



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

COS 301 - Indoor Mall Navigation Coding
Standards

Brute Force

May 26, 2019

NAMES:

STUDENT NUMBER:

Thomas Honiball	15348751
Thabo Ntsoane	15107532
Mpho Mashaba	14309999
Munyadziwa Tshisimba	11034531
Bandile Dlamini	14402425

Contents

1	System Type	3
2	System Architecture	3
2.1	Client-Server	3
2.2	Micro-Services	3
2.3	MVC	3
2.4	Object-Persistence Framework	3
3	Deployment Diagram	4
4	Non-Functional Requirements	4

1 System Type

System:

User Application **Event Driven:**

Change in beacon ranges provide state changes that alter the system

2 System Architecture

The system as a whole comprises of multiple architectures, Client-server, Micro-services and MVC.

2.1 Client-Server

The main system has been identified as a client-server architecture.

Client: Indoor Mall Navigation Application

Server: Database Management System

2.2 Micro-Services

Each client has access to the application which then provides micro-services.

2.3 MVC

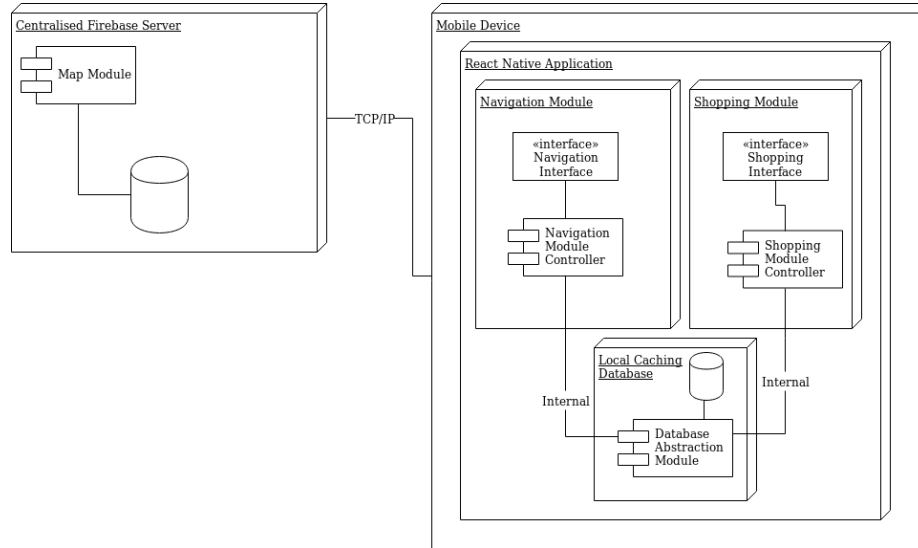
Model The data is represented and maintained by the Database Management System (Firebase)

View React-Native is used to implement and present the user interface

2.4 Object-Persistence Framework

The database management system provides (Firebase) provides an object-persistence framework for the system

3 Deployment Diagram



4 Non-Functional Requirements

Scalability: We intend to have a user interface that allows mall owners to add stores to the list as well as supporting expanding maps. We plan to use Firebase to ensure that our database can keep with the needs of the system.

Reliability: We intend to use beacons for accurate indoor navigation to specific shops.

Availability: We intend to use Firebase cloud database and offline synchronization to ensure that the data is always available to users.