UNIVERSITY OF WESTMINSTER

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High-level Design Models for Rich Web-based Applications

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<< 1. Introduction >>

+ Rich Web-based Applications provide a higher user experience with rich GUIs and a faster communication model named Delta-Communication.

+ Software modelling involves designing various aspects of software systems.

+ UML is a popular general software designing language which provides models and modelling elements.

<< 2. Problem and Aim >>

The problem is the unavailability of models and modelling elements to design rich web-based application architecture.

The aim is to introduce two models and modelling elements as UML extensions to model the tires, platforms, applications, views, components, and connectors and their communication.

<< 3. Methodology >>

A process with the following steps is used.

1. Identify the required modelling elements.
2. Identify the required models.
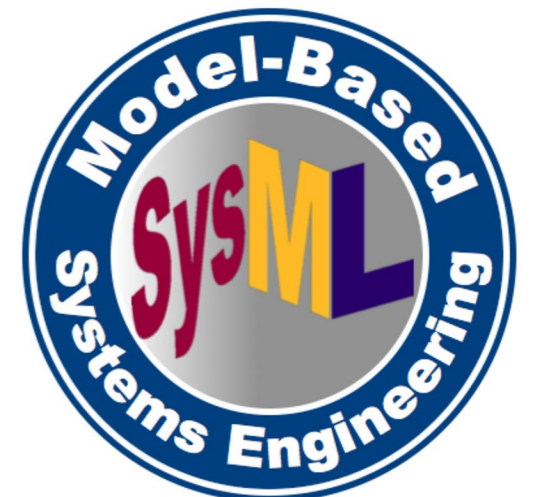3. Define new models to design rich web-based application architecture.

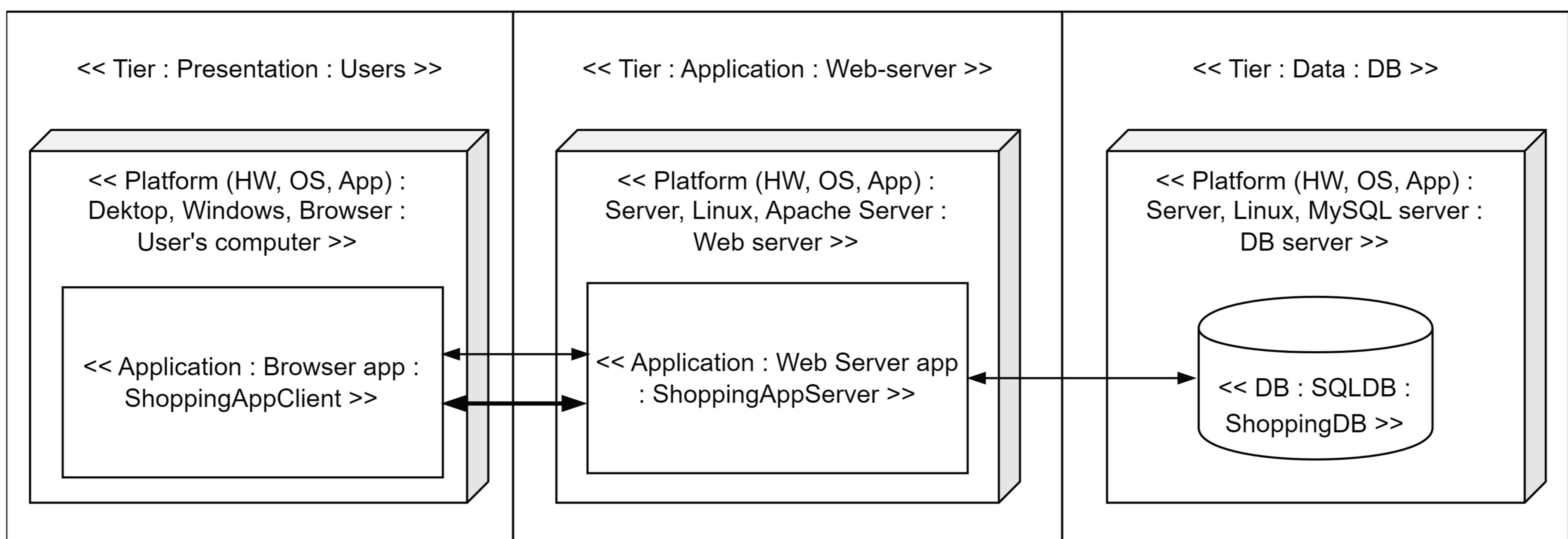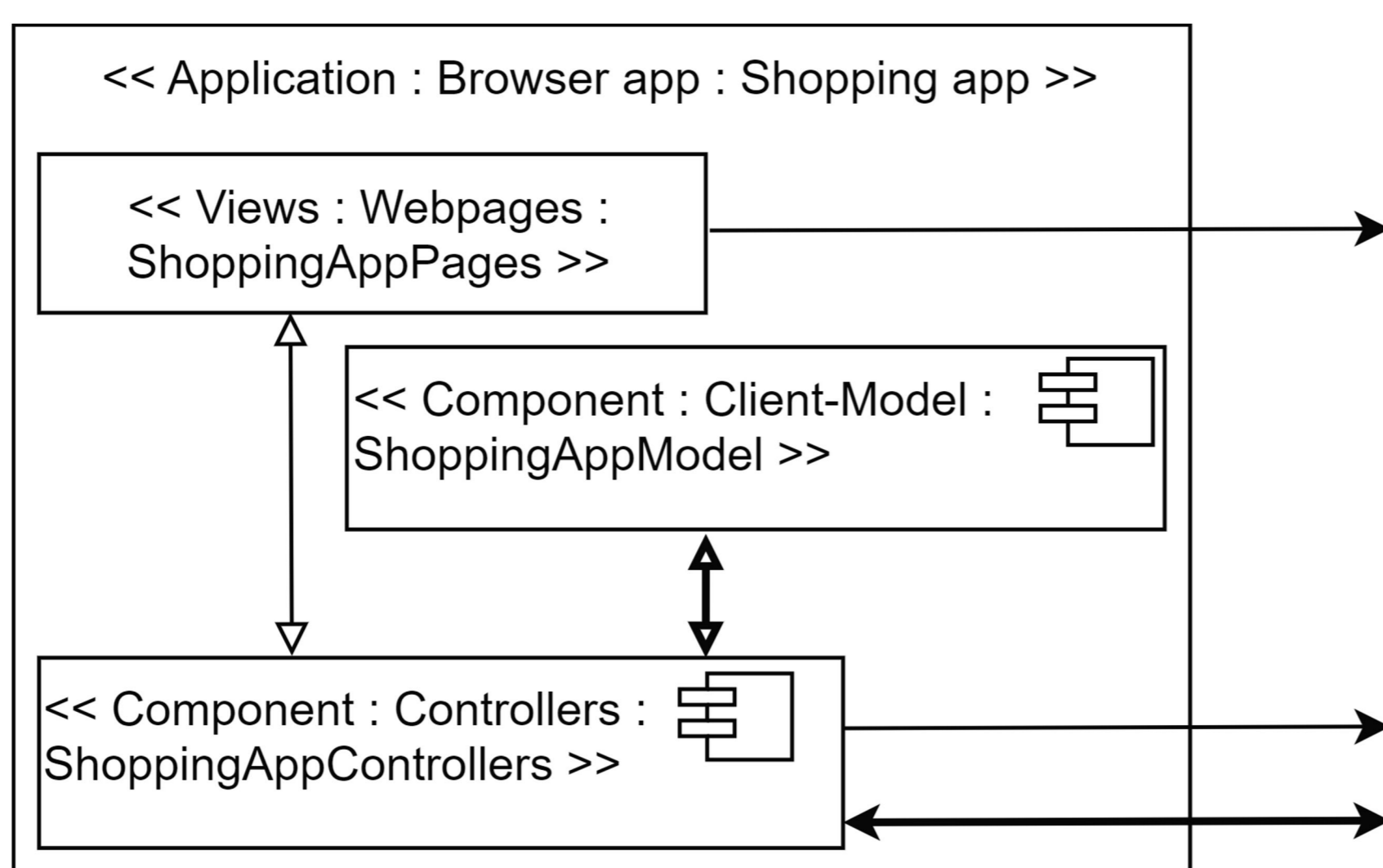## << 4. Similar Solutions >>

arc 42

SAP TAM

Model-Based SysML Systems Engineering

C4 model

ARCHIMATE

<< 5. Results >>

Level 1 Applications model

<< Tier : Presentation : Users >>

<< Platform (HW, OS, App) : Dektop, Windows, Browser : User's computer >>

<< Application : Browser app : ShoppingAppClient >>

<< Tier : Application : Web-server >>

<< Platform (HW, OS, App) : Server, Linux, Apache Server : Web server >>

<< Application : Web Server app : ShoppingAppServer >>

<< Tier : Data : DB >>

<< Platform (HW, OS, App) : Server, Linux, MySQL server : DB server >>

<< DB : SQLDB : ShoppingDB >>

Level 2 View-process model

<< Application : Browser app : Shopping app >>

<< Views : Webpages : ShoppingAppPages >>

<< Component : Client-Model : ShoppingAppModel >>

<< Component : Controllers : ShoppingAppControllers >>

<< 6. References >>

N. R. Dissanayake and K. Dias, "*Rich Web-based Applications: An Umbrella Term with a Definition and Taxonomies for Development Techniques and Technologies,*" International Journal of Future Computer and Communication, vol. 7, no. 1, pp. 14-20, 2018.

N. R. Dissanayake and K. Dias, "*RiWAArch Style: An Architectural style for Rich Web-based Applications,*" in Proceedings of the 2020 Future Technologies Conference (FTC), Canada, 2020.

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