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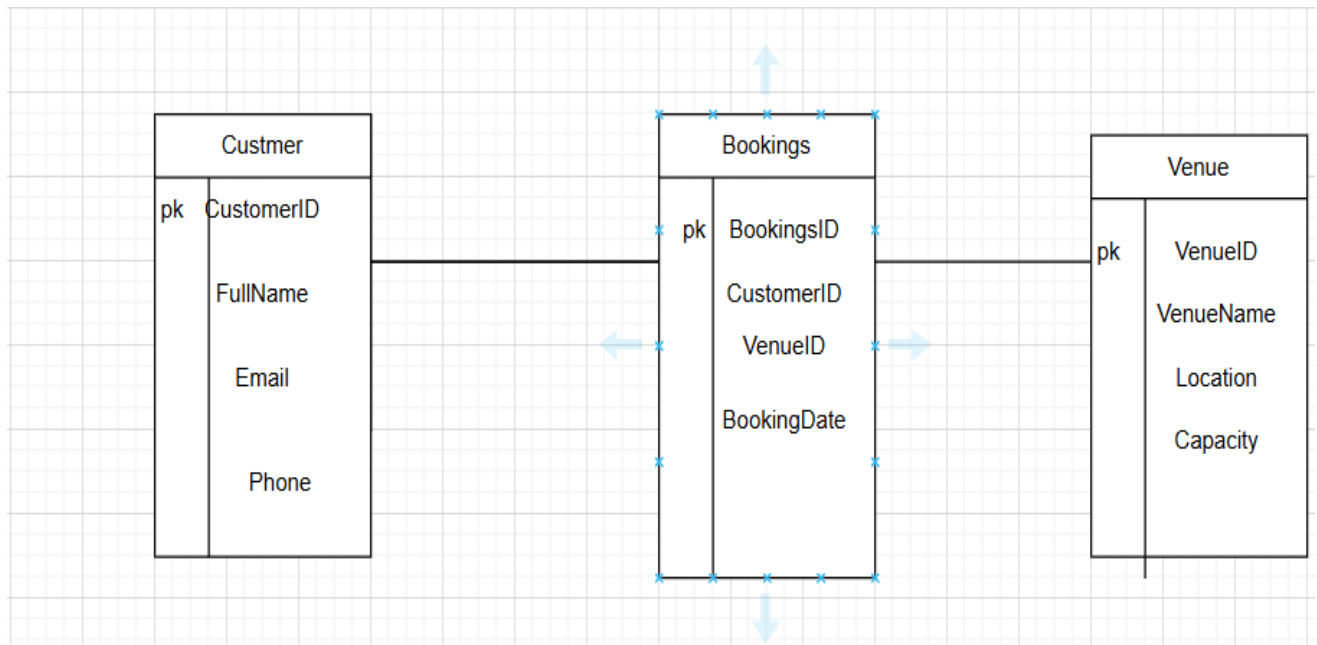
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Entity RELTIONSHIP DIAGAM



D. Cloud Computing Basics

1. Cloud vs. On-premises Deployment

When comparing cloud deployment to traditional on-premises deployment, there are some notable differences, particularly in terms of security, deployment speed, and resource management.

Cloud security is primarily maintained by the service provider. Advanced security protocols are implemented by providers such as Microsoft Azure, which include data encryption, access control, and identity management systems. This eliminates the need for organisations to manage all areas of security on their own. On-premises installations, on the other hand, require the organisation to assume complete responsibility for infrastructure security. This includes configuring firewalls, maintaining software patching, and assuring the physical security of servers.

Cloud deployment provides faster application deployment. Platforms such as Azure and AWS enable organisations to launch apps in minutes using pre-configured environments and automation tools. On-premises deployment, on the other hand, requires various time-consuming tasks such as procuring hardware, configuring servers, installing software, and performing internal testing, which might cause application release delays.

Cloud platforms enable dynamic resource management, including auto-scaling and pay-as-you-go pricing. Serverless computing, for example, enables resources to

automatically adapt in response to user demand, assuring maximum performance while avoiding overprovisioning. On-premises systems, on the other hand, have a set capacity, thus scaling involves manual hardware upgrades, which typically results in higher costs and a delayed response to rising demand. (Amazon Web Services, 2023)

2. IaaS vs PaaS vs SaaS: Why PaaS is Best for EventEase

There are three main cloud service models: Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS), each with varying degrees of control and ease.

Infrastructure as a Service (IaaS) delivers virtualised computing resources via the internet. This category includes services like Azure Virtual Machines and Amazon Web Services (EC2). While IaaS provides flexibility and control over the operating system and applications, the development team is still responsible for system updates, software installation, and server maintenance. For a growing firm like EventEase, this degree of accountability can be a considerable cost. (Microsoft Azure., 2023)

In contrast, Platform as a Service (PaaS) provides a more streamlined option. It offers a ready-to-use platform for app development, testing, and deployment, while the cloud provider manages the underlying infrastructure, operating system, and scaling operations. Examples include Azure App Services, Heroku, and Google App Engine. PaaS is great for development teams who want to focus on creating and delivering new enhancements rather than worrying about server management or system updates.

Software as a Service (SaaS) provides fully complete applications over the internet, which are commonly accessible using a web browser. Common examples include Microsoft 365 and Google Workspace. While SaaS solutions are simple to use and require no setup, they lack the flexibility and customisation required for organisations that wish to create their own unique apps.

Why PaaS is the Perfect Fit for EventEase:

EventEase prefers PaaS. It enables the development team to swiftly and efficiently deploy the booking application without having to manage the infrastructure. The platform's built-in features, such as auto-scaling and integrated databases, are especially useful during peak booking seasons. Furthermore, PaaS enables seamless interaction with analytics tools and other cloud services, allowing EventEase to expand and improve its platform while incurring minimum operational costs. (Microsoft Azure., 2023)

Bibliography

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Microsoft Azure. (2023). Retrieved from <https://learn.microsoft.com/en-us/azure/architecture/patterns/paas>