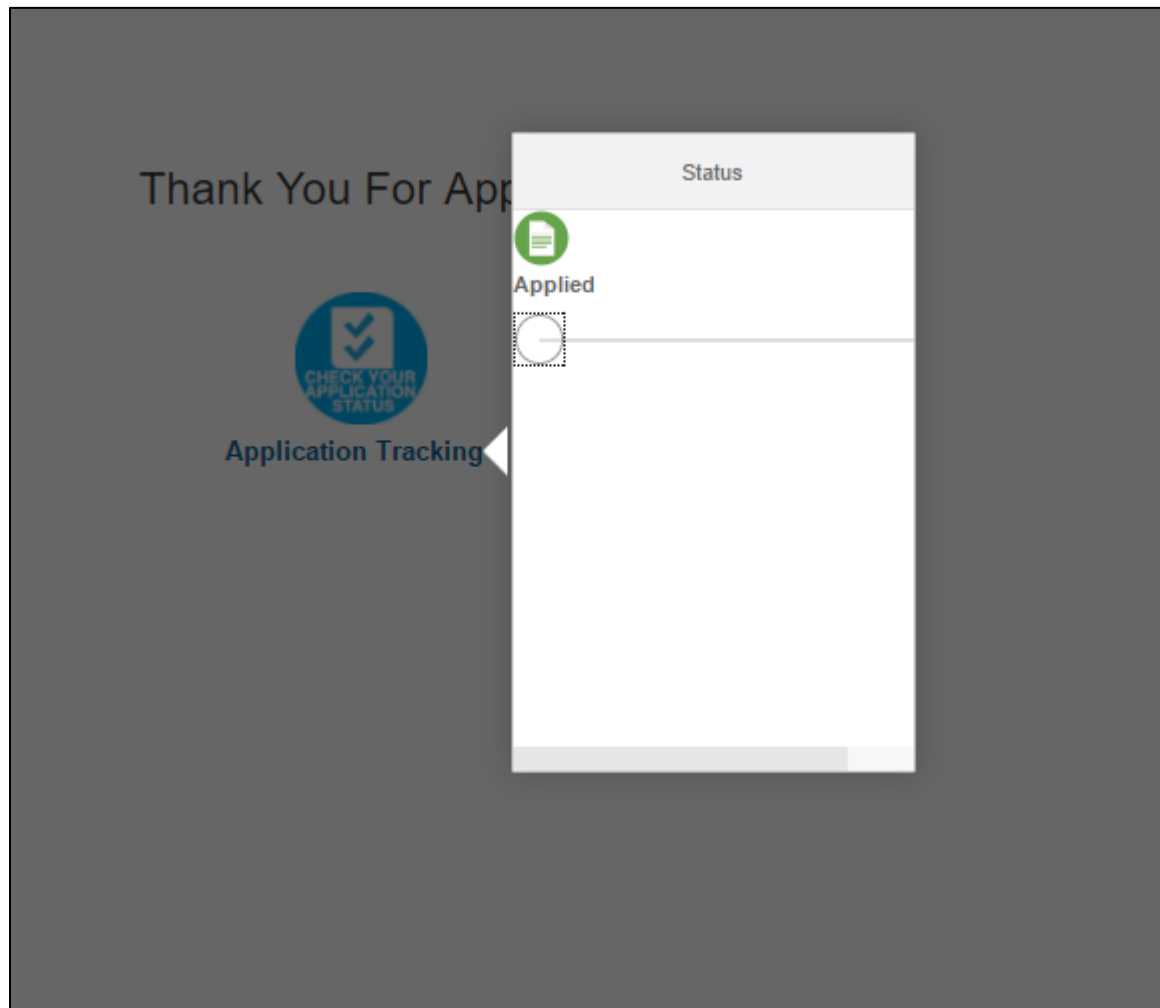
Pre-Requisites

Pre Requisites Check

IELTS:	Score 7	
German Language:	A1	
Min Credit Points:	120	
*Mandatory Documents Attached:	Text	

Apply





<

Status

Details


Applied to: Infomatics

Applied Date: 08.05.2018

Last Status Changed: 12.05.2018

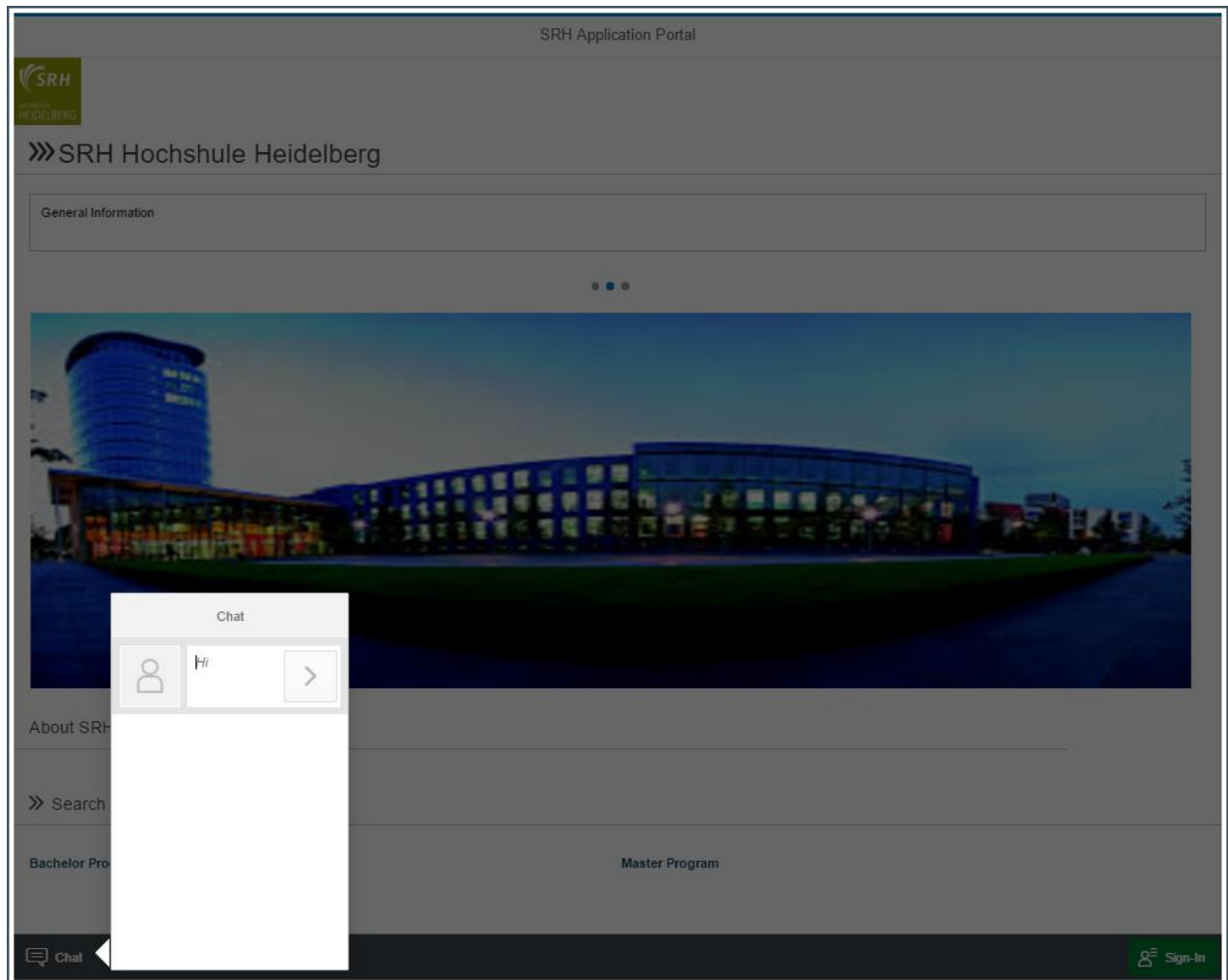
Rejected

Attachments (1) +

 OVPlanker.jpg

2018-11-26 · J. Doe

Sign-Out



Admin Interface:

Welcome Admin					
Sr.no	Name	Applied to	Applied date	Status	Fees
1	Amulya	Masters in informatic	08.05.2017	Accepted	Paid
2	Nitya	Masters in informatic	08.05.2017	Accepted	Paid
3	Divya	Masters in informatic	08.05.2017	Accepted	Paid

<

Applicants Detail


> Applicant Details

> College Grades

Document

↓

Attachments (1) +

 OVPtanker.jpg
2016-11-26 · J. Doe

Request Additional documents

Name of the document:

Submit

Reject Approve

Sign-Out

9. Software Architecture:

9.1. MVC Pattern

Model view controller (MVC) is a very useful and popular design pattern.

In a typical application, you will find these three fundamental parts:

- Data (Model)
- An interface to view and modify the data (View)
- Operations that can be performed on the data (Controller)

The MVC pattern, is this:

1. The model represents the data. The model does NOT depend on the controller or the view.
2. The view displays the model data, and sends user actions (e.g. button clicks) to the controller.
3. The controller provides model data to the view, and interprets user actions such as button clicks.
The controller depends on the view and the model.

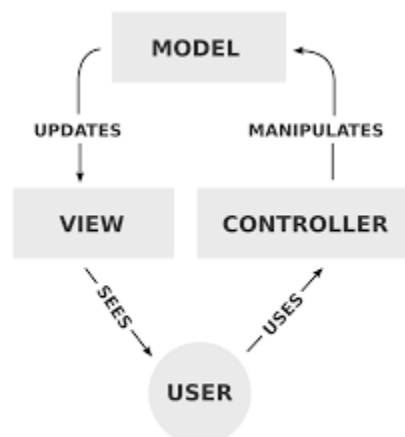
Advantages:

Re-usability- MVC makes model classes reusable without modification.

MVC can also make the *view* reusable without modification.

Separation of concerns - view and backend can be developed parallel without much dependency.

TDD support- Test driven development is possible as unit test cases can be written on model objects



9.2. Technology

Initially, we opted for Fiori along with SAP HANA technologies. But, during the Hi-Fi prototyping we came across the limitation and restrictions from the framework. On further analysis, we figured that it is not suitable to meet our project requirements.

We have decided to go with following two options of technology choices

Option 1:

Firestore with Angular JS:

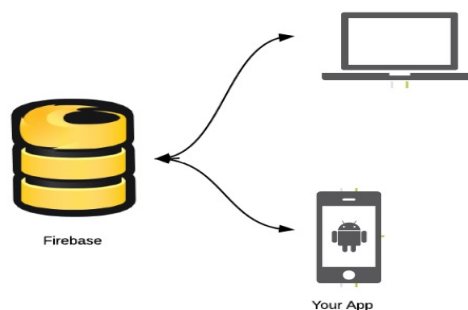
- Firestore is not a traditional database. It's a complete real-time, scalable backend. It provides all the tools needed to build rich, collaborative applications using only client-side code.
- Angular JS is a structural framework for creating dynamic web applications by extending HTML capabilities
- Features like data binding and dependency injection makes it easier to develop apps with less code
- AngularFire is the officially supported AngularJS binding for Firestore

Advantages

- Creating a web application without having to worry about the back-end side
- Firestore makes it possible to sync data in real time with our application without bothering about the back-end, by just making some API Calls
- Combining the power of AngularJS two-way data binding with Firestore results in a three-way synchronization
- Apps can consist of only client-side code, relying 100% on Firestore's backend, or Firestore can communicate with custom server-side code

It can easily fit in at any stage of development

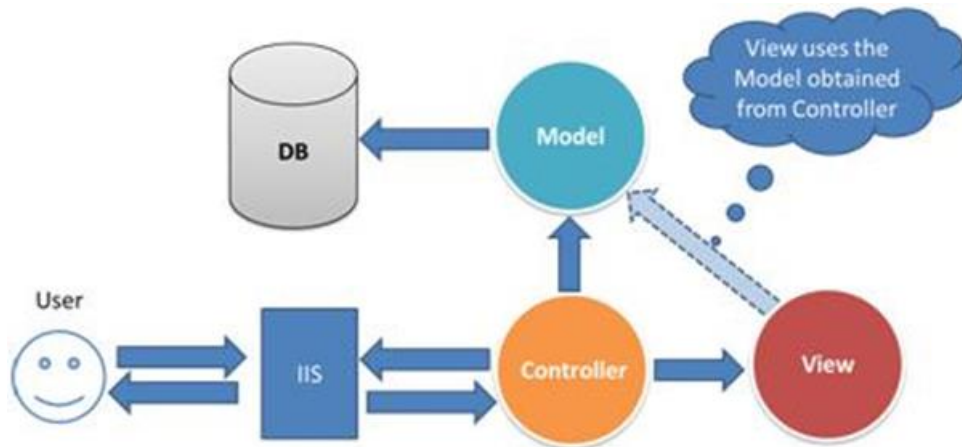
- Apps can consist of only client-side code, relying 100% on Firestore's backend, or Firestore can communicate with custom server-side code
- It can easily fit in at any stage of development.



Option 2:

ASP.NET MVC5:

ASP.NET MVC gives you a powerful, patterns-based way to build dynamic websites that enables a clean separation of concerns and that gives you full control over markup for agile development. ASP.NET MVC includes many features that enable fast, TDD-friendly development for creating applications that use the latest web standards.



The comparison of the versions of ASP .NET MVC:

ASP.NET MVC3	ASP.NET MVC4	ASP.NET MVC5
<ul style="list-style-type: none"> ▪ Templates for HTML 5 and CSS 3 ▪ Improved Model validation ▪ Razor View Engine ▪ Support for Multiple View Engines ▪ Controller improvements ▪ Unobtrusive JavaScript approach ▪ Improved Dependency Injection ▪ Partial page output caching <p>http://www.webdevelopmenthelp.net</p>	<ul style="list-style-type: none"> ▪ ASP.NET Web API ▪ Adaptive rendering ▪ Look-n-Feel improvements ▪ Empty Project Template. ▪ Mobile Project Template ▪ Support for adding controller ▪ Task Support for Asyn Controllers ▪ Bundling and Minification ▪ Support for OAuth and OpenID ▪ Support for Windows Azure SDK 1.6 	<ul style="list-style-type: none"> ▪ ASP.NET Identity ▪ Authentication Filters ▪ Filter overrides ▪ Bootstrap ▪ Attribute Routing

Advantages:

- Enables the full control over the rendered HTML.
- Provides clean separation of concerns(SoC).
- Enables Test Driven Development (TDD).
- Easy integration with JavaScript frameworks.
- Following the design of stateless nature of the web.
- RESTful urls that enables SEO.
- No ViewState andPostBack events

