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Traffic Light Trigger

Concept Model

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Revision:

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Model Introduction

Model Specification>Documentation

Author: Rhys Evans
Created: 2022/10/22
Title: Traffic Light Trigger.

This modeling prototype seeks to develop a concept for a bike attachment that triggers traffic lights when a biker approaches them. The attachment connects to a companion app on the user's phone. The app contains a map screen that visually displays the user's trip path, a list screen that displays the date of past trips, and a settings screen to connect the app to the device. The traffic light trigger does not automatically change the light to green. Instead, it works the same was as a pedestrian pressing the traffic light trigger button. The device wirelessly signals that the cyclist is approaching so that the light can turn green quicker. This can greatly reduce travel time by reducing stoppage time. In countries with high-functioning bike infrastructure like the Netherlands, the bike traffic light may instantly turn green. This makes biking more enjoyable since the biker does not have to waste energy returning to pre-traffic light velocity.

All Project Diagrams

1. Traffic Light Trigger App

Diagram Specification>Documentation
In: Proof of Concepts.Architectures.Traffic Light Trigger App.Traffic Light Trigger App

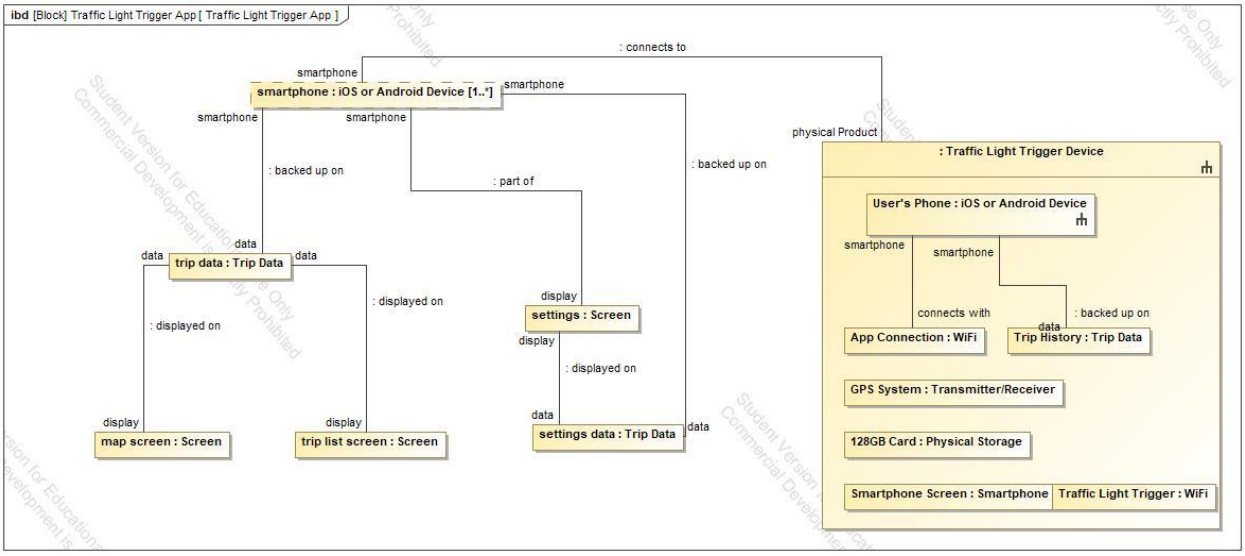

Figure 1 Diagram Traffic Light Trigger App

2. PoC Blocks

Diagram Specification>Documentation
In: Proof of Concepts.Architectures.PoC Blocks

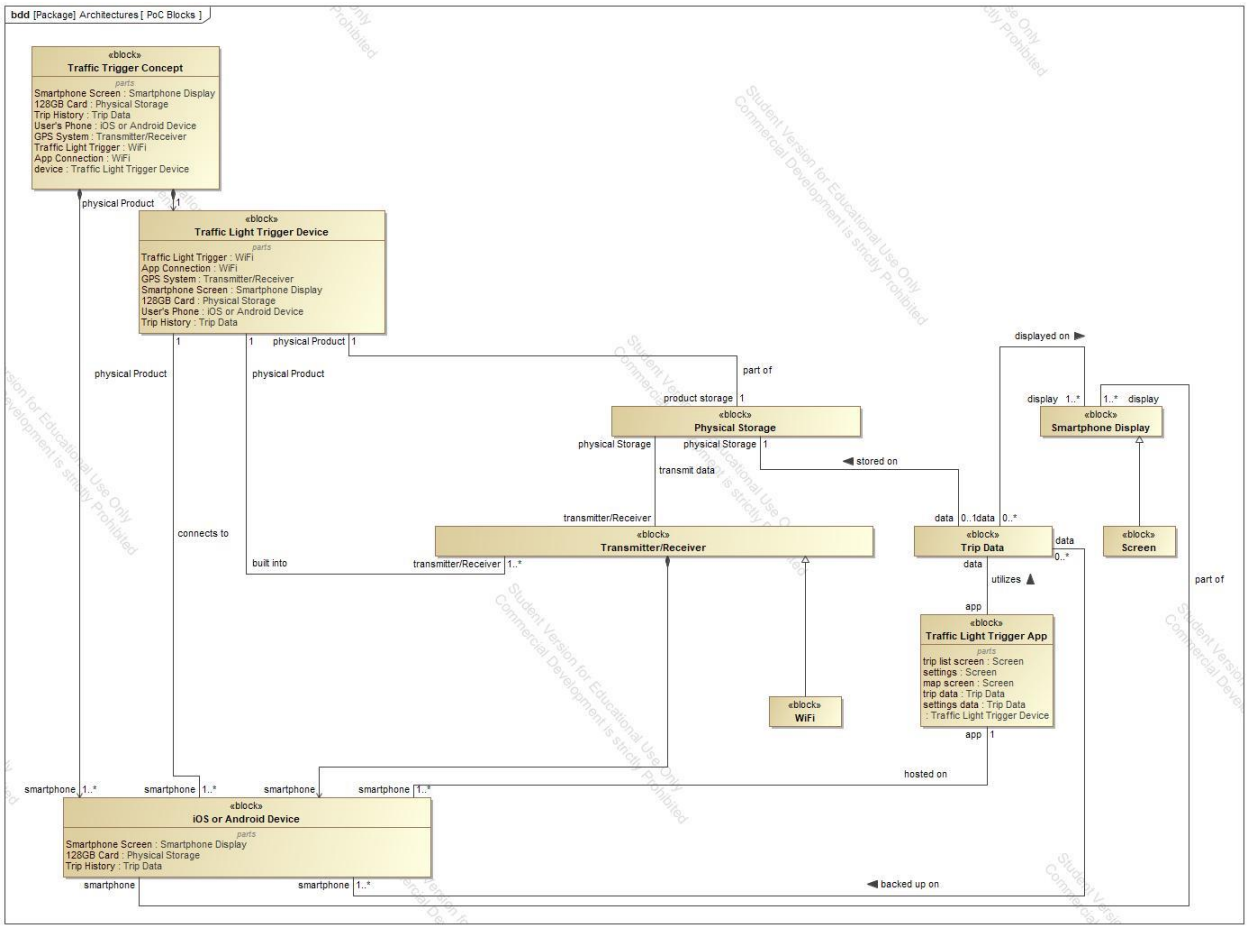

Figure 2 Diagram PoC Blocks

3. Traffic Light Trigger Device

Diagram Specification>Documentation

In: Proof of Concepts.Architectures.Traffic Light Trigger Device.Traffic Light Trigger Device

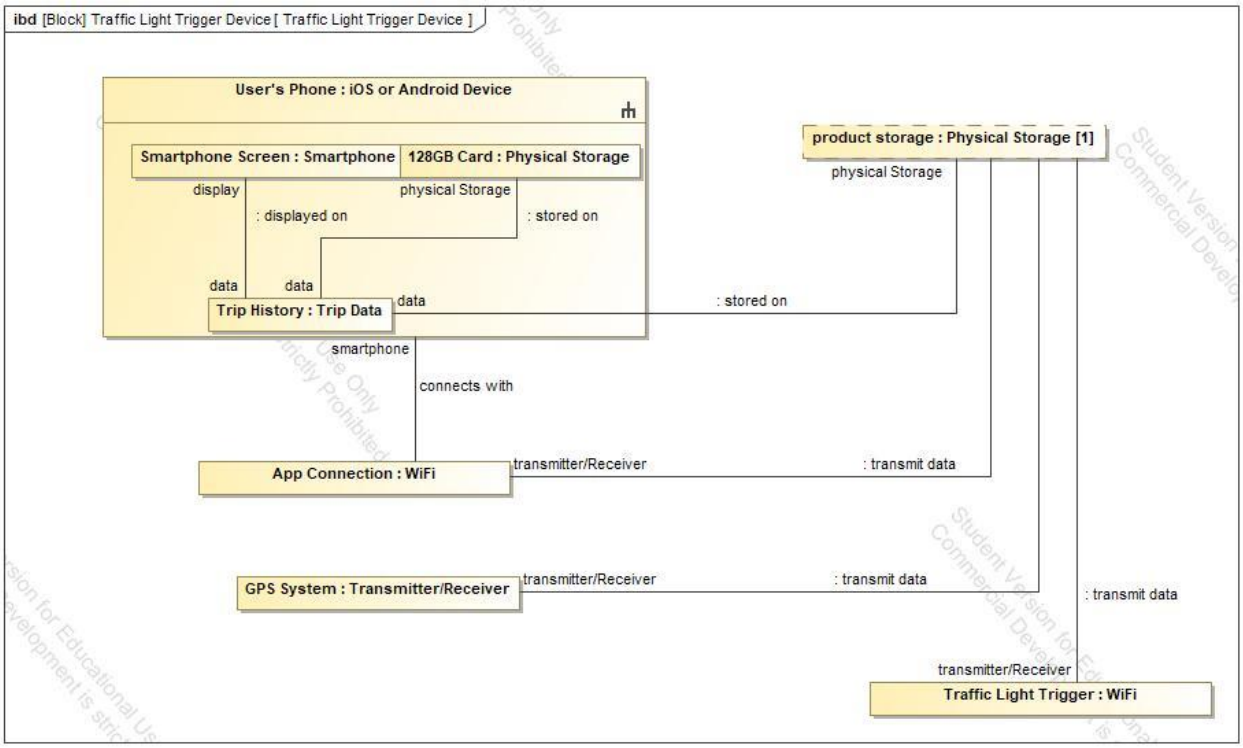

Figure 3 Diagram Traffic Light Trigger Device

4. Traffic Trigger Concept

Diagram Specification>Documentation
In: Proof of Concepts.Architectures.Traffic Trigger Concept.Traffic Trigger Concept

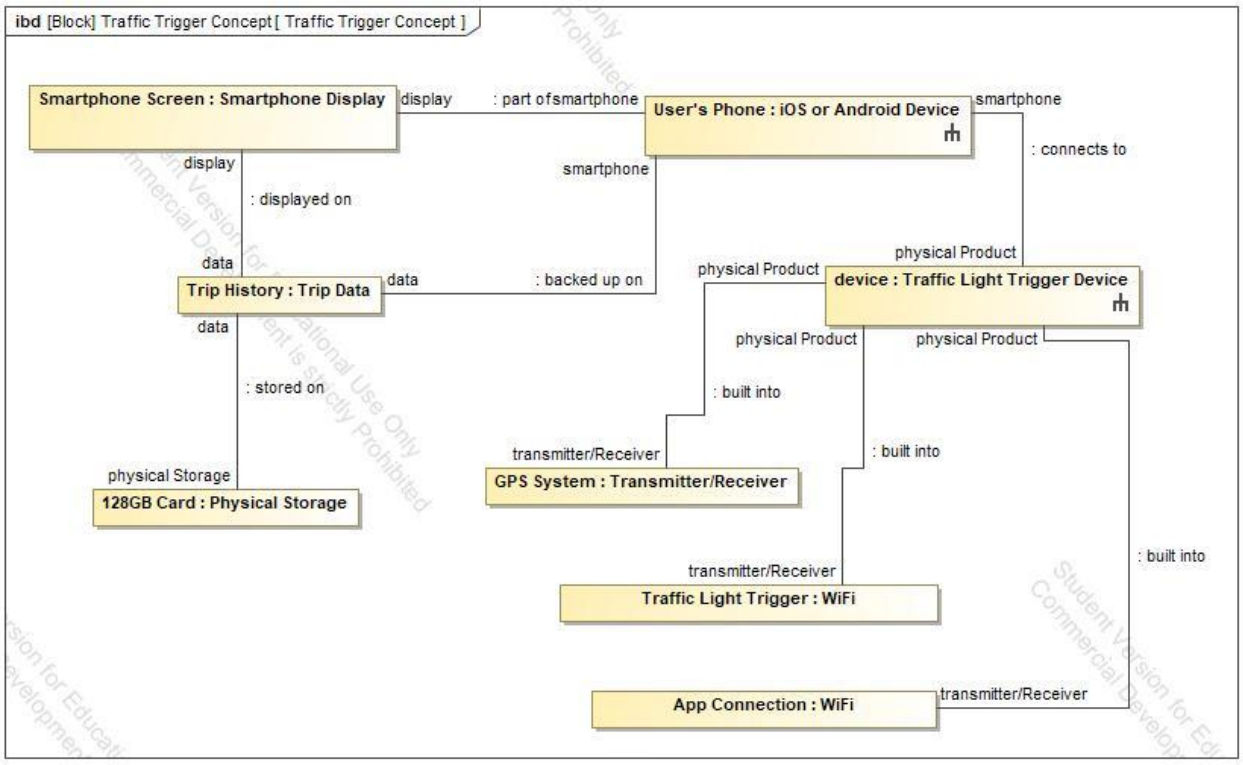

Figure 4 Diagram Traffic Trigger Concept

5. Concept Model

Diagram Specification>Documentation
In: Concept Model.Concept Model

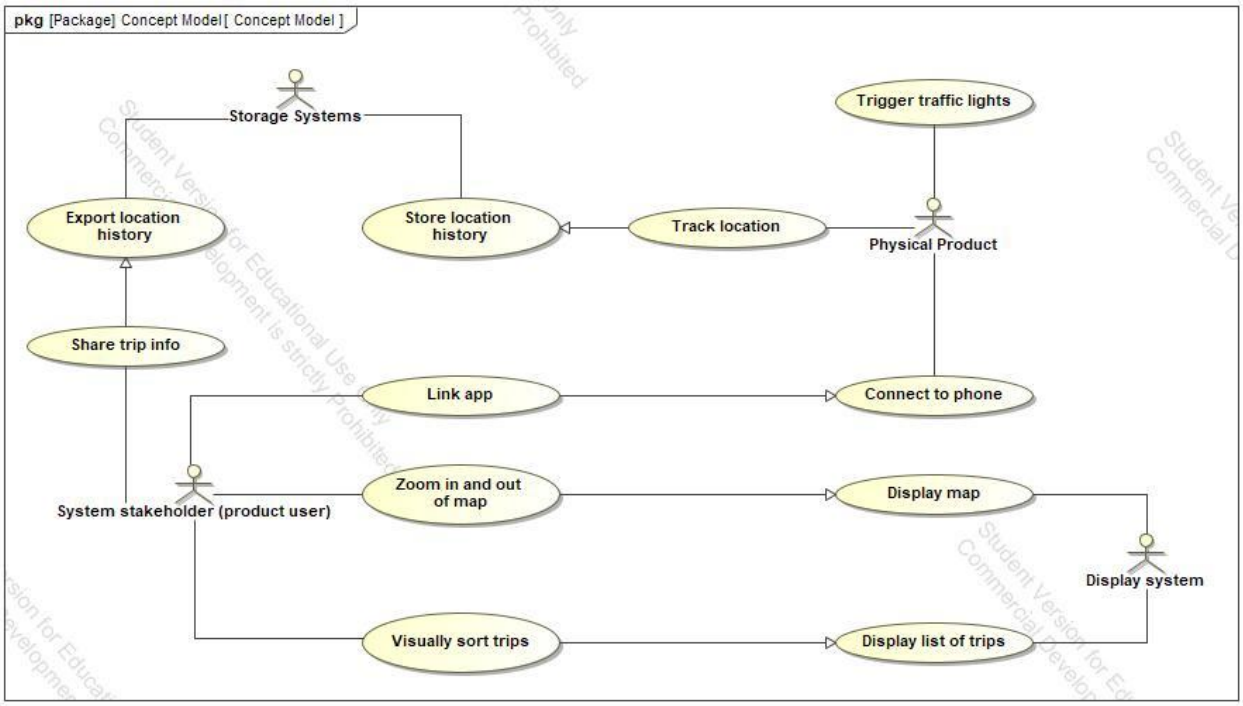

Figure 5 Diagram Concept Model

6. Concept BDD

Diagram Specification>Documentation
In: Concept Model.Concept BDD

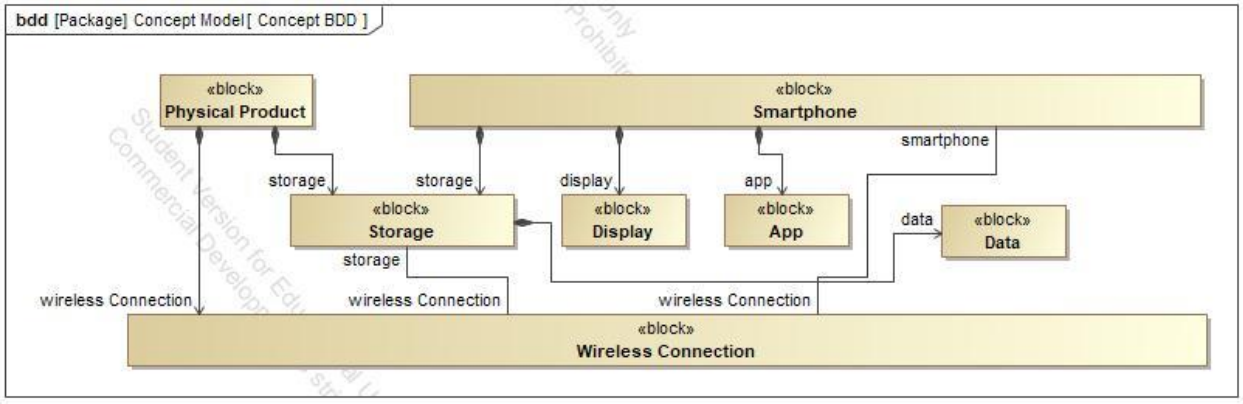

Figure 6 Diagram Concept BDD

7. Mapping Concept BBD to Concept Model

Diagram Specification>Documentation
In: Concept Model.Mapping Concept BBD to Concept Model

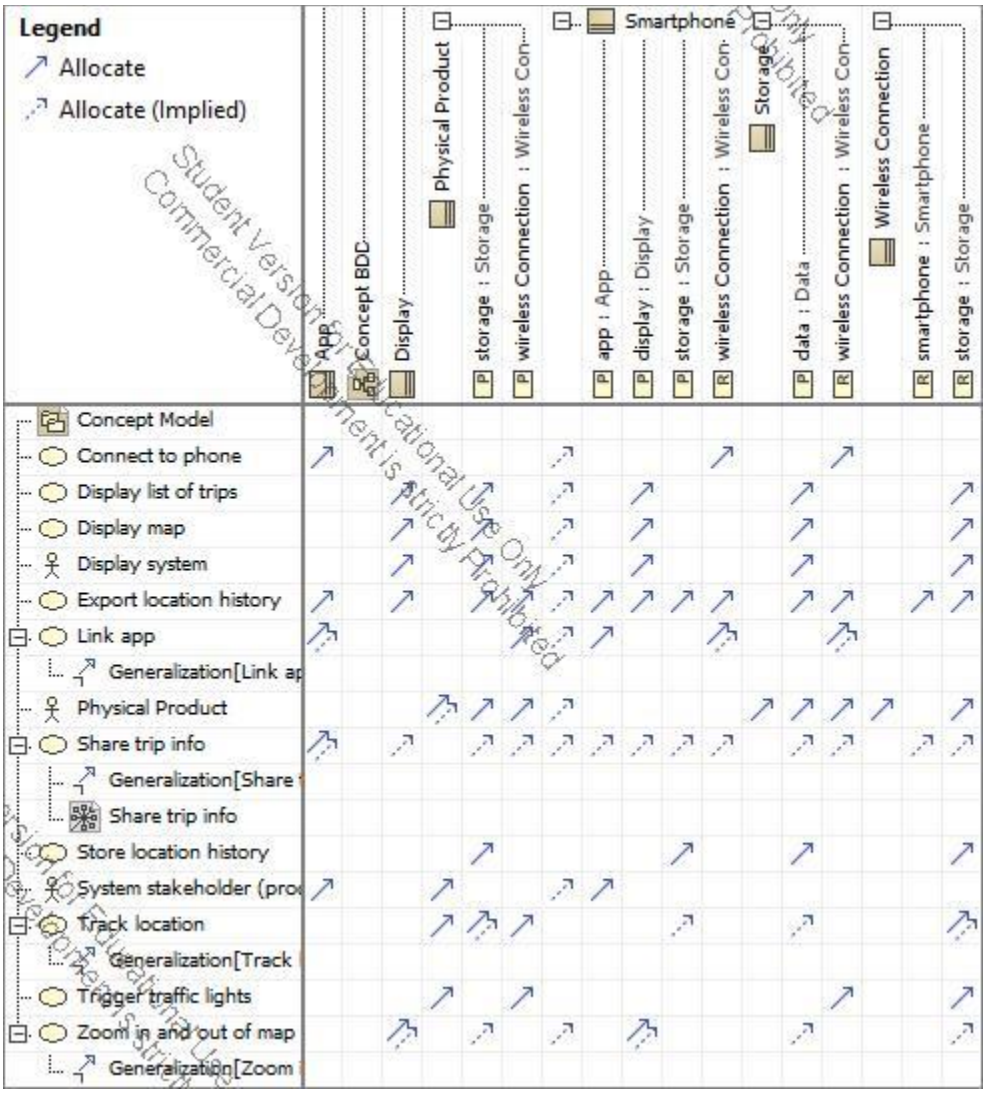

Figure 7 Diagram Mapping Concept BBD to Concept Model

8. PoC Activities - Traffic Light Trigger

Diagram Specification>Documentation

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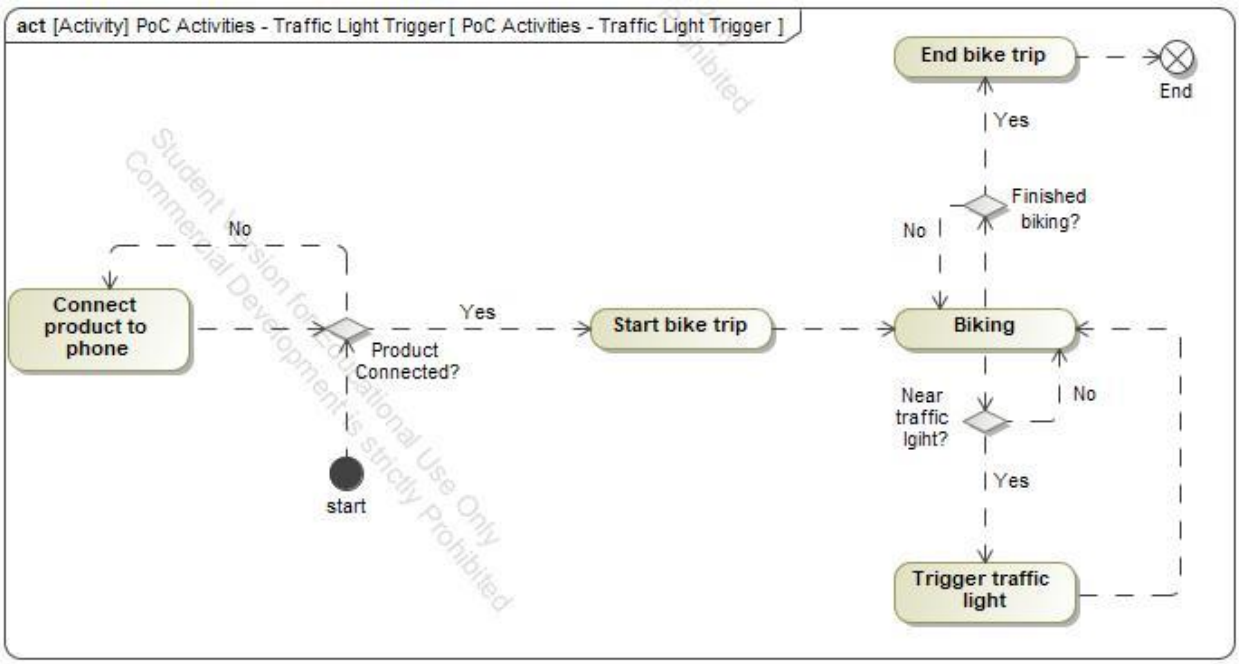

Figure 8 Diagram PoC Activities - Traffic Light Trigger

9. iOS or Android Device

Diagram Specification>Documentation
In: Proof of Concepts.Architectures.iOS or Android Device.iOS or Android Device

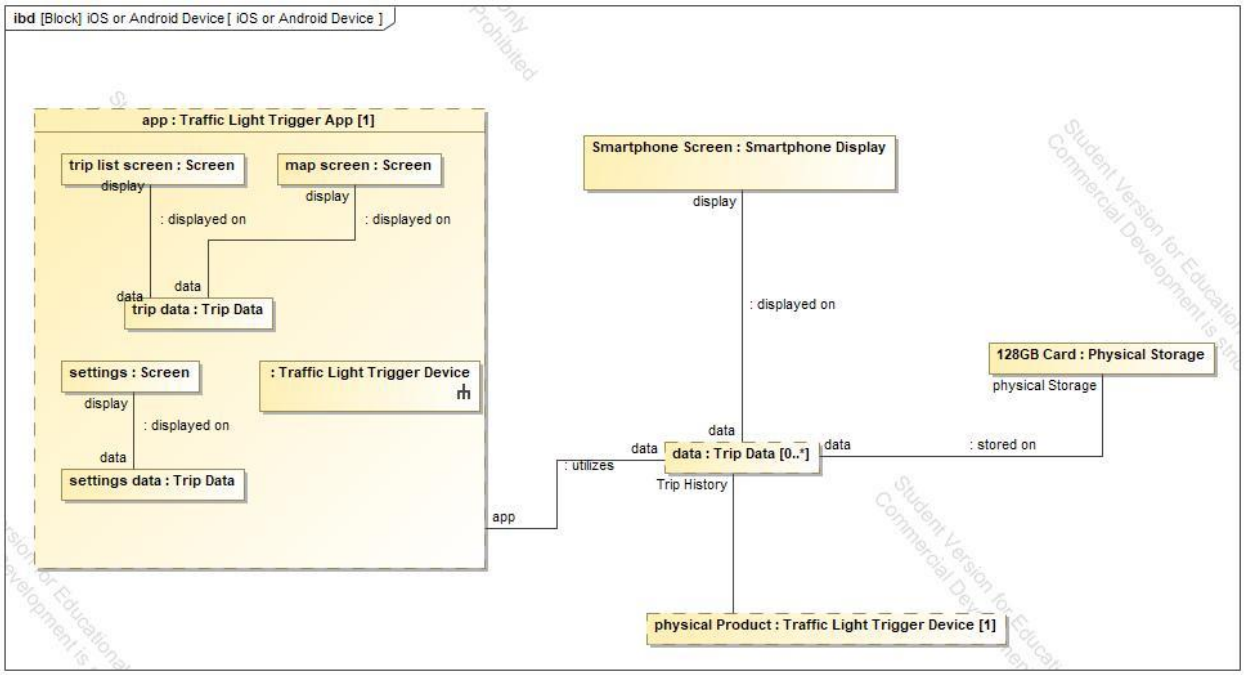

Figure 9 Diagram iOS or Android Device

10. Mapping Concept BBD to PoC

Diagram Specification>Documentation
In: Proof of Concepts.Mapping Concept BBD to PoC

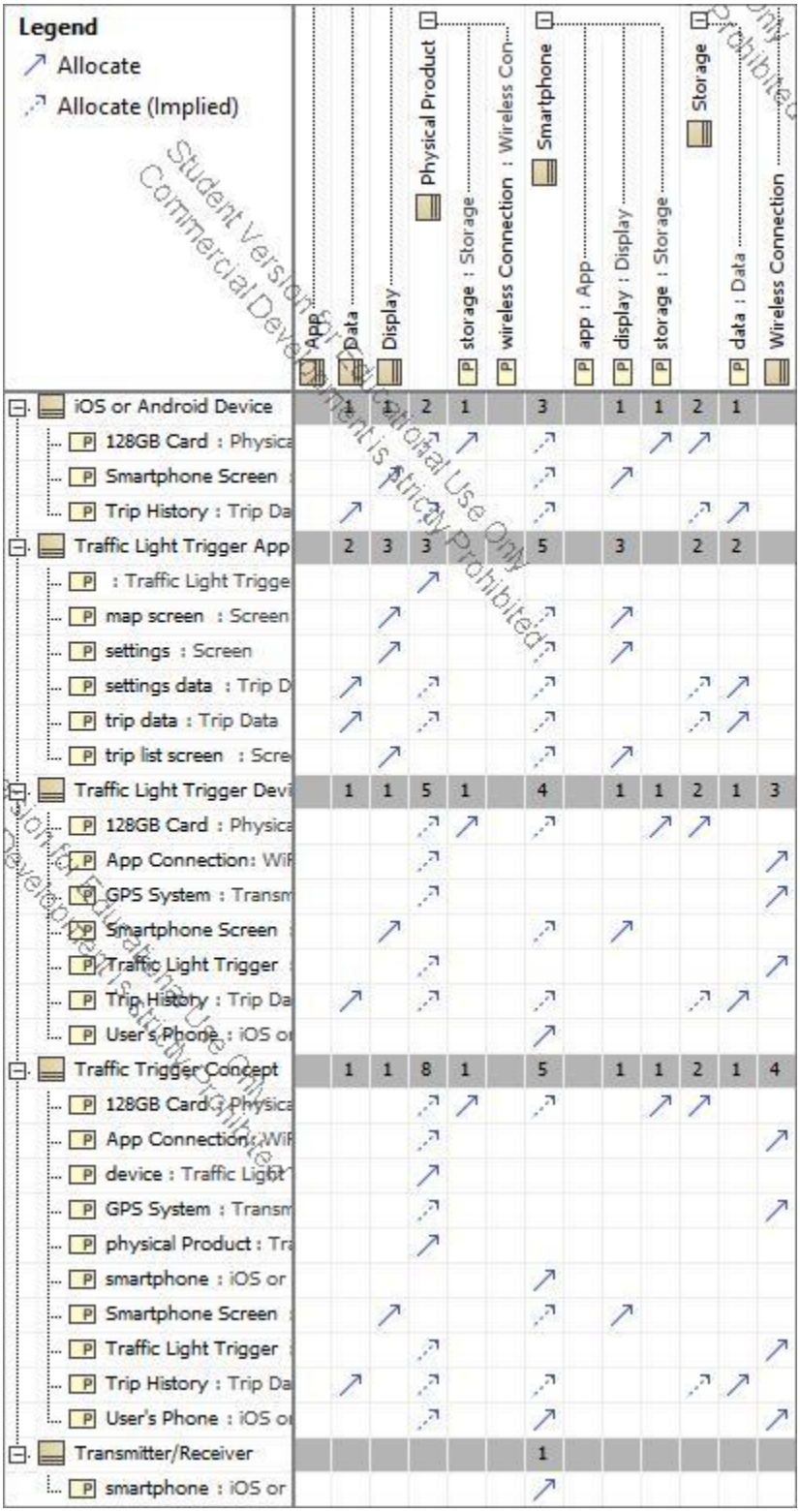

Figure 10 Diagram Mapping Concept BBD to PoC

11. PoC Activities - Share Trip Data

Diagram Specification>Documentation

In: Proof of Concepts.Functions.PoC Activities - Share Trip Data.PoC Activities - Share Trip Data

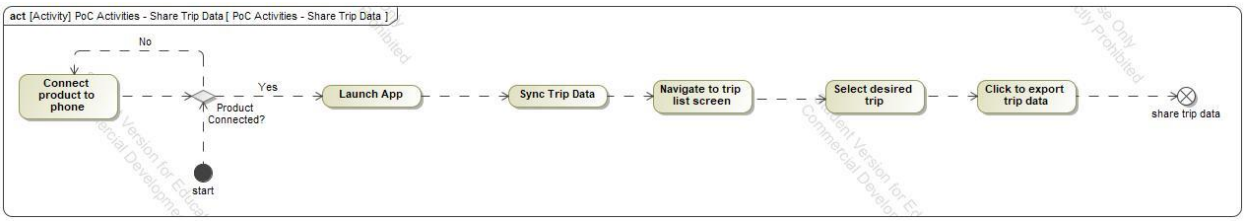

Figure 11 Diagram PoC Activities - Share Trip Data

Actor Summary

Primary Actor	Use Cases
Display system	• Display list of trips • Display map
Physical Product	• Connect to phone • Track location • Trigger traffic lights
Storage Systems	• Export location history • Store location history
System stakeholder (product user)	• Link app • Share trip info • Visually sort trips • Zoom in and out of map