Chapter– 4

TOGGLR

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INTERNSHIP OVERVIEW

Company: Tooglr Solutions Pvt. Ltd. Position: Associate Software Developer

Start Date: 21 March 2022

INTRODUCTION

Multi-Cloud technologies are not just about Automated Digital Platforms; they are also about Digital Platforms that are integrated for maximum Data Security. A conducive Digital Platform requires a wide range of Multi-Cloud Management and Deployment models to drive its performance. **Togglr** offers a world class Digital Services Platform, a FOAK Multi-Cloud Migration Platform which is the first of its kind in empowering Multi- Cloud digital data transformation. Established in the year 2017, **TOGGLR Solutions Pvt.Ltd.** has emerged as a forerunner in the realm of Hybrid Cloud Deployments holding an extensive portfolio for applied Multi-Cloud technologies. Headquartered in Singapore Togglr has its branch offices located in India and USA. The company has marked its presence with technical capabilities across various hyper-scalers leading in Hybrid Cloud Practice and Services.

Togglr as a Hybrid Multi-Cloud Digital service provider offers Cloud Infrastructure services through AI based **Togglr** Platform. Users have access to an automated Cloud ecosystem which is Innovative, Agile and Scalable with built-in operational efficiency leaving absolutely no scope for digital disruption. Toggling between Clouds is serviced and managed by Certified Cloud Experts securing digital assets of your enterprise. The Digital Platform provides **"on a click"** services enabling Cloud flexibility to accelerate Data Transformation while toggling between different Cloud providers.

TOGGLR's assurance to seamless Cloud Migration Platform stems from meeting the demands of changing dynamics through advising, building, modernizing, and managing infrastructure. The strategic model is designed such that the platform's Cloud components are provisioned for Hybrid Cloud Infrastructure resources and services. The platform can be integrated, single managed and administered to enable enterprises to have control over the Cloud dynamics through a scalable Cloud environment. Users can consume, orchestrate, operate and govern the digital services apart from managing and modernizing their Infrastructures across different Clouds. The Company's AI based Cloud Migration solution for Digital Transformation is a leading option to Cloud seekers. TOGGLR now stands tall as a reliable and cost-effective Multi-Cloud Migration service provider across the globe.

SERVICES

Migration from On-premise to Cloud, or Any-Cloud to Any-Cloud having options of:
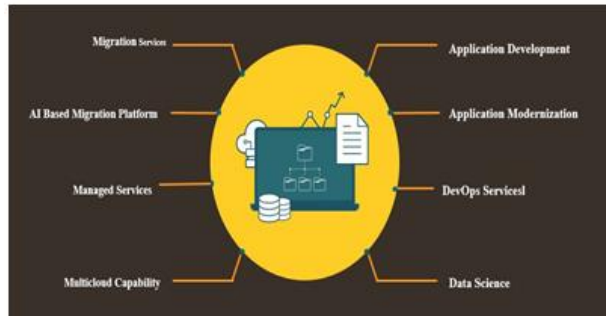
- Server Migration
    - ✓ CYOS – Create your own Server (Automated Server Provisioning & Migration)
    - ✓ BYOS – Bring your own Server (Migration from Source to Target Server)
- Application Migration
- Database Migration

SQL MYSQL ORACLE

Back up as a Service

Disaster Recovery as a Service (DRaaS)

Managed Service

Img-1 All Services

TOGGLR- The platform enables users to Cloud Migrate from one Cloud provider to another or from On-Premise to a Cloud Provider. It is collaborative Cloud system, where Migration, Disaster recovery & Backup, Orchestration and Analytical functionalities are managed and interfaced on a single digital platform. This all-in-one digital Cloud model enables a dynamic digital transformation apart from reducing data loss and downtime. Our seamless Migration system facilitates to Migrate & to Manage Hybrid workload across multiple Clouds or Data Centers.

KEY ATTRIBUTES OF TOGGLR

- Built on AI based scripts for complete secured Cloud Management and Deployment Entire Migration is automated just by **"on a click"** technology

- Only basic details of users are required on both Existing and Target Environments

- Remote control of Deployment enabled through Managed Services

- Secured Management and Deployment of Digital Data Transfer

- Innovative, Agile and Scalable Cloud system with uninterrupted Digital Services Adaptable across Multiple Clouds such as AWS, Google, IBM Cloud and Azure Cloud

- Assured Datasecurity,Recovery,BackupsMigration,Management&Modernization of the Infrastructure. Can be easily Integrated, Managed, Deployed and Administered

- Reliable and cost-effective Multi-Cloud Migration service provider across the globe

TECHNICAL SPECIFICATION OF THE APPLICATION

i) **App Service (PaaS):** Togglr is equipped to adjust to specific needs by auto-scaling up or down depending on the changing needs. Having adopted PaaS (Platform as a

Service) Cloud computing model our users can execute faster deployments; do rapid testing & quickly implement applications of various configurations through continuous integration thereby increasing business agility.

ii) **Batch Jobs:** Heavy workloads need higher IT resources, but when workload drops it becomes important for the extra resources to be released back into the Cloud pool which can save on costs and ensure optimal usage of the Cloud infrastructure. Having integrated HPC (High Performance Computing) onto our Cloud platform, our Cloud Platform can do parallel processing of complex data and carry out multifaceted computation at a rapid speed in a very short time. To run large scale parallel and HPC Batch jobs efficiently we use Azure Batch, which also makes provisioning of resources simpler and more affordable to the users.

iii) **Running parallel workloads using Batch Jobs:** To run parallel workload Togglr uses Azure Batch Jobs in a short period of time with a very high competency of managing and doing the work. It ensures that project timelines and deliverables are met efficiently boosting application performances. The complexity of setting up Azure Batch Jobs are handled by Togglr's Azure professionals who expertise in setting up, maintaining and deploying Azure environments.

iv) **Containers in Blob Storage:** We are dedicated to keeping our IT services up and working all time. Optimal use of IT infrastructure for cost effective Cloud usage with high-end Data security & storage has been in our focus. Togglr is equipped with modern data Cloud mechanisms that enables seamless data transfer, data storage and data security. Data being both structured and unstructured, we chose to adopt Containers in Azure Blob Storage model as a storage solution to store huge amounts of unstructured data. The containers can organize to store any number of blobs and a storage account can store any number of containers.

v) **Task Application files and inputs files uploaded into containers:** Containers are optimized to store Task Application files and Input files for seamless running of all our software's during Cloud migration. Irrespective of what the topology of the networks are or what the storage capacity is or what the security policies are, Togglr will ensure that the software's run smoothly on any OS distributions or any given infrastructure.

Steps:

a) Create a Batch pool

b) Create Batch Job

c) Add Tack to the Job

d) Monitor Task

e) Download task output from Storage

vi) JavaScript-based open-source front-end web framework using Angular: Togglr's fundamental Cloud component consists of a JavaScript-based front-end (visible to end user) web framework using a strong software language called Angular for easy and clear coding. The framework is very consistent without having to deal with bugs that otherwise may require rebuilding of codes from scratch. Togglr is trouble free and does not require users to constantly deal with downtimes.

vii) Dev Ops: For automated code deploy which is continuous in both delivering and integrating, Togglr uses Azure DevOps Software as a service (SaaS) platform from Microsoft built on SQL Server back end. With more repeated releases, we ensure that our Cloud services are scalable, reliable and available across the globe.

USING TOOLS AND TECHNOLOGY BY ME

Git Before we start getting into how to use git, we should first talk about what Git is. Git is a system built to help you organize changes, create releases, and collaborate with others on a project. Git projects can be stored locally (only on your machine) or remotely (online somewhere like GitHub, BitBucket, or GitLab) depending on what you want to do with it. Using version control in a project allows you to make a copy of your project, make and test your changes, then merge it back in with the original copy. The benefit here is that we can see it working before we add

TESTING is the field under DETECTION that encompasses all techniques involved in analyzing and documenting Errors and vulnerabilities associated with the product and its Cloud environment. As a part of my final year project, I shall focus on developing the skill set required to Developing and testing. I shall cover the following areas under Testing:

1) User Experiencer (UI) Testing
2) Togglr Tool Testing

LEARNING OBJECTIVE

* Our objective is to fulfill the clients' requirements
* To learn more about cloud technologies hybrid cloud and multiple cloud
* I learned a lot more about cloud server, how to use it and how it will work
* I understood what is instance, what reigns are, how to create server and how to access them remotely. To learn migration what he is how its work in our tool
* How to configure the database servers. To learn every migrations some

Prerequisites To develop API for the application

- Connect it with the UI. Our motive was to deliver the application fastest, while keeping every requirement in mind and developing accordingly.

- Also, one of the major objectives is to keep learning and getting updated with the new trends in tech industry.

- Developing a industry ready application.

Having studied website development previously, I observed the lack of a Testing perspective in their methodologies. Undertaking this project will enable me to combine the two domains in the future to implement programming methodology that focuses on Testing as well as functionality to build websites that have optimum efficiency.

TENTATIVE TIMELINE

MONTH	ACTIVITY
1ST Month (April)	Working On Frontend Using Angular And CSS
2nd Month (May)	Testing WebApp User Interface (UI)
3rd Month (June)	Testing Togglr Tools Interface & Functionality

MY ROLE AND WORK

In this company my role as an Associate software Developer. So, in First month I developed UI with front end development team using angular which is java script Frame work. In Next Month my manager shifted me in testing team. As my UI project was completed. So in Second month I am testing User interface (UI) after finishing the UI testing In this month I have started the Our Togglr tool testing so daily I'm creating project doing Migration for one server to another server and check whether the migration is done correctly or not and if there is any error, I used to find it and correct it.

WHAT IS USER INTERFACE

The user interface is the point at which human users interact with a computer, website or application. The goal of effective UI is to make the user's experience easy and intuitive, requiring minimum effort on the user's part to receive the maximum desired outcome. UI is created in layers of interaction that appeal to the human senses (sight, touch, auditory and more). They include both input devices like a keyboard, mouse, trackpad, microphone, touch screen, fingerprint scanner, e-pen and camera, and output

devices like monitors, speakers and printers. Devices that interact with multiple senses are called "multimedia user interfaces." For example, everyday UI uses a combination of tactile input (keyboard and mouse) and a visual and auditory output (monitor and speakers).

Other types of user interfaces can include:

- Form-based user interface: Used to enter data into a program or application by offering a limited selection of choices. For example, a settings menu on a device is form-based. Graphical user interface: A tactile UI input with a visual UI output (keyboard and monitor).

- Menu-driven user interface: A UI that uses a list of choices to navigate within a program or website. For example, ATMs use menu-driven UIs and are easy for anyone to use. Touch user interface: User interface through haptics or touch. Most smartphones, tablets and any device that operates using a touch screen use haptic input.

- Voice user interface: Interactions between humans and machines using auditory commands. Examples include virtual assistant devices, talk-to-text and GPS.

WHY IS USER INTERFACE IMPORTANT

User interface is important to meet user expectations and support the effective functionality of your site. A well-executed user interface facilitates effective interaction between the user and the program, app or machine through contrasting visuals, clean design and responsiveness. When designing a UI for your site, it's important to consider the user's expectations in terms of accessibility, visual aesthetic and ease of use. An optimal mix of effective visuals and efficient responsiveness will improve your site's conversion rates, as it anticipates the needs of the user and then satisfies those needs.

USER INTERFACE VS. USER EXPERIENCE

User interface and user experience are related and equally important to the execution of a project, but the specifics differ. Mainly, UI is designed around the intended look and feel of the site, app or program while UX spans the entire process of conceptualization, development and delivery. Additionally, UX can be referenced in relation to nearly any product, while UI can only pertain to digital products.

THE MAIN DIFFERENCES BETWEEN UX AND UI ARE:

- UX revolves around the purpose and functionality of the product, while UI focuses on the quality of the user's interaction with the product.

- UX involves components such as market research and identifying user needs, while UI has more artistic design components relating to the look and feel of the user's experience. UX focuses on overall project management from ideation through development and delivery, while UI more specifically focuses on the design of the finished product.

Designing a user experience begins by identifying the pain points of the target users and figuring out how to meet the needs of said users. This includes details such as logical flows or steps to take to reach a goal. Once the interface is programmed to be useful, the prototype is sent to a user interface designer, where the processes are made visually appealing.

USER INTERFACE
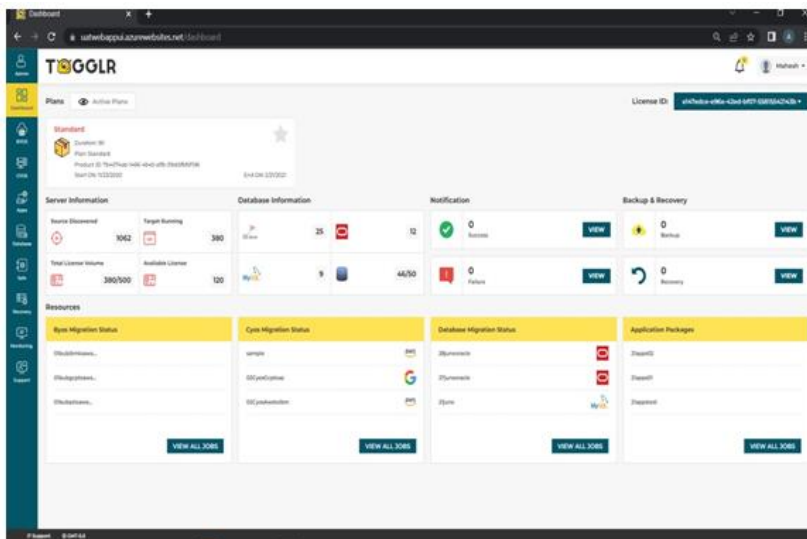
OUR EXPERIENCE FOR THIS COMPANY

- My experience for this companies it is totally different experience for me, I am being exposed to a lot of many things about which I was unaware.

- This internship is work from office so I am daily going to the office and doing the work from the start under to assigned mentor is totally a new experience for me.

- During this project in this company I am learning how to work professionally in a team, Where I got to know the time management and work in a systematically way and reporting deadline, tasks and also learn how to Deploying and maintaining code. Apart from that having discussions with experienced experts give me many more things to learn. Their advices, their way of working makes I learn a lot more.

In this company, I'm Understand Cloud migration this term was totally new for me

- Talking about skills I am learning a lot many things daily, First Developing UI using Angular web application framework and then start the testing we are going step by step in every phase so this whole process new for me.

- I have accumulated various experience and lots of New Knowledge through activity had been assigned to me. Over all my experience is very good in this Company

CONCLUSION

In conclusion, the internship was a useful experience. I have find out what my strengths and weaknesses are; I gained new knowledge and skills and met many new people. I achieved many of my learning goals, however for some the conditions did not permit to achieve them as I wanted.

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- *Javahttps://www.java.com/en/*
- *https://www.w3schools.com/html/*
- *https://www.w3.org/Style/CSS/Overview.en.html*
- *https://www.javascript.com/*
- *Company Meetings*
- *Company Documents*
- *Company presentation*