

## PROJECT 3

# Career Guidance Mobile Service for students in 2 and 3 tier cities

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## Project Approval.

Interaction Design Project 3 titled “**Career Guidance Mobile Service for 2 and 3 tier cities**” by Indubhusan Roy (Roll Number 216330002) is approved for partial fulfillment of the requirement for the degree of ‘Masters in Design’ in Interaction Design at the Industrial Design Centre, Indian Institute of Technology, Bombay.

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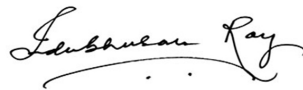
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## Declaration.

I declare that this written document represents my ideas in my own words and where others ideas or words have been included, I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea, data, fact or source in my submission. I understand that any violation of the above will be cause for disciplinary action by the institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

A handwritten signature in black ink, appearing to read 'Indubhusan Roy', with a stylized flourish underneath.

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## Acknowledgement.

The completion of this project could not have been possible without the participation and assistance of many people whose names may not all be enumerated. Their contributions are sincerely appreciated and gratefully acknowledged. However, I would like to express their deep appreciation and indebtedness particularly to the following: Prof Venkatesh Rajamanickam, for his constant mentor-ship through the project.

The demise of my father during the course of this project was the most challenging aspect to overcome personally. However regular meets with Prof Venkatesh kept me in track and provided the necessary motivation to schedule the work properly.

My brother, Hrishikesh Roy, for his constant support throughout the project. He was available with his presence wherever I was supposed to be during difficult times. Thank you for taking care of everything that was needed to be done when I was not present.

Prof Jayesh Pillai, Prof Anirudha Joshi and Prof Swati Pal for very useful feedbacks on my project which helped me navigate better. My friends and classmates- Abhinav Bansal and Ankit Anand for feedbacks and resourceful banter on the project.

"There are two ways of spreading light; to be the candle or  
the mirror that reflects it."

– Edith Wharton



## **Abstract.**

Career Guidance and counseling are common terms for the urban student and with a plethora of mobile and web services available an aspirant for any profession today has access to a huge reservoir of information as well as guidance which helps them in decision making.

However the same is not true for students belonging to lower or mid socio economic strata in 2 and 3 tier cities. Availability of too much information and lack of self assessment often directs students to make decisions which later lead to regret and frustration in their lives. This project tries to understand the underlying problems with the above mentioned social strata and design a specific solution for the same.

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## 1.Introduction.

Choosing a career is one of the most stressful situations in a young student's life and it is so because it is one of the most important decisions that one can take in life. After passing high school students have to choose between three different streams of humanities, science commerce and within the next two years they have to make a fundamental career decision which they will have to live with for the rest of their lives. The internet revolution has made information readily accessible for students and it has been a boon for students in taking better career decisions. Apart from the internet, students in metropolitan cities who are from affluent families have much better access to career guidance because they know how to access these different sources and the schools are proactive in providing relevant information.

Also they have relatives who work in different industries and can receive first hand information from them. However students from tier 2 and tier 3 cities face several challenges in this regard. With the lack of mentors or proper guidance students take arbitrary decisions which many a time they regret later. Also parents of these students who mostly belong to the middle or lower middle class take huge loans for the education of their children and if the student does not enjoy the career path it leaves them with no choice.

## 2.Objectives.




This project aims to create avenues for students living in 2 and 3 tier cities with the help of which they can receive good mentorship and therefore take informed decisions while choosing careers

## 2.1 Why is this important?

- With lack of proper guidance students take arbitrary decisions or follow common trend
- Students are not able to explore new career paths due to underlying fear
- Stakes are very high for mid and lower middle class students as parents rely highly on them
- If they choose a career that they realize they don't like after a while there is no going back
- Sometimes parents take loans for education of these students and that further increases the pressure to do well

## 2.2 Why 2 and 3 tier cities?

2 and 3 tier cities represent the economic strata of the students. The target group are students belonging to the middle of low socio economic class.

Metro cities	Target Group	Villages
		
<ul style="list-style-type: none"><li>• Students have easy access to information</li><li>• Schools have a good network and have counseling programs</li><li>• Have relatives working in different industries</li><li>• Can easily change a career if they don't enjoy the course</li></ul>	<ul style="list-style-type: none"><li>• Students don't have enough exposure</li><li>• Students lack mentors who can give proper information about different career options.</li><li>• Parents sometimes take huge loans for education of their children and this also puts a lot of pressure on the students</li></ul>	<ul style="list-style-type: none"><li>• Students don't have easy access to information</li><li>• The main focus is to somehow get basic education</li><li>• Students more often take up vocational jobs early in life</li></ul>

## **2.3 .What is involved in a career decision?**

- Knowing about personal strengths and weaknesses
- Knowing about the options available
- Knowing about the industry standards of the options available
- Knowing how to take proper decisions

## **2.4 .Understanding a profession**

- The social aspect or how it is represented in popular media vs what it is actually.
- The nature of work that is done. Understanding the role on what to do on a daily basis.
- The industry standards of the profession. The value of time received  
The personal growth or satisfaction in a profession.

### 3. Literature Study.

I started by understanding the socio economic as well as psychological aspects related to career counseling with respect to the Indian context.

**Paper Citation:** The Work Orientations and Responses to Career Choices – Indian Regional Survey (WORCC-IRS) which is a draft report for discussion at the National Consultation on Career Psychology (NCCP) authored by **Gideon Arulmani and Sonali Nag-Arulmani** states about the relevance of career counseling and development for lower socio economic groups.

Highlighting the importance of career counseling in the Indian context it cites the following factors

**3.1.1 “Capitalizing on suitability:** In the absence of effective systems for career counseling, the career decision-making process could continue to be influenced by the various psycho-social, educational and socio-economic factors that may not lead to effective choices.

**Typically, the young career aspirant in India makes choices based on hearsay, prevailing career beliefs and prestige variables pertaining to specific careers.** Students who have gone through comprehensive career counseling are far more discerning in their career choices. It is well known that individuals who make career choices based on personal interests and abilities show significantly higher levels of job satisfaction and are more productive workers. Students who make career choices without adequate and accurate counseling and guidance, are at risk of being impelled to choose careers that are popular – forsaking careers for which they might have a higher suitability.

**3.1.2 Reducing career development lag :** A career development lag is **a delay between qualifying for a career and actually entering a career.** Our observations (Arulmani, 1995, 1998, 2000; Nag-Arulmani, 2004) have indicated that the **longest lag periods are associated with poor career planning.** Career development can last a lifetime. When this process allows movement from one effective choice to another, benefits accrue and resources are conserved.

When it becomes a blundering from one ineffective decision to another, career development can become costly both to the individual and the nation. This is one of the factors that keeps the basket of the educated unemployed brimming and full, in India.

**3.1.3.Capitalizing on emerging opportunities:** India is a developing country. New occupational opportunities are constantly emerging. Mindsets that place occupations on a prestige hierarchy quite often prevent young career aspirants from actualising their talents for emerging careers. Our earlier work has shown that a large number of Indian career choosers are typically restricted in the range of careers they are willing to consider. India today however presents a rapidly increasing range of employment opportunities. The benefits of this development are more likely to accrue to those who approach the employment market place with an attitude that is unencumbered by limiting social conventions. **It is at this intersection between the individual and the emerging world of work that career counseling can play a crucial role. "**

The WORCC-IRS delves deeper into the psychological aspects of career development.

**Albert Bandura's Social Cognitive model of psycho-social behavior** analyzes the diverse ways in which beliefs of personal efficacy operate within a network of socio-cultural and socio-economic influences, to shape life paths. The central theme is that people's belief in their personal efficacy to manage life's demands affects their psychological wellbeing, their accomplishments and the direction their lives take. Bandura describes three social cognitive mechanisms:

**3.2.1 Self-efficacy beliefs** Bandura (1977a) defines self-efficacy expectations as beliefs about one's own ability to be successful in the performance of a task. The concept of self-efficacy rests on the premise that self-referent thought influences human behavior. Bandura has been able to demonstrate that self-efficacy cognitions determine whether behavior will be initiated, how much energy will be expended and the duration of the maintenance of this behavior in the face of obstacles and adverse experiences. Bandura (1986) describes four main sources of influence that contribute to the formation of self-efficacy beliefs:



**3.2.1A. Performance accomplishments:** Performance Accomplishments describe the individual's actual performance on a task and his or her ability to attribute success on the task to personal effort. Repeated failure on a career development task is likely to affect the career aspirant's self-efficacy for career preparation.

**3.2.1B Vicarious experience :** Going through the experience of watching someone (a role model) similar to themselves succeed by consistent effort raises observers' belief that they too can master similar activities. In the same way, observations of others' failures despite strong efforts, undermines observers' judgment of their own efficacy and lowers motivational levels. A young person who is surrounded by role models who have succeeded in career preparation is likely to have a higher self-efficacy for career preparation.

**3.2.1C Verbal Persuasion :** Verbal persuasion refers to the individual being persuaded and encouraged by someone else that they possess the capabilities to master a task. Conversely, consistent verbal feedback that questions a person's capabilities would cause him or her to avoid challenging activities and give up quickly in the face of adversity.

Being consistently discouraged from going on for further education by family and community, could lessen the career aspirant's self-efficacy for career preparation through further education.

**3.2.1D. Physiological and emotional arousal :** People partly rely on their physiological capabilities and emotional states, to assess their own capabilities and personal stress reactions tend to be interpreted as the precursor to poor performance (Bandura, 1995). If career preparation tasks consistently evoke feelings of fear and frustration the individual's self-efficacy for that task could diminish. According to Social Cognitive Theory, these factors work together to influence the individual's overall self-efficacy for a particular task.

**3.2.2 Outcome expectations :** The second socio-cognitive mechanism that Bandura describes, namely, outcome expectations are the person's imagined consequences of performing particular behaviors and the value people place on the outcomes of their actions. An outcome expectation is a

person's estimate that a given behavior will lead to certain outcomes. If the imagined consequence of taking up an Arts course is unemployment, while the Science courses are expected to lead to 'good' careers the individual is more likely to be predisposed toward Science courses.

**3.2.3 Goal setting and planning :** This is the third social cognitive mechanism described by Social Cognitive Theory. A goal may be defined as the determination to engage in a particular activity or to effect a particular future outcome (Bandura, 1995). Goals operate principally through people's capacity to symbolically represent future outcomes and to react self-evaluatively to their own behavior, based on internal standards of performance.

Highlighting the relevance of counseling further it states that

"In reality the importance of career planning is independent of socio-economic status. **Career counseling is relevant and necessary for all social classes.**

The crucial point to be noted particularly in the Indian ethos is that counseling needs vary significantly across social groups.

A single, standardized intervention cannot adequately address career development needs over a wide range of groups. While the themes and targets of counseling are perhaps similar, the methods of implementation need to be finely tuned to the special requirements that emerge within different socio-economic status groups. For example, career counseling that attempts to facilitate livelihood planning for the socioeconomically disadvantaged would need to take serious note of the fatalistic overtones and the negative career beliefs that seem to characterize the young person's view of the future. Of course this is not always the case. Yet, interventions for livelihood empowerment often do not account for the career beliefs of the disadvantaged young. In similar manner career counseling would need to address the single minded search of middle and upper middle groups to find success through 'good' careers.

A relevant career counseling programme would address the question of transition from school in a person-centered manner. For some this may mean college education, for others it may mean vocational education. Effective counseling would enhance the individual's employability by preparing him or her to enter the world of work from a position of strength rather than disadvantage. Most importantly, a career counseling programme that takes privilege and disadvantage into account would be equipped to empower young people to maximize their talents regardless of their backgrounds"

**3.3 Inferences:** The work by **Gideon Arulmani** ,**Sonali Nag-Arulmani** and **Albert Bandura** provided a deep dive into the importance career counselling for the Indian context. It also touched upon the psychosocial elements that govern the mid and the lower socio economic strata. This understanding provided a solid ground regarding the positioning of the project and the importance of the same.

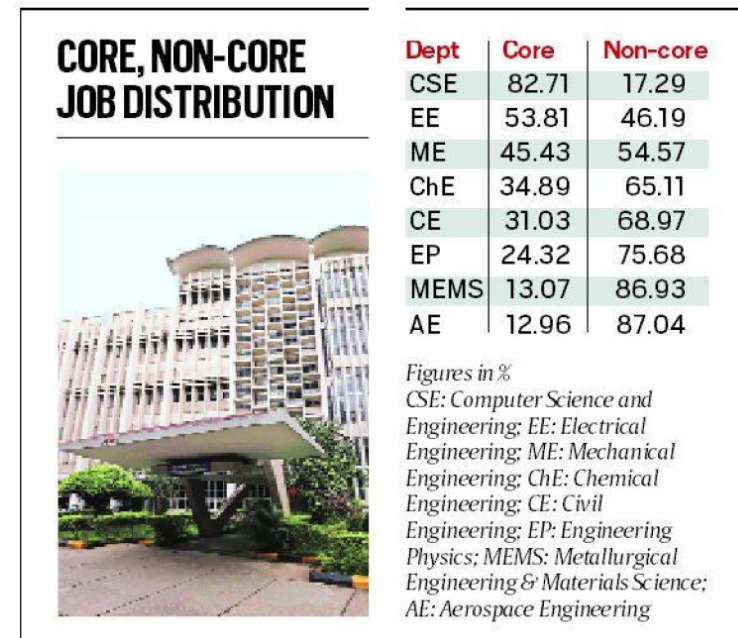
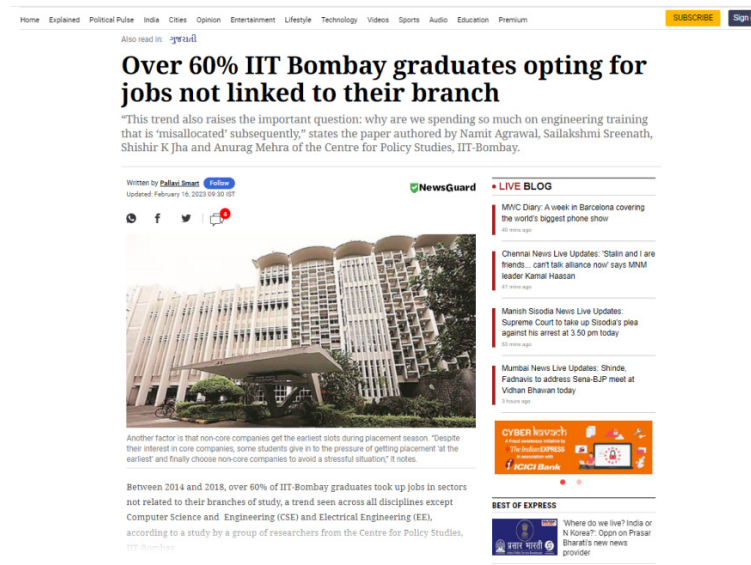
**3.4.** As a next step I studied some of the work by S Bandopadhyay in his book **"Bridging the Education Divide Using Social Technologies: Explorations in Rural India"** .His work delves into the challenges faced by rural communities in accessing quality education and how social technologies, such as mobile phones, the internet, and other digital tools, can be harnessed to bridge this divide. It also examines case studies, research findings, and practical strategies that have been implemented to leverage social technologies for educational development in rural India.

S. Bandopadhyay, provides insights into the potential benefits, limitations, and implications of integrating social technologies into educational initiatives in rural contexts. The book also offers a comprehensive exploration of the topic, aiming to inspire educators, policymakers, and researchers to utilize social technologies effectively in order to enhance educational opportunities for rural communities.

## 4. Newspaper and Articles.

Some interesting statistics which appeared in the times of India showed that over 60% graduates in IIT Bombay change their careers midway. This shows that a large percentage of students are not sure of which career path to pursue and are influenced by common trends or peers

In the figure below we can see that in departments like computer science and engineering 82.7% students stick to core jobs however the same is only 12.96% for Aerospace Engineering

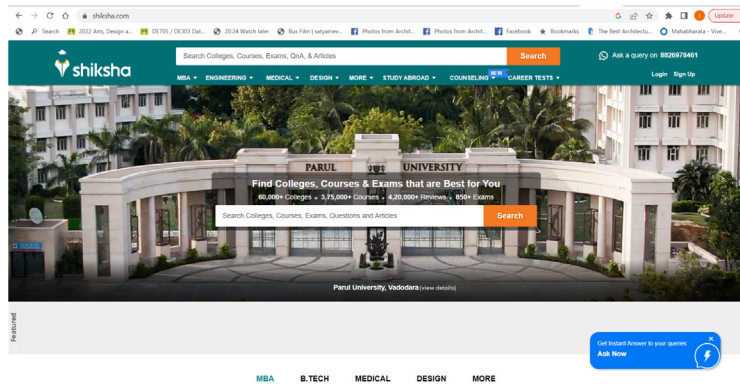


## 5. Secondary research.

It was found that there were three different types of online resources which were related to career guidance

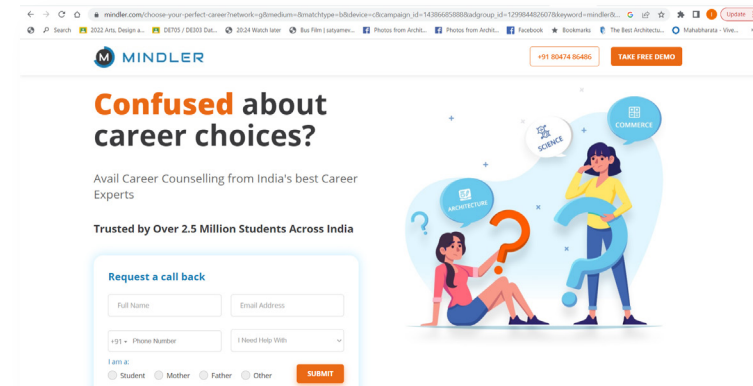
### 5.1 Information hubs

Sikhsa.com is an information hub where there is a huge reservoir of information related to careers, education, examination etc.



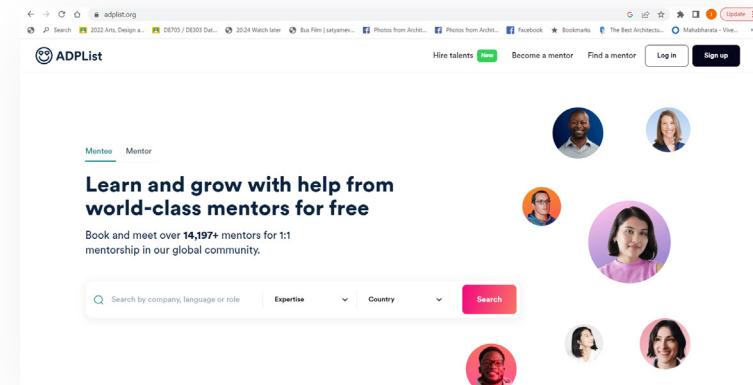
### 5.2 Counseling platforms

Mindler.com is a career counseling platform which provides counseling services for students with the help of experts



### 5.3 Mentorship platforms.

ADP list is a mentorship platform where aspirants can connect directly with mentors from the industry



A deepdive into the counselling platforms and trying to understand the nature of how they work

**5.4.1 National Career Service (NCS)** is an initiative of the Indian government to provide career-related services to students. This is a one-stop solution that provides a wide array of career-related services like career counseling, jobs, skill development, career-related content and many more. There are many career counselors, vocational training institutes, and employers are registered under this platform. Anyone can seek career services provided in the NCS portal starting from the age of 14.

**5.4.2 Edumilestones** is the most renowned and popular name in the career counseling industry. They claimed to have counseled over 4 lac students all across India. This platform is known for personalized career counseling services. More than 1800+ career counselors are empanelled and provide career counseling across 80+ locations in India. Edumilestones multi-dimensional career assessment is considered as an industry benchmark, which is used widely

for career counseling. There are many career-related resources available free of cost for students. Edumilestones provide career guidance to candidates from 5th standard to working professionals with 15 years of experience.

**5.4.3 Byju's** is the largest and the most interactive online learning platform for school students in India. They offer one-on-one online career counseling sessions. Students can book a free career counseling session using their learning app. A lot of free learning videos are also available.

**5.4.4 Career Guide** is a Delhi based career counseling platform. Careerguide.com is a unique platform for students to get their career questions answered by the right experts.

**5.4.5 Map My Talent** is a Delhi based career counseling platform. They offer expert career guidance & career counseling based on psychometric assessment. They firmly believe that there are a lot of career options and career paths available for everyone, and with the help of tested principles of behavioral science, the student



and professional confusion can be resolved to a great extent. Map my talent has got a diverse background of career counselors. They have counseled over 29,000 students in the last decade.

**5.4.6 Shiksha** has the most extensive collection of schools and college databases in India and across the World. Shiksha helps and guides in the course and college selection is easy for students looking to pursue UG and PG courses.

They have a repository of 14,000+ institutions, 40,000+ courses and a database of 3.5 million students. All the students get personalized experience which enables them to make informed course and college selection. Shiksha has a community of 1000+ experts from different domains who help in answering career and college-related queries.

Fresher's World is an employment portal but also known for their career-related videos on YouTube. For most of the popular career options in India, they have created informative videos that help students


















































to understand the work nature, education requirements and employment opportunities for every career option.

The next step was to look at various mentorship platforms available. After the pandemic many mentorship platforms have suddenly sprouted and this industry has seen a sudden growth. Initially mentorship was used mainly by corporate companies for the growth of their employees. Currently there are several mentorship platforms offering their services across several industries. Some of them are

**Muse**  
**Growth Mentor**  
**ADP list**  
**Mentor Pass**  
**Sparrow**  
**Clarity.fm**  
**Mentorcruise etc.**

5.5 A further look into the competitive analysis of major players in the career counseling industry and understand their different attributes.






## Career Guidance for students from 2 and 3 tier cities

PARAMETER	FEATURES	 MINDLER	 CareerGuide.com	 mapmytalent.in	 ibc	 Univariety	 Jitin Chawla's One to One Career Developer	 LODESTAR PERSONALITY EVALUATOR	 vidyarthi One-Stop Career Guide	 ONE STEP UP	 oneyo Creating Personalized Career Paths	 YOUNGBZZ	 careerfuture	 ICS				
 <b>Career Assessment</b>	Number of Dimensions Evaluated	5* (Style, Interest, Aptitude, Personality, Emotional Intelligence)	4 (Personality, Aptitude, Interest, Motivators)	3 (Personality, Aptitude, Interest)	3 (Personality, Aptitude, Interest)	Uses the Assessment Offered by Career Guide		4 (Interest, Abilities, Workstyle & Personality, Work Values)	2 (Strength, Interest)	4 (Interest, Aptitude, Personality, Academic Scores)	3 (Personality, Aptitude, Interest)	4 (Personality, Aptitude, Interest, Strength)	3 (Personality, Aptitude, Interest)	2 (Intelligence, Interest)	4 (Aptitude, Personality, Interest, Study Habits)	2 (Multiple Intelligences, Aptitude)		
	Career Assessment Designed for India	●	●	●	●			●	●	●	●	●	●	●	●	●	●	●
	Number of Aptitudes Evaluated	10*	5	7	5			9	5	10	NA	7	7	10	6	6		
	Aptitude and Interest Mismatch Alert	●	●	●	●			●	●	●	●	●	●	●	●	●	●	●
	Number of Elements Assessed	56*	29	35	16			50+	NA	NA	NA	32	NA	19	37	14		
 <b>Report</b>	Industry Recognition	NCDIA, APCDA, Dept. of Science & Technology, Govt. of India	●	●	●			●	●	●	●	●	●	●	●	●		
		Exhaustive Assessment Report	● 34 Pages*	● 12 Pages	● 27 Pages	● 18 Pages	● 14 Pages	● 14 Pages	● 20 Pages	● 20 Pages	● 9 Pages	● 10 Pages	● 32 Pages	●				
		Number of Best-Fit Careers Suggested	5	3	3	4	3	2	3	3	3	NA	3	5	3	NA		
		Personalized Developmental Plans in the Report for Personality Improvement, Self Awareness, and Aptitude Building	●	●	●	●	●	●	NA	●	●	●	●	●	●	●		
		Customized Details About Suggested Matches in the Report (Courses, Technical Opportunities, etc.)	●	●	●	●	●	●	NA	●	●	●	●	●	●	●		
		Comparison of Dimensions in the Report, for Better Understanding of Suggested Careers	● (5-0 Comparisons)	●	●	● (3-0 Comparisons)	●	●	NA	●	●	●	●	●	●	●		
 <b>Tech-Enabled Counselling Activities</b>	Instant Generation of Career Matches, Based on Online Assessment	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
		Automated Work-Style Mapping using Expert-Defined Job-Description Statements	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
		Automated Expert Counsellor Questions Mapped to Student's Career Matches	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
		Automated Mentor Mapping for Exploring Student's Key Interest in Career	●	●	●	●	●	●	●	NA	NA	●	●	●	●	●		
		Automated Mapping of Student's Personal Achievements & Preferences to Create an In-Depth Analysis Report for Career Experts	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
		Free Orientation & Report Understanding Session	● (Two 15-Min Sessions)	● (One 10-Min Session)	● (One 15-Min Session)	● (One 10-Min Session)	NA	● (One 10-Min Session)	●	●	●	●	●	●	NA	●		
 <b>Counselling Process</b>	Availability of Domain Experts for Detailed Insights into Careers	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
		Extensive Email Support	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
		Action-Oriented Developmental Planning for Identifying Courses, Colleges, and Choosing a Backup Career	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
		Institute Shortlisting	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
		Number Of Sessions	Unlimited**	Unlimited	1	Up to 12	NA	1	3	1	Unlimited	1-3	1	NA	2	NA		
	 <b>Long-Term Programs</b>		Dedicated Coach	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
		Course Connection & Goal Tracking	●	●	●	●	●	●	NA	●	●	●	●	●	●	●		
		Extensive Handholding	●	●	●	●	●	●	●	NA	●	●	●	●	●	●		
		Overseas Coach Program	●	●	●	●	●	●	●	●	NA	NA	●	●	●	●		
 <b>Knowledge Repository</b>		Career Library for Exhaustive Information on Careers	● 150+ Options	●	●	●	●	●	●	●	●	●	●	●	●	●		
		Well-Researched Blog on Career Guidance	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
		Career Awareness Newsletter	● Weekly	●	NA	NA	●	●	NA	NA	●	●	NA	●	●	●		
		Regular Career Updates (Exam Dates, Entrance Exams)	●	●	●	●	NA	●	●	●	NA	●	●	●	●	●		
 <b>Value-Added Services</b>		Resume and Cover Letter Review & Writing	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
		Statement of Purpose Review & Writing	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
		Letters of Recommendation Review & Writing	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
		Application Essays Review & Writing	●	●	●	●	●	●	●	●	●	●	●	●	●	●		

The above comparison is created by counselling platform Mindler.com and it seems to excel








in all the parameters which could be a good marketing strategy for the website











PARAMETER	FEATURES	 MINDLER	CareerGuide.com	mapmytalent.in		
<b>Career Assessment</b> 	Number of Dimensions Evaluated	5* (Style, Interest, Aptitude, Personality, Emotional Intelligence)	4 (Personality, Aptitude, Interest, Motivators)	3 (Personality, Aptitude, Interest)	3 (Personality, Aptitude, Interest)	Uses the Assessment Offered by Career Guide
	Career Assessment Designed for India	●	●	●	●	
	Number of Aptitudes Evaluated	10*	5	7	5	
	Aptitude and Interest Mismatch Alert	●	●	●	●	
	Number of Elements Assessed	56*	29	35	16	
	Industry Recognition	NCDA, APCDA, Dept. of Science & Technology, Govt. of India	●	●	●	
<b>Report</b> 	Exhaustive Assessment Report	● 34 Pages*	● 12 Pages	● 27 Pages	● 18 Pages	● 14 Pages
	Number of Best-Fit Careers Suggested	5	3	3	4	3
	Personalized Developmental Plans in the Report for Personality Improvement, Self Awareness, and Aptitude Building	●	●	●	●	●
	Customized Details About Suggested Matches in the Report (Courses, Professional Opportunities, etc.)	●	●	●	●	●
	Comparison of Dimensions in the Report, for Better Understanding of Suggested Careers	● (5-D Comparison)	●	●	● (3-D Comparison)	●

Taking a closer look at some of the comparisons

Career Guidance for students from 2 and 3 tier cities





PARAMETER	FEATURES	 MINDLER	 CareerGuide.com	 mapmytalent.in	 iDC	 Univariety
<b>Tech-Empowered Counselling Activities</b> 	Instant Generation of Career Matches, Based on Online Assessment	●	●	●	●	●
	Automated Work-Style Mapping using Expert-Defined Job Description Statements	●	●	●	●	●
	Automated Expert Counsellor Questions Mapped to Student's Career Matches	●	●	●	●	●
	Automated Motivator Mapping for Exploring Student's Key Drivers in Career	●	●	●	●	●
	Automated Mapping of Student's Personal Achievements & Preferences to Create an In-depth Analytics Report for Career Experts	●	●	●	●	●
<b>Counselling Process</b> 	Free Orientation & Report Understanding Session	● (Two 15-Min Sessions)	● (One 10-Min Session)	● (One 15-Min Session)	● (One 15-Min Session)	NA
	Availability of Domain Experts for Detailed Insights into Careers	●	●	●	●	●
	Extensive Email Support	●	●	●	●	●
	Action-Oriented Developmental Planning for Identifying Courses, Colleges, and Charting Strategy Path for a Primary and a Back-Up Career	●	●	●	●	●
	Institute Shortlisting	●	●	●	●	●
	Number Of Sessions	Unlimited**	Unlimited	1	Up to 12	NA

PARAMETER	FEATURES	 MINDLER	CareerGuide.com	mapmytalent.in		
<b>Long-Term Programs</b> 	Dedicated Coach	●	●	●	●	●
	Course Correction & Goal Tracking	●	●	●	●	●
	Extensive Hand-holding	●	●	●	●	●
	Overseas Coach Program	●	●	●	●	●
<b>Knowledge Repository</b> 	Career Library for Exhaustive Information on Careers	● 150+ Options	●	●	●	●
	Well-Researched Blog on Career Guidance	●	●	●	●	●
	Career-Awareness Newsletter	● Weekly	●	NA	NA	●
	Regular Career Updates (Exam Dates, Entrance Exams)	●	●	●	●	NA
<b>Value-Added Services</b> 	Resume and Cover Letter Review & Writing	●	●	●	●	●
	Statement of Purpose Review & Writing	●	●	●	●	●
	Letters of Recommendation Review & Writing	●	●	●	●	●
	Application Essays Review & Writing	●	●	●	●	●
	Executive Coaching Programs	●	●	●	●	●
	Overseas College Profiling	●	●	●	●	●
	Profile Building Services	●	●	●	●	●

PARAMETER	FEATURES	 MINDLER	CareerGuide.com	mapmytalent.in		
<b>Team</b> 	Educational Background	Harvard University, ISB Hyderabad, IIT Kharagpur, Delhi University and Country's Leading Psychologists	BITS Pilani, Rajiv Gandhi Technical University Bhopal, School of Management Sciences Lucknow, Shaheed Bhagat Singh College Delhi	IIM Lucknow, IIT, Delhi University, NCERT, JNU	IIT, Indian Airforce, IBS, Psychologists	IIM Lucknow, INSEAD, NMIMS
	Professional Background	Career Counselling, Psychometrics, Skill Development, Artificial Intelligence, Education Strategy, Business Consulting	HR Consulting, Engineering, Psychology	Career Counselling, Education, Marketing, Management, Finance	Management, Career Counselling, Psychology, Indian Airforce, Education	Finance, Consulting

However it was seen that this platform didnot encourage direct interactions with professionals or mentors. Neither students would be able to

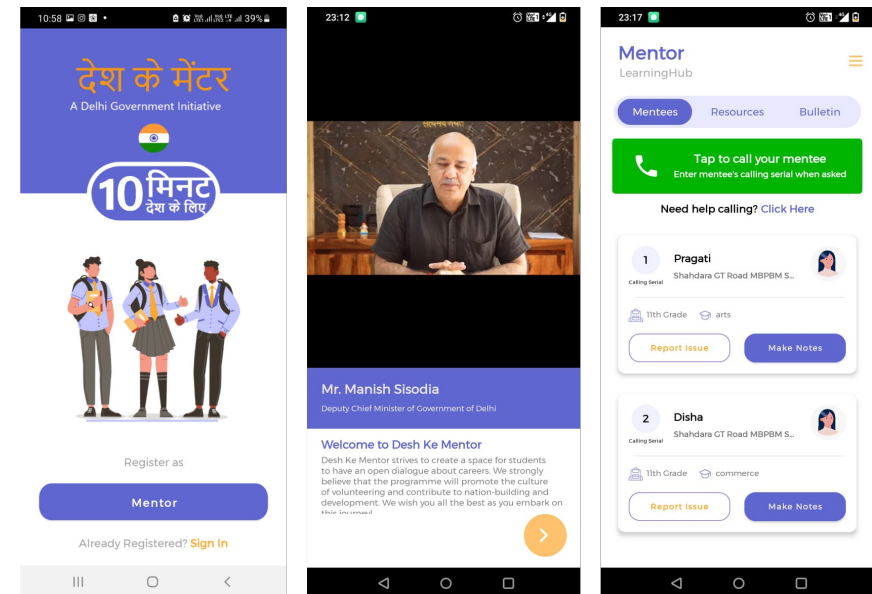
understand the details of an industry through first hand experiences or testimonials by experts.

	Library of career options	Discussion with Counsellor	Explaining Career Paths	Talking to student or professional	Experiences and testimonials	Guidance videos	Subscription /paid
	●	●	●	●	●	●	●
mapmytalent.in	●	●	●	●	●	●	●
CareerGuide.com	●	●	●	●	●	●	●
 MINDLER	●	●	●	●	●	●	●
 CareerFitter <small>Helping Millions Find Their Purpose Since 1998</small>	●	●	●	●	●	●	●
 UrbanPro <small>Discover &amp; Learn Online</small>	●	●	●	●	●	●	●
career <span style="font-size: small;">futura</span> .in	●	●	●	●	●	●	●

## 6. Desh ke Mentor.

Desh Ke Mentor is a programme started by the Government of Delhi with the main objective of connecting voluntary mentors with students of classes IX to XII of Delhi Government schools and nurturing them in education and career guidance. The mentors from various professional and academic backgrounds will be assigned a set of students to be trained in 2 to 6 months based on their gender and personal interests. Mentors are required to allot a weekly time of 10 minutes to train the students.

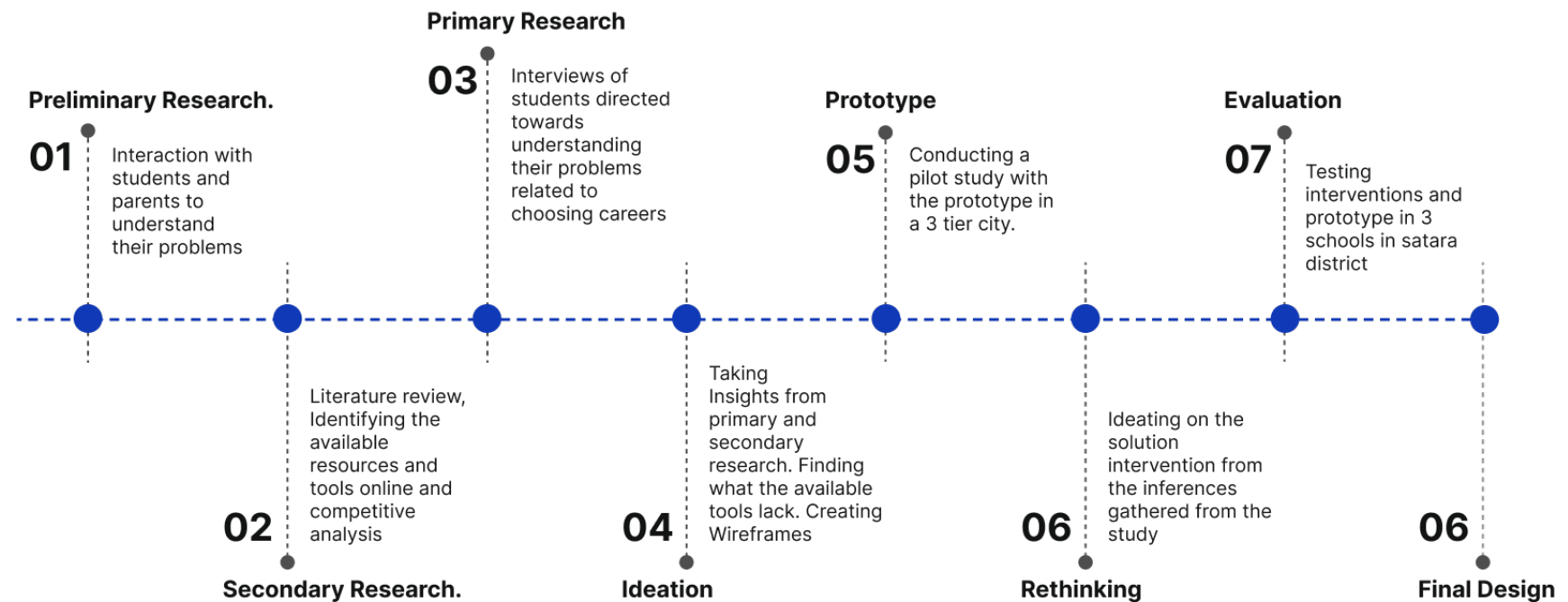
Finding out about Desh ke Mentor was a breakthrough for my project because it had the same core idea of connecting students to mentors who were willing to volunteer for free. The next steps were the analyse how the system worked. I conducted interviews with 2 mentors who were a part of the program. Heuristic evaluation was done as well as usability issues of the application were monitored. These problems became the benchmark for the next steps



## 7. Design Process.

After the Secondary research Primary research was conducted. However the overall process in retrospect was iterative. Throughout the tenure of 4 months many

intermediate interactions with students were carried out and each one yielded new inferences. An overview is as shown below



## 8. Primary Research.

Primary research was carried out in the city of Tezpur in Assam. Tezpur is a 3 tier city located on the banks of the river Brahmaputra. Tezpur being the connecting link to few other north eastern states is an educational as well as a cultural hub.

15 students between class 8th to 12th were interviewed including 5 teachers of Govt schools and parents of the above mentioned age group.

Some of the questions asked to the students were as below.

1. What class are you studying in?
2. What is the occupation of your parents?
3. What are your subjects of interest?
4. What are your career goals?
5. Do you use a computer at home for study?
6. Do you have a mobile phone?
7. What type of apps or websites do you refer to for study?

8. Where do you look for information related to career doubts?
9. Does your family support your career ideas?
10. Do you have any mentor in the family whom you consult for career advice?

Some of the questions asked to the parents were as below.

1. What is your occupation?
2. Have you decided any career for your child?
3. Were there any hardships during his/her education?
4. Have you taken any education loan for your child's education?
5. Does your child talk to you regarding his/her career?
6. Is there anyone in your family who mentors your child?
7. What in your opinion are the problems faced by your child in choosing his/her career?
8. Do you know about career counseling?
9. Do you have any expectations from your children?
10. What is your idea of a good career?



## 8.1 Initial findings from research.

1. Lack of self awareness and understanding of personal strengths and weaknesses
2. Lack of mentorship leads to misunderstanding of different professions
3. Unable to find a link in current studies and professions of choice
4. Lack of resources and facilities required to achieve goals
5. Considering only personal interest as a factor while choosing a career
6. Lack of financial education within the context of professional growth
7. Gap in information found online related to careers.
8. Limited understanding of cost implications wrt specific professions and value attained.

9. A lot of ambiguity in what to study with respect to career choices

## 8.2 Empathy mapping.

Empathy mapping helped in understanding the point of view of the students

### What they see

- \_Jobs depicted in popular media which are far from reality
- \_Many friends are preparing for government jobs.
- \_Friends and family having no idea of career choices
- \_Medical and Engineering always mentioned as the best
- \_IITs and IIMs as the best options to study from

### What they hear

- \_Students from IITs and IIMs getting the best packages
- \_Govt jobs are the best in terms of security

\_Need to get into an NIT or IIT or else good education won't be affordable  
 \_Private companies offer great salaries  
 \_If they don't get a job life will be wasted

What they think and feel

\_I wish I could discuss with someone from the industry  
 \_I wonder what the options are in terms of colleges.  
 \_I want to know about a regular day in life of a person in this field  
 \_What alternate career options do I have depending on my skills  
 \_Will my parents accept my decision  
 \_I wonder how much money will be needed for this course

## 8.3 User Journey.

Worst case scenario: There are several repercussions in choosing a wrong career and sometimes it leads to a lifetime of problems. The following figure tries to summarise a worst case scenario if a wrong career is chosen



## 8.4 Identifying core issues

The different problems that students face were laid out from the research and an affinity being worked out of the different problems identified.

## Problems Identified

Lack of infrastructure in schools	Lack of proper guidance	Lack of mentors in family
Decisions based on popular opinion	Limited exposure about different career options	Have to focus on other aspects of daily life apart from career
Loads of information online. Dont know which path to take	Confused by marketing of different colleges	Unable to assess personality and skills
Unrealistic ideas about different careers	Struggling in certain subjects but still forced to take them	Influenced by popular media about careers
Influenced by advertisements of colleges promising job affirmations	Peer pressure of other successful students	High expectations of parents and family
No idea of what is the actual work done in various industries	Driven by only economic gains of the known industries	Lack of confidence to talk to people due to language issues

## Categories

Infrastructure			Self Assesment		
Lack of infrastructure in schools	Lack of infrastructure at home		Unable to assess personality and skills	Scared to study offbeat options	Peer pressure of other successful students
Lack of exposure			Struggling in certain subjects but still forced to take them		
Loads of information online. Dont know which path to take	Decisions based on popular opinion	Limited exposure about different career options			
Unrealistic ideas about different careers	Influenced by advertisements of colleges promising job affirmations	No idea of what is the actual work done in various industries	Guidance and Counseling		
Lack of confidence to talk to people due to language issues	Confused by marketing of different colleges	Influenced by popular media about careers	Lack of proper guidance	Lack of mentors in family	
Economic and Social					
Family doesn't have money to finance private education	High expectations of parents and family	Driven by only economic gains of the known industries			
Have to focus on other aspects of daily life apart from career					

## 9. Creating Personas

### User persona 1 :

User is tech savvy and takes references from a lot of different websites and apps  
Uses education tutorial apps like Byjus and Extramarks  
Influenced by popular media and aspires to work in the field of astronomy

#### Needs :

- Proper guidance in which decisions to make in terms of electives in school that would be relevant
- Needs suggestions on study material apart from academic books and resources.
- Needs information related to scholarships which are available related to the relevant field

#### Frustrations:

- Clueless about what work is being done in his area of interest
- Doesn't know what is the nature of work on a regular basis

- Doesnot know alternate ways of study which can lead to the same goal
- Financial issues at home and cannot afford private education

**User persona 2 :** User is not so tech savvy and does not have access to a computer. Only mobile device is available. User is unsure of what to do and wants to explore offbeat career paths.

#### Needs:

Needs to assess own personality and skills  
Needs someone to suggest alternate careers as per their skillset  
Motivation to work in particular subject which would be relevant  
Self confidence and boost to concentrate in studies

#### Frustrations

Due to economic constraints, cannot access a computer at all times.  
Unable to justify offbeat interests to parents  
No one in close circle with whom options can be discussed  
Forced to take up certain courses due to academic performance

## 10. Redefined problem statement.

Therefore the redefined problem statement that I came up was “To design a mobile application for students belonging to mid or low socio economic strata in 2nd and 3rd tier cities which helps them decide their careers, through proper guidance and mentorship, assessment of their skills and personality, information of the available resources and exposure to different industries”

### 10.1 How might we?

#### **Help students in getting proper information about different careers?**

Detailed information of education criteria, cost of education, resources available, average income, future scope

#### **Help students assess their personality and skills with respect to careers?**

Personality tests and showing careers based on skill sets and personality

#### **Provide guidance and mentorship to students in taking informed decisions?**

With the help of verified counselors who can understand students on an individual level

#### **Provide students with relevant industry information which helps them understand the nature of work?**

Discussions with mentors and professionals with different years of industry experience

## 11. The proposed solution.

The proposed solution will have the following features

**Self assessment:** Self assessment tests which helps students in discovering their own personalities and understand their skill sets

**Explore Careers:** Trending popular jobs and categories

**Counselors:** Verified counselors help choosing right careers

**Experts and Mentors:** Talking to industry professionals and getting insights

**Comparing careers:** Understand career graphs of different industries and take decisions for themselves

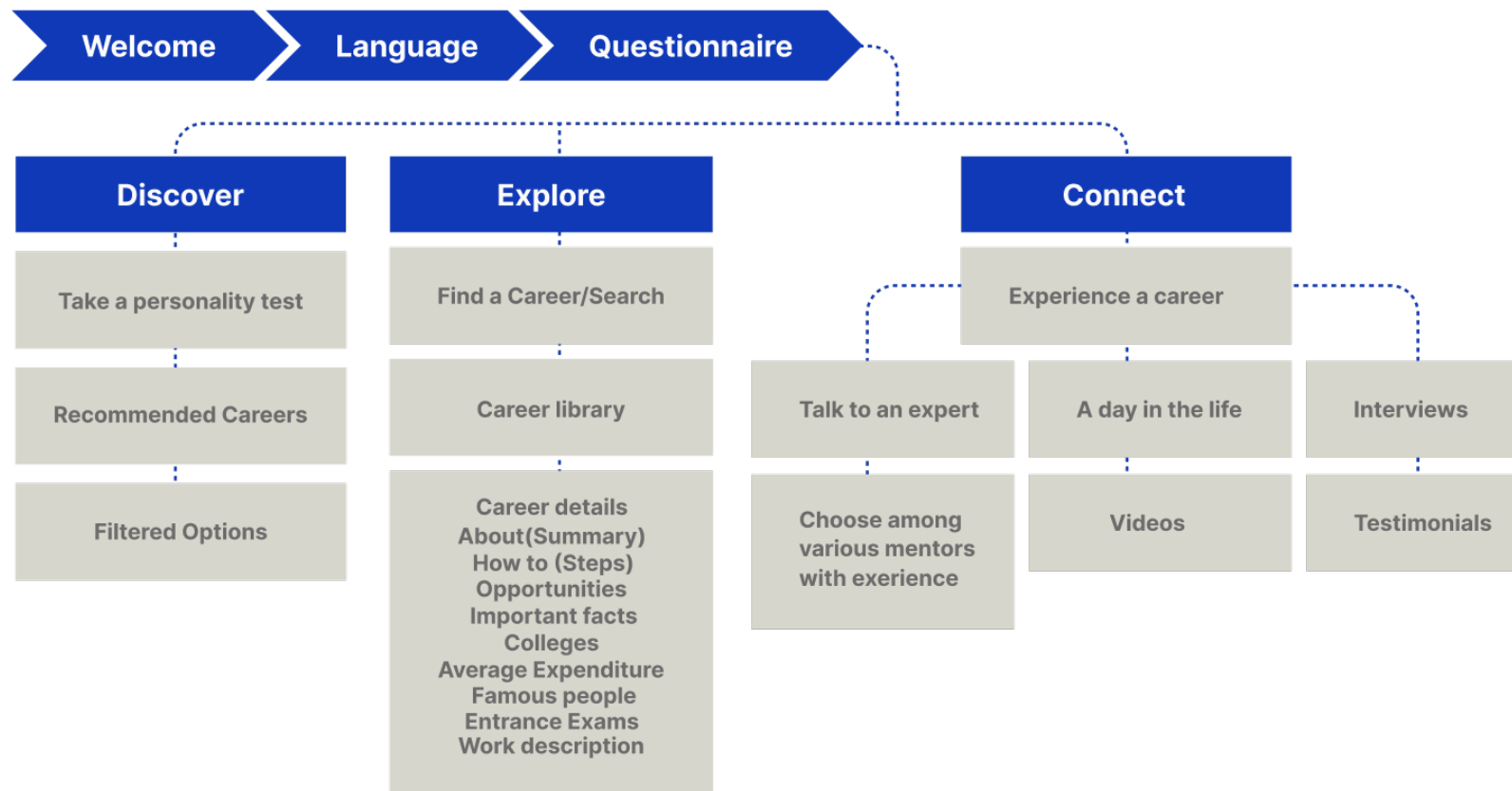
## 12. Information Architecture.

Categorizing the above mentioned features into 3 categories

**Personality assessment**

**Find a career**

**Experience a career**



## 13. Creating Wireframes



## 14. Pilot Study

The basic prototype was created after the ideation stage and a pilot study was conducted in the town of Wai in Maharashtra. This study consisted of

1. Interacting with students and asking them specific questions to understand their problems, inclinations and interests
2. Posing as a mentor to students from a 3 tier city and allowing them to ask questions.
3. Showing them the prototype and monitoring their responses.



I want to be a businessman so I will take up commerce after 10th

Friends told me that if I take up commerce then I can become a businessman

I like science but I am not good at math



I don't know what career options are there after taking up science

Most of the things I get to know by using mobile.



I haven't really thought about my career yet

I stood 3rd in my class last year.

I really like bikes and cars so maybe I will have a bikeshop where I can modify and paint them



Once I used byjus for studies. Since then they keep calling all the time. its really irritating

I don't have a mobile but I use the one dad has mostly



## 14.1 Inferences from Study

The inferences from the study generated were as below.

1. Students lack basic awareness of different careers and are not sure which to choose.
2. Students are unable to relate science, arts or commerce to existing careers.
3. Most students are unable to articulate questions to have a discussion with mentors
4. Students are unsure of their personality traits or their strengths and weaknesses.
5. Students are intimidated by the ambiguity of the different careers and would consider discussions with familiar topics or personalities.
6. Lack of exposure in immediate surroundings and lack of connections lead to uninformed decisions

## 14.2 Rethinking

From the inferences received rethinking of the prototype was necessary and therefore the following was reflected.

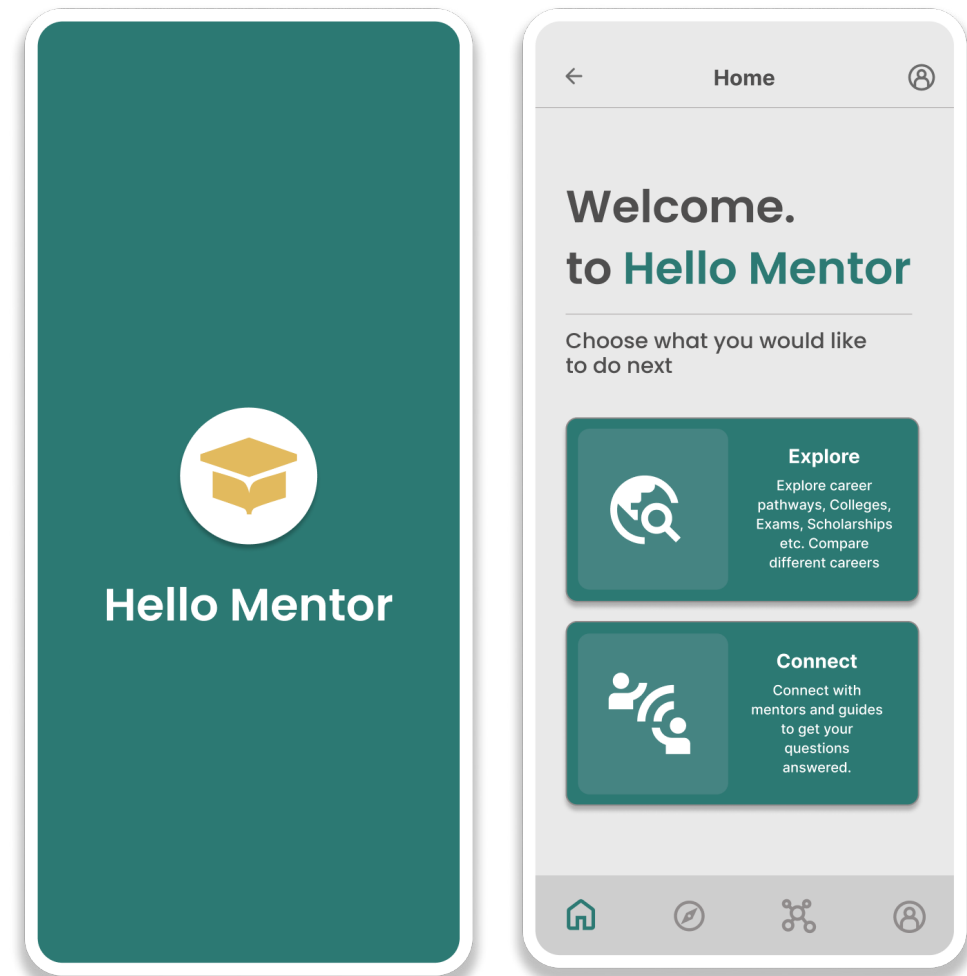
1. Removing self assessment section as students are not self aware and lack awareness to be aware of personality traits
2. Basic information about mainstream careers would be necessary before they can choose specific careers
3. Recommendations would be based on other factors and not personality.
4. Different category can be created for experiences and testimonials.
5. Students need initial guidance before they can converse and benefit from mentors. Many students are intimidated to contact mentors directly so prompts and guided questions would make their job easy

## 15. Design of the Prototype

**On boarding:** The onboarding is designed to be user-friendly and intuitive, encouraging students to engage with the app and explore the various resources and features it offers. It tries to set a positive tone and encourages students to take the first step towards their career development.

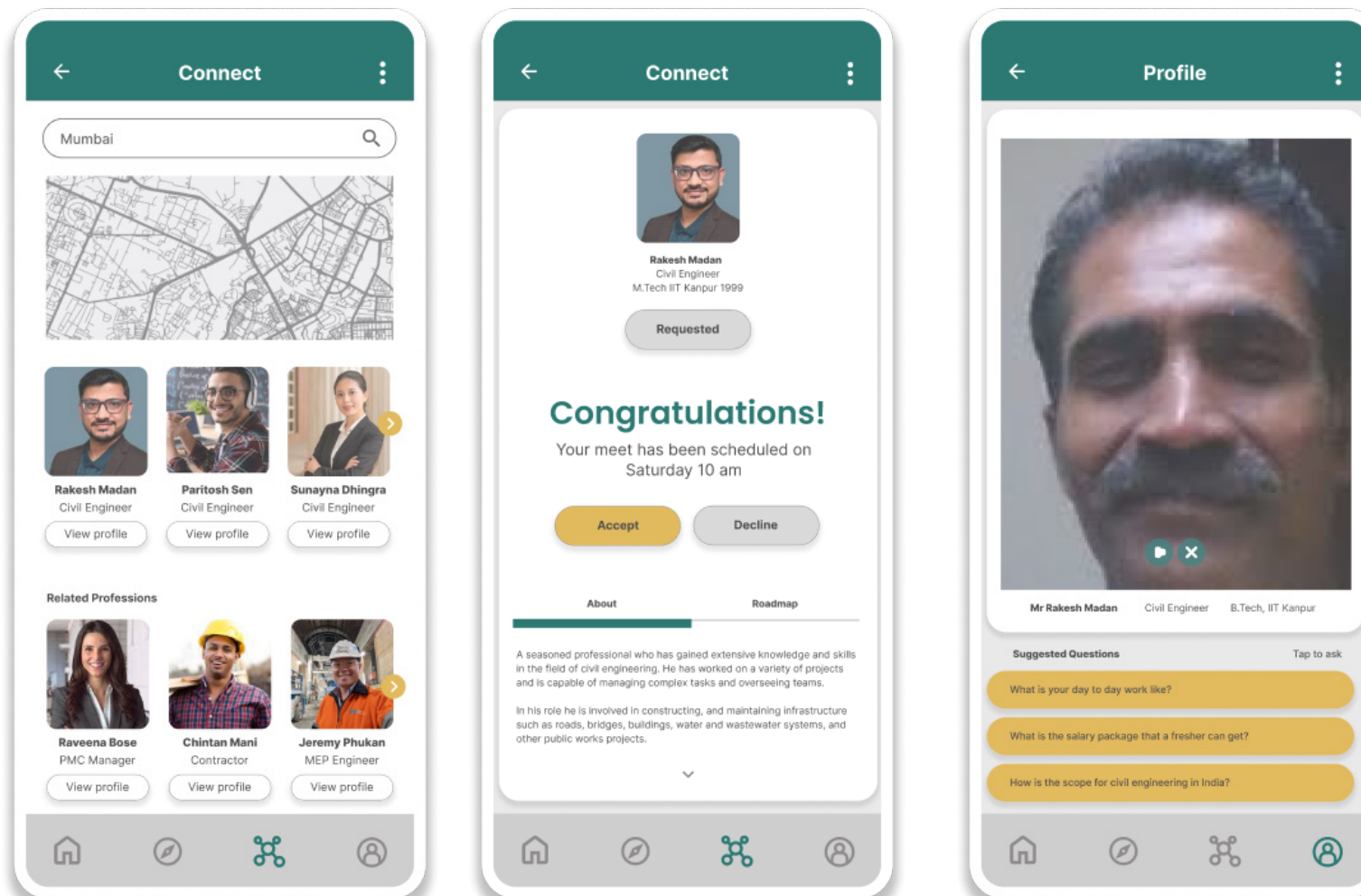
**User Registration:** Students can create a new profile by entering basic information like their name, email address, and password. Additionally, the app will ask for their educational background and current academic status to personalize the guidance and recommendations.

**Language Selection:** Considering the diverse user base from different regions, the login screen provides language selection options. Students can choose their preferred language from a drop-down menu to ensure they can navigate the app comfortably and understand the guidance materials provided.



## 15.1 Connecting with mentors

The design tries to incorporate connecting with mentors seamlessly.



The following methods will be incorporated to connect the students to mentors

**15.1.1 Location-Based Matching:**

Students can provide their location information during the registration process, allowing the app to suggest mentors who are geographically close to them. This feature can be particularly useful for students who prefer in-person meetings or mentorship opportunities within their vicinity.

**15.1.2 Interest-Based Matching:**

During the profile creation, students can specify their areas of interest or the subjects they need guidance in. The app can then match them with mentors who have expertise in those specific fields. This ensures that the mentor's knowledge aligns with the student's needs and interests.

**15.1.3 Years of Experience or Expertise:**

Mentors can provide their years of experience or areas of expertise during the registration process. The app can use this information to suggest mentors who have varied experience in the student's desired field or subject. This ensures that stu-

-dents are connected with mentors who possess relevant knowledge and skills.

**15.1.4 Matching Algorithm:**

Developing a matching algorithm that takes into account multiple factors such as location, interests, and experience/expertise. The algorithm will prioritize the best possible mentor-student matches based on these criteria. This will enhance the quality of the mentorship experience and increase the likelihood of fruitful interactions.

**15.1.5 Communication Channels:**

Providing various communication channels within the app to facilitate mentor-student interactions. This includes chat features, video calls, and even in-person meetings if feasible. Students should be able to communicate with their mentors conveniently through the app.

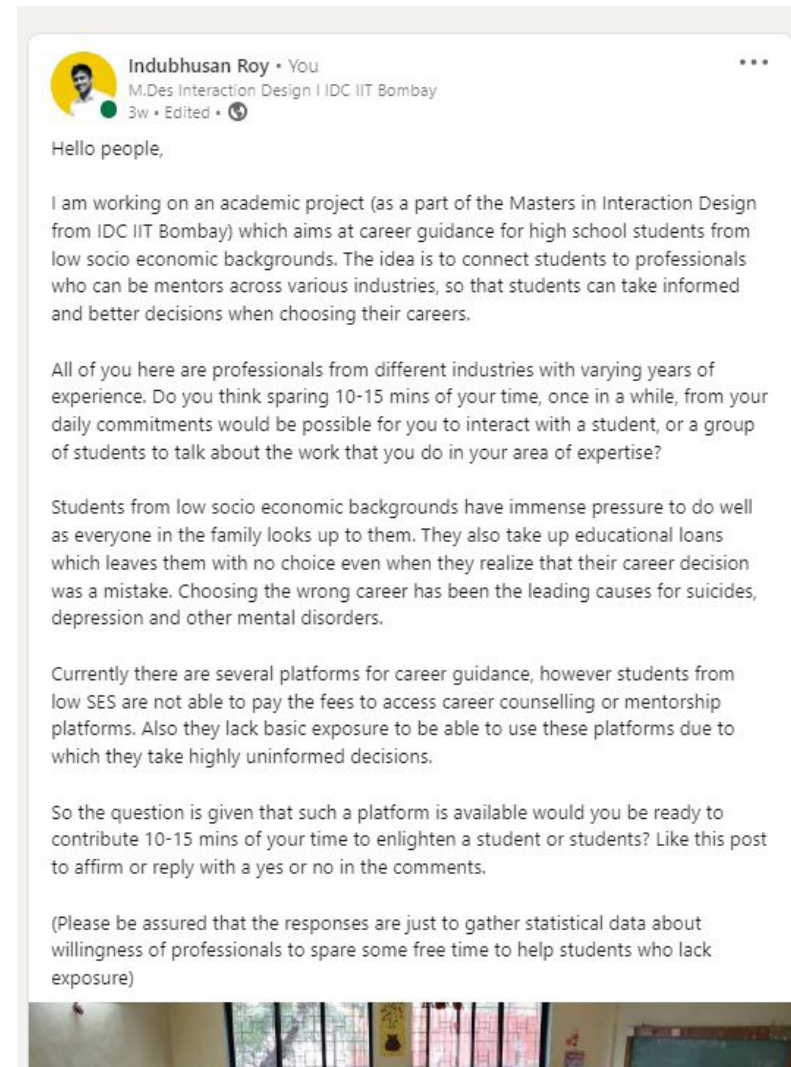
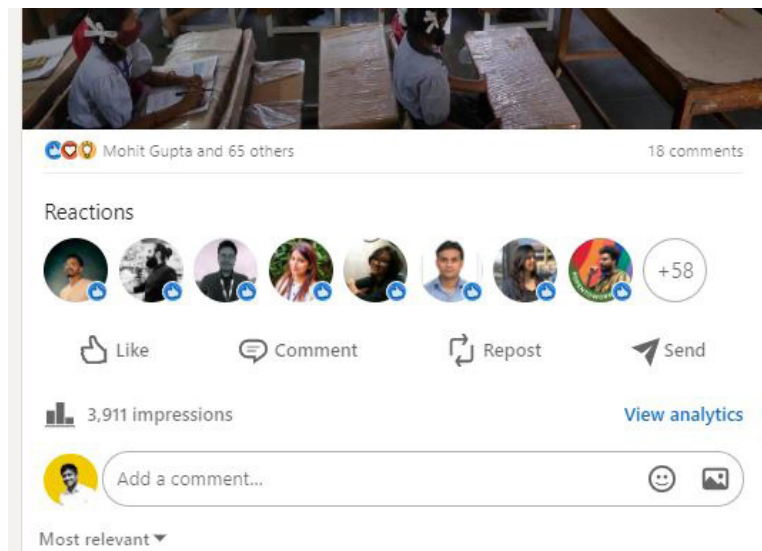
**15.1.6 Rating and Feedback:**

Implementing a rating and feedback system where students can provide feedback on their mentorship experiences. This helps to maintain the quality of mentorship and allows other students to make informed decisions when selecting mentors.

## 16. Will free mentorship be possible?

A LinkedIn post was created to test the willingness of professionals to volunteer for mentoring students in their field of expertise. The post generated 58 responses over a period of 3 days.

Therefore we could assume, given that such a platform is available there would be professionals who would be willing to volunteer for free.



## 17. Evaluating the intervention

An evaluation was conducted in the satara district of Maharashtra where students from 3 schools participated. This study was carried out in the following ways.

Students were put in groups of 10 where just after meeting them a few questions were asked as shown in the image.

After this there was an interaction session of 30 mins with students where they were introduced to 10 different careers.

Following the interaction the students were once again asked to fill the responses related to career choices.

After this interaction it was monitored if students wanted to explore any of the new career options introduced and if they would like to speak to any mentor in the related field



**Evaluation Group A**

Name: Adi Chitkara

Studying in Class: 11<sup>th</sup> CBSE

What are your hobbies/interests?  
Sports, Drawing, painting lots and lots

What is your family occupation?  
Business

What are you planning to choose/ or have chosen after the 10th std  
arts/science/commerce?  
Science

What are your career goals?  
I want to become a pilot first a domestic  
pilot and within 5 years a full fledged captain

What are some doubts that you have regarding the career of  
your choice?  
Yes steps to become a pilot is a bit  
confusing and even we are pilot how many steps  
we have to become a captain and a bit about the experience  
or and how we are recommended to become a pilot

If given a chance which professional would you speak to?  
Pilot because he/she is a very successful  
captain.

CAREER GUIDANCE FOR STUDENTS FROM 2 AND 3 TIER CITIES



School 1	New Era High School Panchghani				
	In this experiment students make choices both before and after interaction				
	Career choice related to family occupation/Not related	Single or multiple career choices	Have doubts related to the chosen careers/ No doubts about their choice	Do they want to speak to a professional in a particular field/ Dont want or not sure whom to speak to	Did the exposure to 10 different careers change their decision making?/No Change in decision
Student 1					
Student 2					
Student 3					
Student 4					
Student 5					
Student 6					
Student 7					
Student 8					
Student 9					
Student 10					
	In this experiment students make choices only after interaction				Did students choose any career which was spoken about in the interaction/ didnot choose any career related to interaction
Student 11					
Student 12					
Student 13					
Student 14					
Student 15					
Student 16					
Student 17					
Student 18					
Student 19					
Student 20					

School 2	TL Joshi High School Wai				
	In this experiment students make choices both before and after interaction				
	Career choice related to family occupation/ <b>Not related</b>	Single or <b>multiple career choices</b>	Have doubts related to the chosen careers/ <b>No doubts about their choice</b>	Do they want to speak to a professional in a particular field/ <b>Dont want or not sure whom to speak to</b>	Did the exposure to 10 different careers change their decision making?/ <b>No Change in decision</b>
Student 21					
Student 22					
Student 23					
Student 24					
Student 25					
Student 26					
Student 27					
Student 28					
Student 29					
Student 30					
	In this experiment students make choices only after interaction				Did students choose any career which was spoken about in the interaction/ <b>didnot choose any career related to interaction</b>
Student 31					
Student 32					
Student 33					
Student 34					
Student 35					
Student 36					
Student 37					
Student 38					
Student 39					
Student 40					



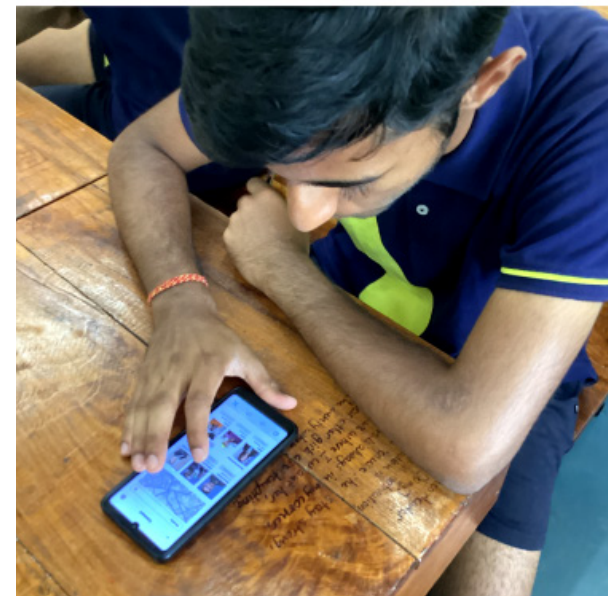
It was seen that 10 out of 50 students choose new career options after getting information about them in the interaction session and learning more about them based on their interests

School 3	Vidya Niketan School, Panchghani				
	In this experiment students make choices both before and after interaction				
	Career choice related to family occupation/Not related	Single or multiple career choices	Have doubts related to the chosen careers/ No doubts about their choice	Do they want to speak to a professional in a particular field/ Dont want or not sure whom to speak to	Did the exposure to 10 different careers change their decision making?/No Change in decision
Student 41					
Student 42					
Student 43					
Student 44					
Student 45					
Student 46					
Student 47					
Student 48					
Student 49					
Student 50					
	In this experiment students make choices only after interaction				Did students choose any career which was spoken about in the interaction/ didnt choose any career related to interaction
Student 51					
Student 52					
Student 53					
Student 54					
Student 55					
Student 56					
Student 57					
Student 58					
Student 59					
Student 60					

## 18. Evaluating the Prototype

5 Students were given the following tasks and the success was monitored. The tasks are as below

1. Browse through different careers and find out the details of a career you did not know about
2. Find a career of your choice and know about the life of a professional through video resources
3. Find a mentor you would want to talk to related to a specific career
4. Find a mentor based on your interests



		User 1	User 2	User 3	User 4	User 5
Task 1	Browse through different careers and find out the details of a career you want to know about	Was able to browse to data scientist and open the details	Was able to browse to civil engineer and open the details	Couldnot find game designer because of the limited prototype	Was able to browse and figure out how to find out how to search for commercial pilot	Couldnot find navy seal because of the limited prototype
Task 2	Find a career of your choice and know about the life of a professional through video resources	Was not sure whether to go back or find in the same page itself	Was able to find a video about civil engineering	Couldnot find game designer because of the limited prototype	Was able to find a video about commercial pilot	Couldnot find navy seal because of the limited prototype
Task 3	Find a mentor you would want to talk to related to a specific career	Was able to find a data scientist on the connect section	Was able to find a civil engineer on the connect section	Was able to navigate to connect section but couldnot find due to limited prototype	Was able to find a commercial pilot on the connect section	Was able to navigate to connect section but couldnot find due to limited prototype
Task 4	Find a mentor based on your interests	Took appx 10 secs to locate the option	Couldnot complete the given task	Was able to navigate to the find based on interests section	Couldnot complete the given task	Couldnot complete the given task

The following responses were generated and the prototype was updated based on the inferences

## 19. Limitations.

Though the intervention may be very beneficial for students there are some limitations that may need to be considered:

**19.1. Limited access to technology:** While smartphones and internet connectivity have become more widespread, there may still be students in 2 and 3 tier cities who have limited access to smartphones or reliable internet connections. This can hinder their ability to use the app effectively.

**19.2 Lack of awareness and digital literacy:** Students in 2 and 3 tier cities might not be as aware of the latest technological advancements or the availability of career guidance apps. Moreover, they may have limited experience and knowledge about using mobile apps and navigating digital platforms. Providing user-friendly interfaces and conducting awareness campaigns can help overcome this limitation.

**19.3 Regional career variations:** Different regions have unique career demands and preferences. The design may need to account for the specific career opportunities and requirements within 2 and 3 tier cities, offering tailored guidance and mentorship options accordingly.

**19.4 Socio-economic factors:** Students in 2 and 3 tier cities may face socio-economic challenges, such as limited financial resources, lack of exposure to diverse career options, or limited educational opportunities.

**19.5 Connectivity issues:** While internet connectivity has improved in many parts of the country, there may still be instances of intermittent or unreliable connectivity in 2 and 3 tier cities. This can impact the usability and effectiveness of the app, especially for features that require constant internet access.

## 20. Conclusion.

**19.6 Trust and credibility:** Establishing trust and credibility for the application within the target user base can be crucial. Students and parents may have concerns about the reliability and accuracy of the information provided, the qualifications and experience of mentors, and the overall security and privacy of the app. Addressing these concerns and ensuring transparency can help overcome this limitation.

**19.7 Personalized guidance:** Each student has unique aspirations, strengths, and weaknesses. Providing personalized guidance and mentorship can be challenging through an application, as it may rely on general information and resources.

Despite these limitations, career guidance and finding mentors can still make a significant positive impact on students in 2 and 3 tier cities by providing them with access to valuable resources, expert advice, and opportunities they may not have otherwise encountered.

In conclusion, one of the key strengths of the design is its focus on the specific needs and realities of students in 2 and 3 tier cities. It acknowledges the unique challenges they face, such as limited exposure to career options, limited access to resources, and a lack of guidance. The application addresses these challenges by providing tailored content that resonates with the local context and ensures relevance and effectiveness.

By providing career guidance and mentorship opportunities, the application has the potential to positively impact the lives of students in 2 and 3 tier cities. It can help bridge the gap between urban and rural areas, empowering students to pursue their desired careers and contribute to the overall development of their communities.

## 21. My reflections.

I find great satisfaction in completing this project especially due to the potential to empower students by providing them with the necessary tools to explore various career paths and make informed decisions about their future. Looking back here are some of my reflections

During the design process, I became acutely aware of the significant information gap that exists for students in these cities. This realization highlighted the importance of providing comprehensive and up-to-date information about careers, educational institutions, scholarships, vocational training, and other resources. By bridging this information gap, the design can assist students in navigating the complexities of career choices.

Reflecting on the potential impact of the design, I recognized its wide-reaching possibilities.

By supporting and guiding students, the intervention can positively influence not only their lives but also their families and communities.

Overall, the project has deepened my understanding and provided deep insight into the lives students belonging to middle or low socioeconomic groups and also made me aware of the impact the design make in their lives. It has inspired me to continue working towards creating equal opportunities for education and career development.

Link to working prototype

<https://www.figma.com/proto/OZ5yUALRy1PqtdEZguN9yf/PROJ-ECT-3?type=design&node-id=507-638&scaling=min-zoom&page-id=507%3A597&starting-point-node-id=507%3A638>



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