

# AGGREGATION OF SEMANTIC SENSOR DATA

Graduation proposal

by

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## ACRONYMS

OGC	open geospatial consortium .....	1
O&M	observations and measurements .....	1
SensorML	sensor modelling language .....	1
SOS	sensor observation service .....	1
SSW	semantic sensor web .....	1
SWE	sensor web enablement .....	1
W <sub>3</sub> C	world wide web consortium .....	1



# 1 | INTRODUCTION

In 2008 the open geospatial consortium (OGC) introduced a new set of standards called sensor web enablement (SWE). These standards make it possible to connect sensors to the internet and retrieve data in a uniform way. This allows users or applications to retrieve all kinds of sensor data, regardless of the type of observations or the sensor's manufacturer (Botts et al., 2008). Among other standards SWE includes the observations and measurements (O&M) which is a model for encoding sensor data, the sensor modelling language (SensorML) which is a model for describing sensor metadata and the sensor observation service (SOS) which is a service for retrieving sensor data (Botts et al., 2007).

Parallel to the development of the sensor web other research has focused on the semantic web, as proposed by Berners-Lee et al. (2001). This is a response to the traditional way of using the web, where information is only available for humans to read. The semantic web is an extension of the internet which contains meaningful data that machines can interpret as well. Rather than publishing documents on the internet the semantic web contains linked data (Bizer et al., 2009).

Sheth et al. (2008) proposes to use semantic web technologies in the sensor web. This so-called semantic sensor web (SSW) builds on standards by OGC and the world wide web consortium (W3C) "to provide enhanced descriptions and meaning to sensor data" (Sheth et al., 2008, p.78). W3C responded to this development with a standard ontology for sensor data on the semantic web Compton et al. (2012).





## 2 | RELATED WORK

a related work section in which the relevant literature is presented and linked to the project;



# 3 | RESEARCH OBJECTIVES

the research objectives and/or research questions are clearly defined, along with the scope (ie what you will not be doing);



# 4 | METHODS

overview of the methodology to be used;



# 5 | PLANNING

time planning—having a Gantt chart is probably a better idea than just a list;

## 5.1 GANTT CHART

# Thesis Planning

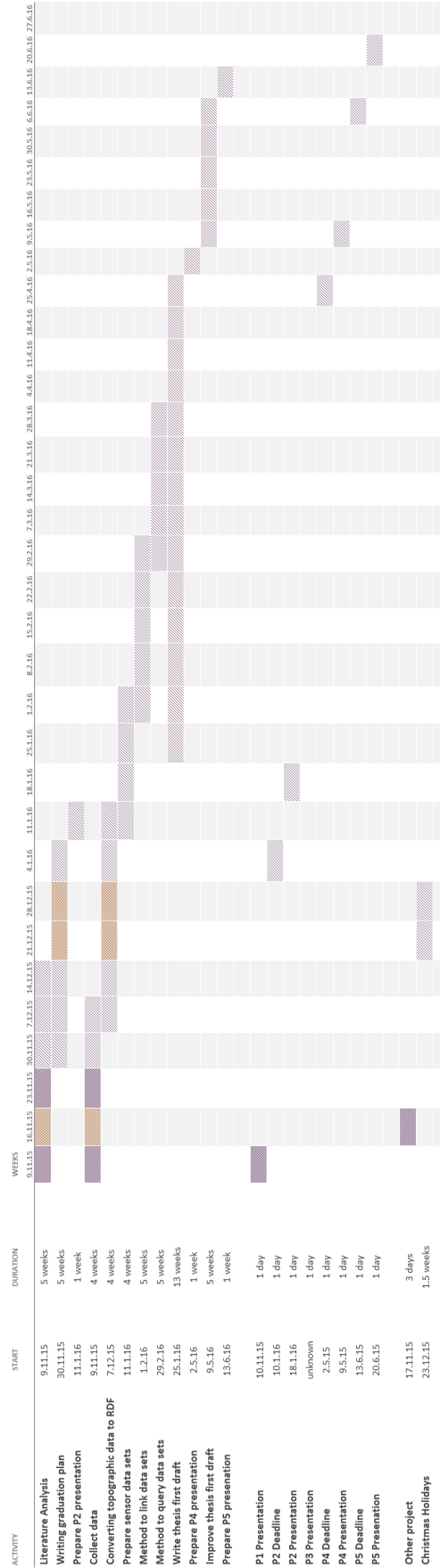


Figure 5.1: GANTT chart showing the planning of the thesis



## 6 | TOOLS AND DATA

since specific data and tools have to be used, it's good to present these concretely, so that the mentors know that you have a grasp of all aspects of the project;



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## COLOPHON

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