Michael Zwartz

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GitHub Link:

https://github.com/michaelzwartz/Database-Systems.git

Zwartz Toys

Database Systems Project

Part 1: Design

1. The product I sell are underwater-themed action figures for the TV show Spongebob Squarepants. We sell toys for kids aged 4-10 that are designed to be played with during playtime at the pool/lake, or during bath time at home. Our organization is called Zwartz Toys. We are small, independently owned toy company. We sell all over the United States with annual sales of 10 million dollars.
2. Zwartz Toys is a business that is comparable to Green Toys Inc. Green Toys was founded in 2007 and focuses on building eco-friendly and safe toys for kids using recycled material. Green Toys is headquarters in Sausalito California. They have around 11-50 employees and an annual revenue of $6 million.

According to [Green Toys Linked In](https://www.linkedin.com/company/green-toys-inc.#:~:text=Green%20Toys%20Inc.%20is%20the,and%20other%20environmentally%20friendly%20materials.):

“Green Toys Inc. is the world’s leading manufacturer of eco-friendly children’s products. A pioneer in the use of recycled materials in consumer products, Green Toys makes an incredible line of classic children’s toys constructed from recycled plastic and other environmentally friendly materials. The company’s US-made products have a very devoted consumer following, and are now sold in over 3,000 retail location in the US, and are distributed globally in over 90 countries.” Also found [at rocketreach.co](https://rocketreach.co/green-toys-inc-profile_b5d2353bf42e3bf2).

1. Diagram

   Description automatically generated with medium confidenceSince this is a smaller company (11-50) employees we will use a three-tier client-server. Tier 1 manages user interface. Tier 2 runs the applications by performing business logic and data processing. Tier 3 is the database server is used to access the database. The three tier system can be visualized on the right (flow chart comes from the course PowerPoint). Other tier functions that could be useful are that the client can accepter and verify inputs, process application logic, generate database requests, and display responses. The server will mainly be used to check authorization and provide recovery control.
2. This business will need to store and access many different data types. Primary data types that will be stored will mostly be strings, integers, and floats. Strings could be used as the name of the toy’s character, the location it’s being shipped to, or the retailer its being sold at. Integers can be used for part numbers and floats will be used for costs and quantities of raw materials. This data base will also need to store Boolean data (i.e. recycled material = True or False) and dates/ timestamps.
3. For our old company files that are not compatible with this new Cloud database set up we will middleware to transfer into our new system. Some examples of this tool being used can be found here: [Spiceworks: Top Middleware Software Platforms](https://www.spiceworks.com/tech/cloud/articles/top-middleware-software-platforms/). This article highlights Flow Middleware platform, IBM WebSphere Application Server, JBoss EAP, Oracle Fusion Middleware, and Microsoft BizTalk Server as some of the best middleware platforms. Common formats that systems use to transfer product data include comma separated values, JSON, and XML files.