University of British Columbia, Vancouver
Department of Computer Science

CPSC 304 Project Cover Page

Milestone #: 1

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Group Number: 32

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By typing our names and student numbers in the above table, we certify that the work in the attached assignment was performed solely by those whose names and student IDs are included above. (In the case of Project Milestone 0, the main purpose of this page is for you to let us know your e-mail address, and then let us assign you to a TA for your project supervisor.)

In addition, we indicate that we are fully aware of the rules and consequences of plagiarism, as set forth by the Department of Computer Science and the University of British Columbia

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2. Brief project description.

a. **What is the domain of the application? Describe it.**
The domain of the application is **Cloud Services**. This involves providing on-demand access to services and infrastructure resources over the internet. It enables flexible and scalable infrastructure, allowing users to efficiently manage and deploy applications without the need to maintain physical hardware.

b. **What aspects of the domain are modeled by the database?**
The database models key parts of cloud services, like managing customer information, billing details, project settings, service usage, instance lifecycle, security settings, server resources, and regional availability of the services offered. In real life, any individual user or business could use this app to manage their own cloud infrastructure, use on-demand services, and collaboratively build projects, helping them grow and control costs and security.

Additional detailed model specification:

Customer and Billing Information - Information about customers that include name, email, phone number, address, and billing details.

Projects - Each project is created and managed by one or many customers. This allows customers to configure projects for their use case. For example, a customer owns a business that provides two independent software products.

Services - The services provided by our system, includes three subcategories: storage, compute, functional. Customers can either directory use services or create projects that use services. Many customers will need various cloud services for a product. For example, a mobile app that executes resource intensive functions on the cloud and also needs a cloud database of app content.

Instances - Virtual instances that are launched on the cloud for the given service. Instances allow customers to allow their services to scale their projects and monitor costs of services.

Servers - Specifications about available servers, including type, OS, status, hardware, uptime, and additional details that instances can be deployed on and interacted with. They will also be used to track specifications and for monitoring - to ensure performance, optimal resource allocation, and region selection for customers.

Security Configurations - Configurations set by customers for a particular project that define the inbound and outbound protocols that should be allowed for their services.

Region - Dedicated geographical categories where the physical servers will be located. Region can offer different services and host different number of servers.

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3. Database specifications:

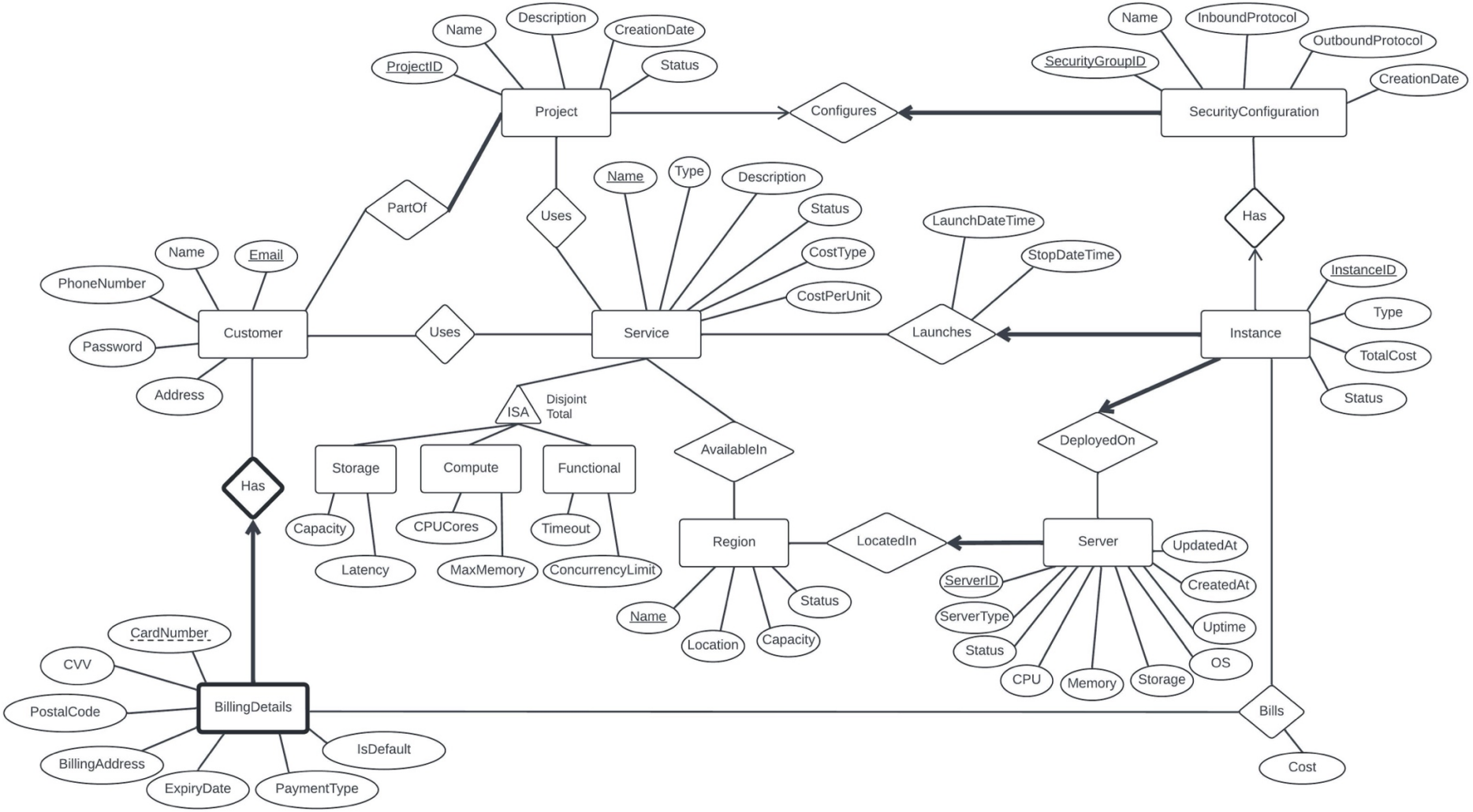
a. **What functionality will the database provide?**
The database will store and manage customer information, including their personal details and login credentials. Customers will be able to create and manage projects. They will be able to use services, managing the setup and lifecycle of virtual instances. Additionally, it will allow users to configure security settings, monitor server resources, and calculate costs associated with using cloud services, ensuring efficient use of resources and cost control.

4. Description of the application platform:

a. **What database will your project use (department provided Oracle, MySQL, etc.)?**
We are going to use the department provided Oracle database.

b. **What is your expected application technology stack**
Frontend - HTML, CSS, and JavaScript for the customer interface, with Tailwind CSS for styling.
Backend - Java with the SpringBoot framework for backend API management and server-side logic. JDBC for database connectivity.

5. ER Diagram for the database:
Please refer to the next page :)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