Report On

Rise of Virtual Tour Platform for Real Estate Market

By

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An internship report submitted to the Brac Business School in partial fulfillment of the
requirements for the degree of
Masters of Business Administration

Brac Business School
Brac University
January 2020

Declaration

It is hereby declared that

1. The internship report submitted is my own original work while completing degree at Brac University.

2. The report does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.

3. The report does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.

4. I have acknowledged all main sources of help.

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Letter of Transmittal

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Subject: Submission of Internship Report on "Rise of Virtual Tour Platform for Real Estate Market"

Dear Sir,

I would like to express to you my robust thanks for your valuable supervision and support for me to prepare my internship report. With immense pleasure, I am submitting my internship report on "Rise of Virtual Tour Platform for Real Estate Market", which was assigned to me as a part of my MBA Program.

I am very much glad that you have given me the opportunity to prepare this report and I hope this report will meet the standard of your judgment.

Thank you for your support and tolerance

Sincerely yours,

_____

Sadman Ahmed Sakib

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Brac Business School

Brac University

Date: 06/01/2020

Acknowledgement

Executive Summary

Real estate market is one of largest growing market in the world due to modernization. Due to increasing advancement of technology virtual tour for rent is on the rise. InsideMaps has been doing a tremendous job in virtual tour management in the real estate market. The organization started in 2013 and ever since then it is growing. Within a very short period of time InsideMaps has become one of the well-known organizations in USA. It is an American company which has operation branches in USA, Bangladesh, Serbia and Ukraine. The operation in Bangladesh is under company named VCube. It has unlocked job opportunity for many candidates. InsideMaps employs candidates for virtual tour operation department, customer management service, product development and software development department. Quality management of virtual tour and maintaining proper sketch up for floor plan is under operation department. InsideMaps has strategically partnered with several of the largest and most successful real estate companies in the world. The company follows strict steps in the recruitment and selection of the employees. In this report the importance of virtual tour in real estate market and the entire process has been described. In Bangladesh where the real estate market is blooming would be great field for virtual tour and 3d modeling platform.

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Chapter 1

Introduction

1.1 Company Overview

InsideMaps is a Silicon Valley based company that builds fully semantic 3D models of homes from photos, for customers in the Real Estate industry and beyond.Insidemaps.com lets smartphone users easily create a 3D tour, 3D model and floor plan of their home. InsideMaps disrupts all other available solutions through a simple, inexpensive APP designed for anyone to use. The 3D model that is created is an immersive, fast, web-based 3D environment with innovative tools to help potential home buyers visualize the interior of a home and for homeowners to try furniture and make home improvements in their virtual home. InsideMaps leads a world-class team of experts in computer vision and machine learning. It has patented object recognition photogrammetric technology that creates accurate and detailed 3D models from photos captured from smart phones and 360 cameras. It's recognized as one of Stanford's StartX accelerator's most successful startups. The company was founded in 2013 and is based in Red wood city, California.

InsideMaps is a Stanford StartX company that uses patented computer vision technology to allow anyone to create 3D models, floor plans, and panoramic virtual tours using affordable off-the-shelf mobile devices.

InsideMaps was founded in 2013 by George Bolanos, Jorgen Birkler. Bolanos is the founder of Wanadu, a web conferencing company that was acquired by Cisco's Latitude. He went on to a role as Director of Technology at Sony Mobile. InsideMaps' co-founder and CTO Jörgen Birkler comes from Sony Ericsson Silicon Valley where he served as Head of Applications & Services Development for the Xperia line.

The app consists of utilizing data captured by the gyroscope and magnetometer inside Smartphone to craft a model. That model is then checked against a series of visual touchstones in the images for example the heights of doorknobs, window sills, etc. While doing this, app also gathers data about the average sizes of openings like doors and more, so they can apply machine learning to improve the quality of the models down the road.

The total operator time to capture the sample project is about 25 minutes, for an example of 12 indoor and 6 outdoor scans fora total of 18 panoramas. This equates to about 1 minute 20 seconds to position the tripod and camera to a new location and perform a scan (65seconds).

In 2016, InsideMaps has started recruiting people Bangladesh under Company name VCube for back end operation, client support, customer management, quality assurance engineering department etc. Also InsideMaps has entered into Bangladesh market to create virtual tours for offices, rental spaces, café and real estate sector. Vcube is a geo-spatial startup that aims at contributing to the society by giving a Geometrical Solution of home measurement and visualization. VCube is the only company in Bangladesh who Creates & Provides Property/Space Management & Presentation Visuals, 3D tours, Modern Floor Plans, 360 Photos (Panos) , HDRs , 3D Models and Innovative Video Technology for Regional & International Real Estate Business Arena.

Potential market

The U.S. retail industry was estimated to be worth $111 billion in 2019, according to Research. In Bangladesh where the real estate market is blooming would be great field for virtual tour and 3d modeling platform. Many real estate companies are now looking for a steady and reliable platforms to showcase their marketing projects.

1.2 Mission & objective:

Mission of InsideMaps is to reach the competitive edge, make fast, easy, mobile 3D scanning service to create a CAD model of homes. Vcube is the under the wing of InsideMaps for Bangladesh team. Mission of Vcube is committed to perfect work. The main target of Vcube is to create hundreds of jobs and help shape a new generation of young confident professionals in Bangladesh. The goal of Vcube is to provide the adequate support to the mother company, provide back end operation support, client service, production management.

1.3 Industry growth with InsideMaps:

Real estate markets are moving fast globally, people now want to have the real virtual tour of the homes rather than personally visiting the places, trends of 3D modeling and virtual tours are on the rise. The latest up-and-coming technologies are:

1. Virtual Reality (VR)

2. Augmented Reality (AR)

3. Virtual Design and Construction (VDC)

4. Three Dimensional (3D) Tours for Real Estate

Figure-1

Vcube along with InsideMaps focuses on research to find out the challenging problems and implements technological solutions to quick fix. VCube turns off the dilapidated ideas of facing challenging impediments and heads towards newer possibilities with advanced communication. VCube adept at using high tech software and eager to use untested new technology in a non-traditional way to provide a hassle-free life. One of the most extensive aspects of VCube is giving importance to the facts that needs more attention than before.

The base offering is comprised of a 3D tour, photo gallery and downloadable schematic floor plan with room labels and sizes.
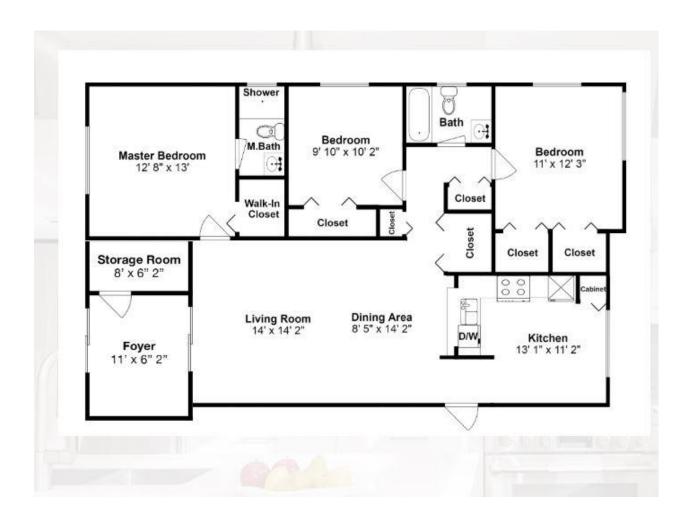

Figure-2

A 3D, CADD-ready model is also available for an additional cost and is included in the property. With features to add furniture and change colors and materials to the model.

Figure-3

The virtual tour provides side by side view of 3D tour and floor plan to provide a real-time virtual movement experience also with the possibility of changing positions.

Figure-4

InsideMaps leverages an iPhone in combination with a proprietary InsideMaps Hero rotor device that automates the precision rotation and image collection for the 360°panoramas.

(http://www.insidemaps.com)

Figure-5

InsideMaps provides tools for the operator to extract display (MLS) and print (high-res) ready images from scans within the 3D tour and include them within the Photo Gallery.

1.4 InsideMaps Post-Processing

After the data is uploaded to the cloud, InsideMaps 3D tour and schematic floor plan will be processed within 12 to 24 hours. The administrative tasks an operator to perform the following:

Floor Plan Labels

Tools are available to add or change automatically generated labels, dimensions and areas.

Photo Gallery

Operator can capture screen shots from the 3D tour and display within the Photo Gallery. Please note that images from other sources are not available to be displayed.

Modify Project Details, including address and real estate agent details.

InsideMaps 3D Tour Experience

The InsideMaps 3D tour interface is comprised of a 360°x120° scans (or panoramas) with an interactive floor plan. The floor plan displays a locator icon for the scan, which helps the visitor with a sense of context and space while navigating through the property. InsideMaps enables dynamic navigation within a 3D tour via multiple methods, including the following:

Floating Arrows and Hotspots

Clicking on a floating arrow within a scan will transport the visitor to that location. By clicking on the rings or hotspots on the floor to move to that exact location. Hovering over the arrow or ring will also highlight the associated hotspot on the floor plan.

InsideMaps Virtual Reality Experience

Every InsideMaps 3D tour comes VR ready with support for Google Cardboard.

The client needs to simply load the 3D tour into the browser mobile device, select the full-screen option and then select the VR option, which are both found in the upper-right corner of the panorama and shown below.

1.5 InsideMaps Cost

Hero Cost

Price: $189

HERO Features:

360 rotor device for iPhones

InsideMaps Variable 3D Tour Costs

InsideMaps does not charge minimum subscription fees for use of the system. The cost to process and host an InsideMaps 3D tour is based on the project size and described below. Summary of packages are listed below:

	2000 SF	3000 SF	4000 SF	4000+ SF
Basic Package • Photos • Floor Plan • 3D Tour	$49.95	$69.95	$89.95	$89.95 + $20 / 1000 SF
Pro Package • Basic Features + • 3D Model	$89.95	$129.95	$169.95	$169.95 + $40 / 1000 SF

Table-1

Chapter 2

Internship Experience

2.1 Recruitment and Selection Process:

At first circular is given in different websites, including Facebook, linkdin etc. The circular describes about a walk in interview which is held every Monday or the candidates can even send a resume. The candidates who are interested to work with Vcube are requested to attend a seminar. The seminar gives a detailed knowledge about the work and its responsibilities. After CV screening and CV shortlisting, the selected candidates are called as well as emailed about a written exam. The ones who pass the written exam are called for an interview with the assigned board members. Later on, if the candidate is selected then an email as well as a phone call is given to meet the HR and sign documents of employment. The candidate is also requested to bring few documents.

2.2 Steps involved in the recruitment and selection process:

The process of recruitment and selection begins with recruiting candidates and ends with selecting a candidate to hire. Being thorough and following each step can lead to better hires and retention rates.

Step 1: Identify Vacancy and Evaluate Need

Step 2: Plan

Step 3: Create a job description

Step 4: Post and promote job openings

Step 5: Applicant screening

Step 6: Applicant talent assessment

Step 7: Interview candidates

Step 8: Job offer

Step 9: Hiring

2.3 Responsibilities:

Project Controlling:

- To control & supervise the QA Department

- To fulfill the Client demand.

- To achieve the daily & monthly projects target at the whole department

- Taking job interview & make recommendation to management about appointments.

- Maintaining personal records of all engineers

- Giving training to all qa engineers as well as senior qa engineers

- Making QA Engineering department monthly Roster & training manual.

Project implementation Start-up

- To review all the documents from Business Development Departments to start-up project operation.

- To attend the negotiation meetings with the Clients, finalize the meeting minutes.

Project Execution

- To report monthly MM forecast to finance consulting with TL/DTL/FGMs'.

- Project Monitoring and Control

- To prepare project summary for meetings.

- To monitor project revenue, expenses.

2.4 Employee Benefits:

1. Competitive Pay

2. Festival bonus

3. Daily food service

4. Transportation service (pickup and drop off) and safety

5. Open and dynamic work environment

6. Opportunity for growth and development within the company

7. Multitude of events, social and networking opportunities

8. Opportunity to work with some of the best and brightest minds in the both nationwide and globally

9. Working in one of the fastest growing startups based in US with a global presence

Chapter 3

Findings & Limitations

3.1 Findings & Benefits:

Showcasing projects – In fairs and meetings showcasing projects with virtual tour could give a competitive edge. For example: REHAB Fair 2019, which stated that over 28,000 prospective buyers had visited and booked property worth around Tk 1,500 crore. Here a large number of customers lack the time to visit property properly where virtual tour could have been the perfect solution.

Provide Photorealistic-Quality Images – Virtual home staging service makes it simpler and helps portray real estate images attractively to prospects, and yield positive results for both sellers and buyers.

Render Realistic Housing Interiors – To find prospective buyers and ensure successful real estate deals, showcasing images of houses with furnished interiors is essential.

Display Cohesive Designs – By virtual staging, effort, time and revenue is saved because real estate property can be visualized exactly the way it has been planned.

Help buyers visualize their personal choice – Real estate sellers can simply express their need and will be able to furnish the property using custom furniture and embellishment available.

Define Accurate Sizing and Placements – Clients can transform a simple photo of an empty room into a fully furnished home for prospective customers with proper defined angles, lighting, shapes, textures, colors, proportions and placements.

Sell real estate faster – Staged homes sell faster and for higher value than vacant real estate which takes longer. Most sellers face difficulty in visualizing the potential of an empty home and now with our virtual home staging service, it is made simpler!

Portray real estate images attractively – Virtual Real Estate Services help portray real estate images attractively to prospects, and yield positive results for both sellers and buyers

Make use of the latest 3D rendering technologies – Insidemaps uses the latest 3D rendering technologies to effectively render realistic physical dimensions of a property. We have our own catalog of furniture that customers can choose from

Better Visualization – When virtual staging services are outsourced, there is not just saving on effort, time, and revenue, but the real estate property can be visualized exactly the way it has been planned

Customized services – At InsideMaps, CAD professionals can accessorize any real estate image by adding furnishings and any other elements to it, as per the client's preferences.

3.2 Limitations:

The study had found the following limitations in South Asian Market:

- Internet & VR usability

- Traditional marketing system

- Mindset of clients & buyers

- IOS operating platform

Chapter 4

Conclusion

InsideMaps have been steadily growing their service to real estate markets. To date, they have been increasing the operations to many Asian countries including China, Japan etc.

The south Asian markets are yet to be opened still alongside with Vcube the operation in Bangladesh is growing gradually.

Vcube along with InsideMaps focuses on research to find out the challenging problems and implements technological solutions to quick fix. By removing dilapidated ideas of facing challenging impediments and heading towards newer possibilities with advanced communication Vcube aim to succeed. Real estate companies in Bangladesh should aim to stay with the leading force by proving exclusive virtual views for marketing purposes. This feature provides a facilities for those looking to acquire property; being able to save time, energy and money by not having to physically visit every single property. Importantly as well, this service benefits landlords and property sellers as well. . This feature allows the visitor to take an entirely virtual walk through the property selected. This includes seeing the layout of the place, taking wind of the dimensions, and seeing every little aspect the property has to offer. This not only lets one get a feel for the place, but also enables them to picture themselves there, visually adding furniture and fixtures as they please definitely helping with the decision-making process. This provides property owners with an efficient and effective means of showcasing their beautiful property to be more attractive to these potential consumers, which improves the speed of selling or renting the property.

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