DAYANANDA SAGAR COLLEGE OF ENGINEERING
COMPUTER SCIENCE & ENGINEERING

Minor Project- Report
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TITLE OF THE PROJECT	Virtual Campus Navigation (NavigatR™)			
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USN	1DS19CS197	1DS19EI013 (COB)	1DS19EI038 (COB)	
INDIVIDUAL CONTRIBUTION	CONTENT PLAN DEVELOPMENT DEBUGGING	CODE STRUCTURE TESTER OVERSEEING FUTURE DEVELOPMENT	UI /UX DESIGN DEVELOPMENT VISION	
GUIDE	SHRAVYA A R			
PROJECT ABSTRACT :	Dayananda Sagar Institutions is a huge campus area and has various departments like engineering, architecture and many other buildings, and other sections like admission block, library etc.There are many circumstances which cause inconvenience in finding out a particular department or a place especially for the visitors in this particularly humongous campus. In order to overcome this difficulty a project titled "Virtual Campus Navigation" is being developed, which is an application that helps the visitors to reach a particular place on campus at their convenience and is developed using Java Swing in Eclipse. It helps the visitors as well as parents and students at the times of College Fests and Admission Processes to easily navigate the location of their interest across the campus in order to save their time, tackle confusion and reach the specific location with ease. It can be easily accessed by anyone and is user-friendly too. This application provides functions such as finding the desired location in campus with the help of overview of campus map provided initially and helps in navigating using redirection feature between the images(that is, directing to next image or the previous one), route direction to a particular place in campus and also redirects back			

to the entrance of campus. For obvious reasons in order to block spammers and bots, a Captcha feature is being used.
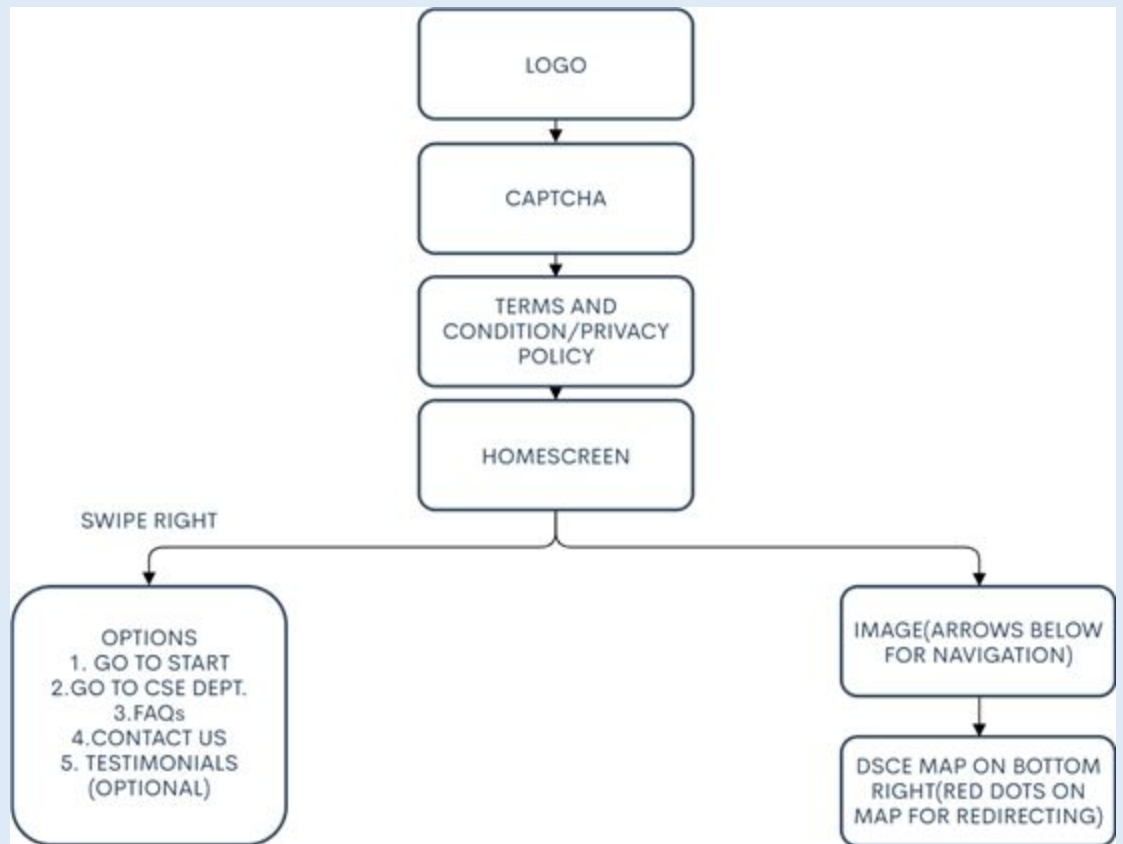
PLATFORM USED (H/W & S/W TOOLS TO BE USED	ECLIPSE IDE, JAVA SWING GUI AND WINDOW BUILDER
	FOR DESIGN PURPOSES: ADOBE PHOTOSHOP AND ADOBE ILLUSTRATOR

INTRODUCTION	In the past few years we have seen an exciting race for miniaturization of computing devices. Tasks that were once performed by instruments that took up large space and were not portable can now be accomplished on a device that fits into a human hand. A handheld device is a small computing device which has a display screen with touch input or a keyboard. These can also have Wi-Fi, Bluetooth and Navigation facilities.There are many navigation applications available these days such as Yahoo Maps, Google Maps etc. that provide its users with directions from one location to another. However, these applications are not able to provide routes that are precise as on-campus paths would require. This application "Virtual Campus Navigation" would help in tackling such an instance. Our app is more like a virtual walk around. Campus Visitors can quickly arrive at a specific location when in some confusion with complete ease. A campus is a complex infrastructure. Especially new students and people who are there for the very first time for admission purposes or for competitions held in various departments of the college campus find it difficult to orientate themselves and find various places within our campus. Even if there are maps at a few points on the campus, users do not have continuous guidance to get their desired destination. They can try to find out a way to get to their destination using these various static maps, but as they start to walk in the target direction they have no help. Systems for pedestrian navigation are quite hard to find. Therefore to help freshmen and other inexperienced people orientate themselves to a particular place on campus and to find different places on the DSI Campus this application is being designed. In this project, a navigation system using image redirection feature for DSI campus is developed. The campus is spread over 28 acres of land. The campus has many buildings and blocks. Many departments are integrated in a single block. Few of the blocks are even provided by walkways. This application enables users to obtain routes to the various blocks of the campus that are much more detailed than an existing commercial application can provide.

DESIGN

STEPS OF CREATION:

STEP 1- Ideology:
This deals with the different possible approaches on how to create an intuitive application design by using Adobe Photoshop and Adobe Illustrator starting from the Logo to all possible features of this application to support a person on campus to navigate in different situations.

STEP 2- Design Prototype:
As described, there are some main goals for this application prototype. The first goal is to provide the user with an on campus navigation system that helps him/her to get from his/her current position to a designated building within campus. Also these prototypes act as a model for the graphical user interface(GUI) of the application and they include the Home Screen, Options Screen, etc.

STEP 3- GUI AND User Interface creation:
Basically the UI design focuses on anticipating what users might need to do and ensuring that the interface has elements that are easy to access, understand and use to facilitate those actions. It also creates fewer problems, increases user involvement and perfects functionality.

STEP 4- Final Design:
Simulating the final design of an application in order to ensure that the development is progressing as expected is important and plays a major role in any project. For this application the final design includes a home screen, options screen, FAQ's page, About Us and also Get in Touch page created.
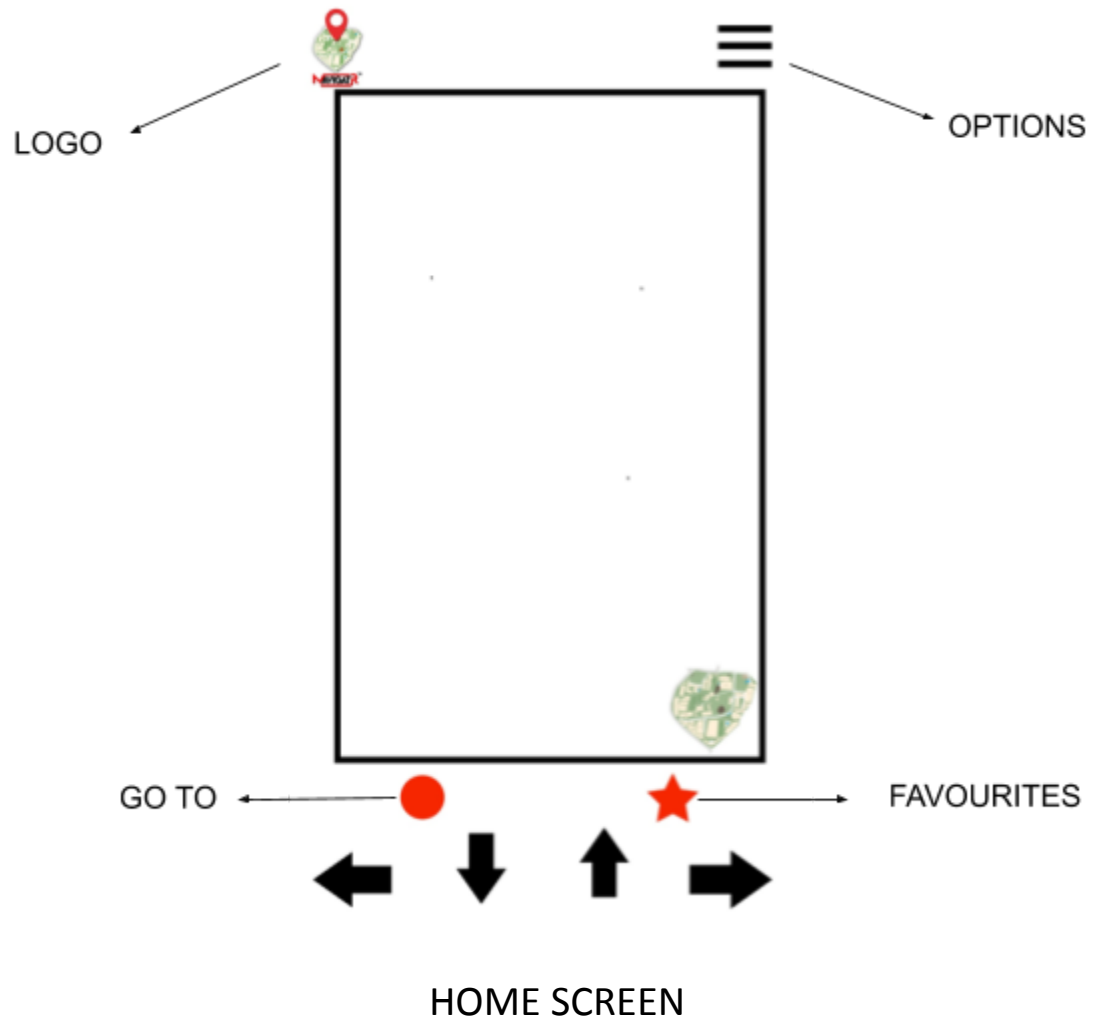
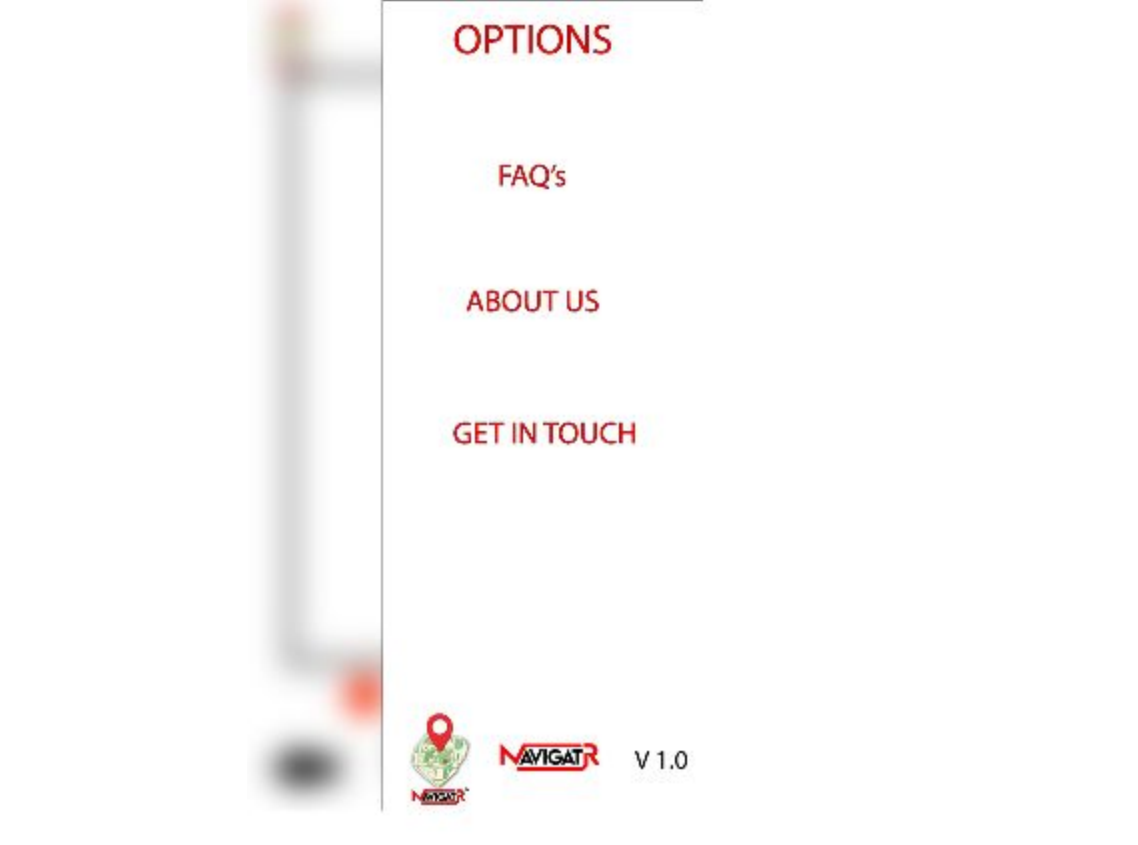**STEP 5- Working with Swing and Window Builder:**
Window Builder and Swing makes it very easy to create Java GUI applications without spending a lot of time on writing code. WindowBuilder is built as a plug-in to Eclipse and the various Eclipse-based IDEs and moreover it also supports free-form of code editing and hence this application has been built using these features at ease and our convenience.

APPLICATION LOGO

DESIGN PROTOTYPES:

LOGO

OPTIONS

GO TO

FAVOURITES

HOME SCREEN

OPTIONS

PROJECT SOURCE CODE LINK (GITHUB/ GOOGLE DRIVE)	https://github.com/theshreyasganesh/NavigatR/tree/main/NavigatR
CONCLUSION /FUTURE ENHANCEMENT	**Additional Features:** > Map Expansion- Basically the availability of the campus map itself adds benefits to the users while using the application. In order to increase the ease, map enlargement/ expansion feature is being provided to the users to avoid inconvenience and unnecessary confusions caused due to the smaller view of the map. > Redirecting From Icons on map- This feature will help in quicker and much easier redirection between the images of the buildings on campus.

> Adding Favourite Locations- This feature enables the users to add their favourite locations on campus and helps in finding them soon. This option is easily available on home screen itself.

Future Enhancements:
As of now this application can be only used if Java Development Kit (JDK) is present in the respective device. Besides eliminating this limitation, a new feature could be implemented to this application in future it would be possible to create this application as an Android-based application which can be exported as a .apk file and can be used on all android devices.

Conclusion:
This project is basically developed for navigating the huge DSI campus at one's convenience without any confusions. This is a virtual walk-over of DSI Campus. The usage of this application is quite simple with understandable,easily accessible features which one can rely on to explore the campus. It includes Captcha feature, by entering the right captcha and accepting the Terms and Conditions user can gain access to this application. This application has FAQ's option provided with clarification of basic queries which users can have. Also it includes basic info. in the About Us option. Users can also contact us by referring to our concerned Mail ID or Contact number given in the Get In Touch option. This application also includes image redirection feature to get back to previous or move to next image from the current image with ease. It also includes Favourites option using which users can add their favourite locations on campus to navigate quickly.

The main objective of this application is to help out the users to explore our campus at their convenience, in a much easier way possible and also to save their time from finding certain buildings in our campus.
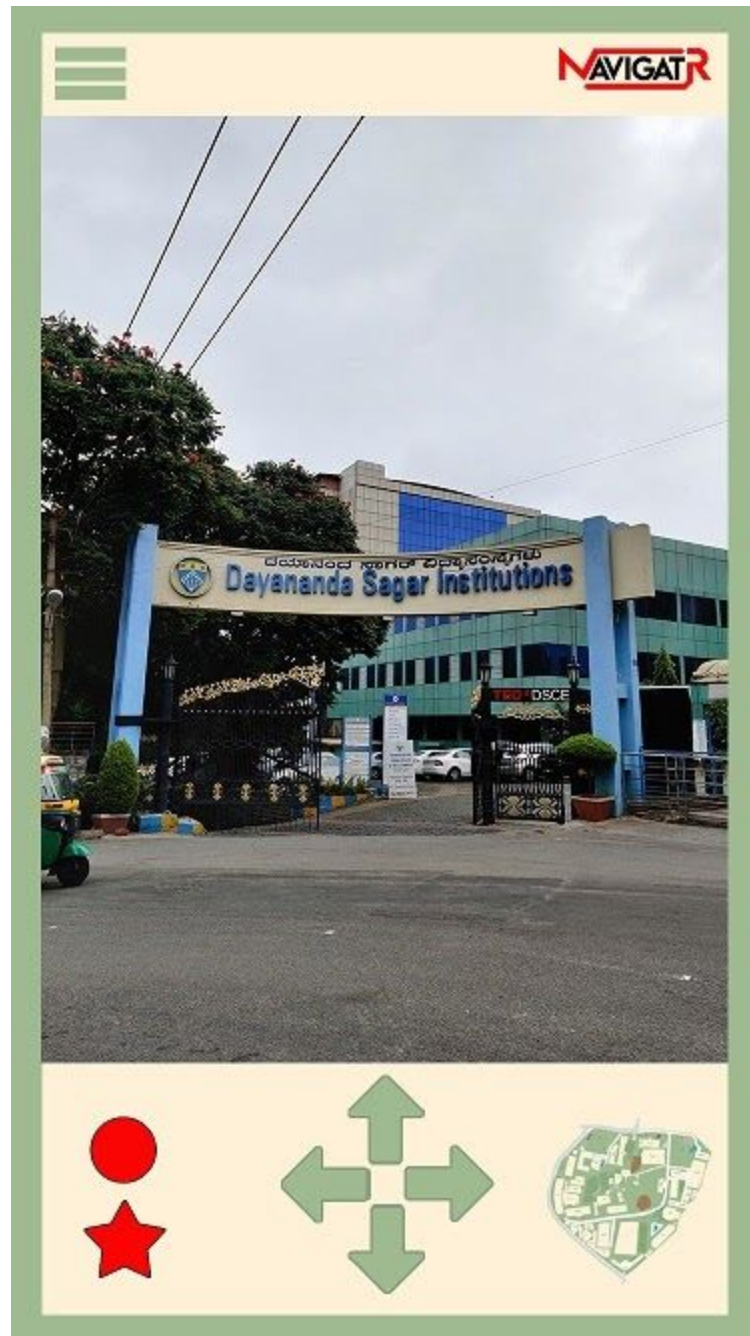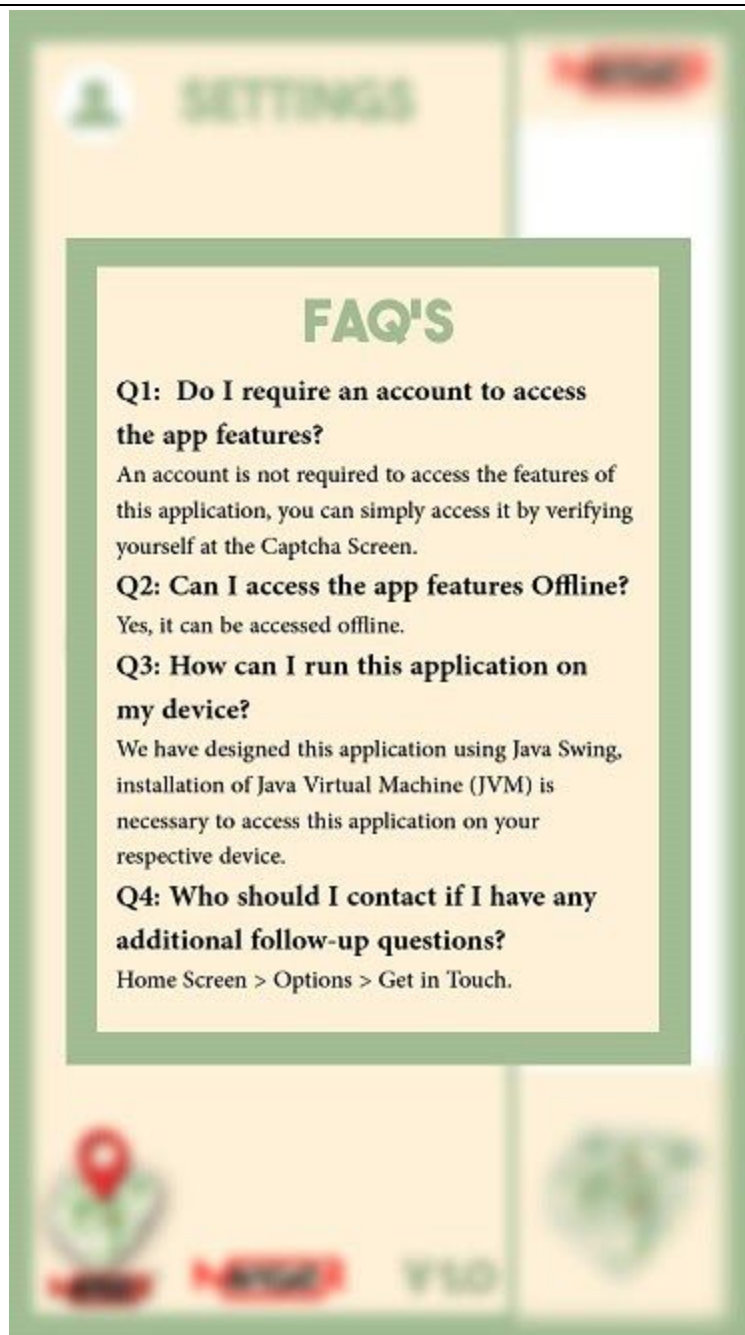
UI SCREENSHOTS	 HOME SCREEN

MAP SCREEN

SETTINGS AND OPTIONS

FAQ's

ABOUT US

GET IN TOUCH