Project ICAROS Report Code	DE-PJVRS-2017-04-30
Title	**ICAROS LEAFLET**
Start/End Date	2017/02/15 - 2017/03/27
Coordinator name and email	
Name of teachers	Jörn Trautmann
Number and age of students	18 students with the subject "Computer science and economics" 17-21 years old.
Description of activities	Constructing a database by setting up an Entity-Relationship-Model for further programming an SQL-Script for it which helps the logistical process for the supply chain of ICAROS II.
Learning outcomes	The aim of the project is to implement the curricular topics of the students in the logistical process of the possibilities to find a supplier for the drone parts.

The project showed the possibilities to implement regular topics of the curriculum in the topic of the project. The students were high motivated because the project gave them the sense for how a database is constructed in order to aid the supply chain.

They enhanced even their language skills, because they had to present their results in English language.

The results can be used to help further projects i.e. for the construction process of ICAROS II. |

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Photos or other relevant material	Tasks:

Problem situation

As the reflection about the project has revealed, the Chinese company "Hobby King" did not perform well as a supplier. All teams suffered a time lack in delivering except the German team, because they ordered different parts. The situation for the Germans was lucky; because of they did not order in China, they had no delay in delivery.

This fact is certainly a lack of honour, but it brings us to a point, to think about Hobby King as a matching supplier for ICAROS 2. Therefore in Athens the question was raised, if it is an advantage to order all parts in Europe.

Finding suppliers is a task that will be given to other classes than you the 12 P. It will be your task, to set up a draft of a database which supports the logistical process.

As a base for all decisions serves the part list, which has been developed by Mr. Catalas class of our French partner school and Mr. Åström the teacher of our Swedish partner school. Therefore it is important, that at least an entity is created which is called "part". To specify this entity watch the list mentioned above and think about the possibility that parts could also be created by our European partner schools or other industrial partners that we might be able to find in Kassel. For this reason also the producer is important as an entity.

In Athens Mr. Åström and me had a planning about what kind of work the students that are using the database should do. They take the part list, make clear what kind of part it is (i.e. LiPo, esc, fcb …). They ask, where to buy it, what are the delivery time and costs. It is also important if it is duty free and if it is not, what the custom fees are. Parts should be preferably bought in Europe, so the supplier should deliver to whole Europe.

The database should also support the idea, that if a school is not able to find a matching part in its home country, that a partner school which is able to get it in its own country can send it to the other schools. Because of this reason the suppliers are important as an entity. Important also, that producers are transparent in the database and also that a partner school can be seen as a producer, if they are competent to produce some parts.
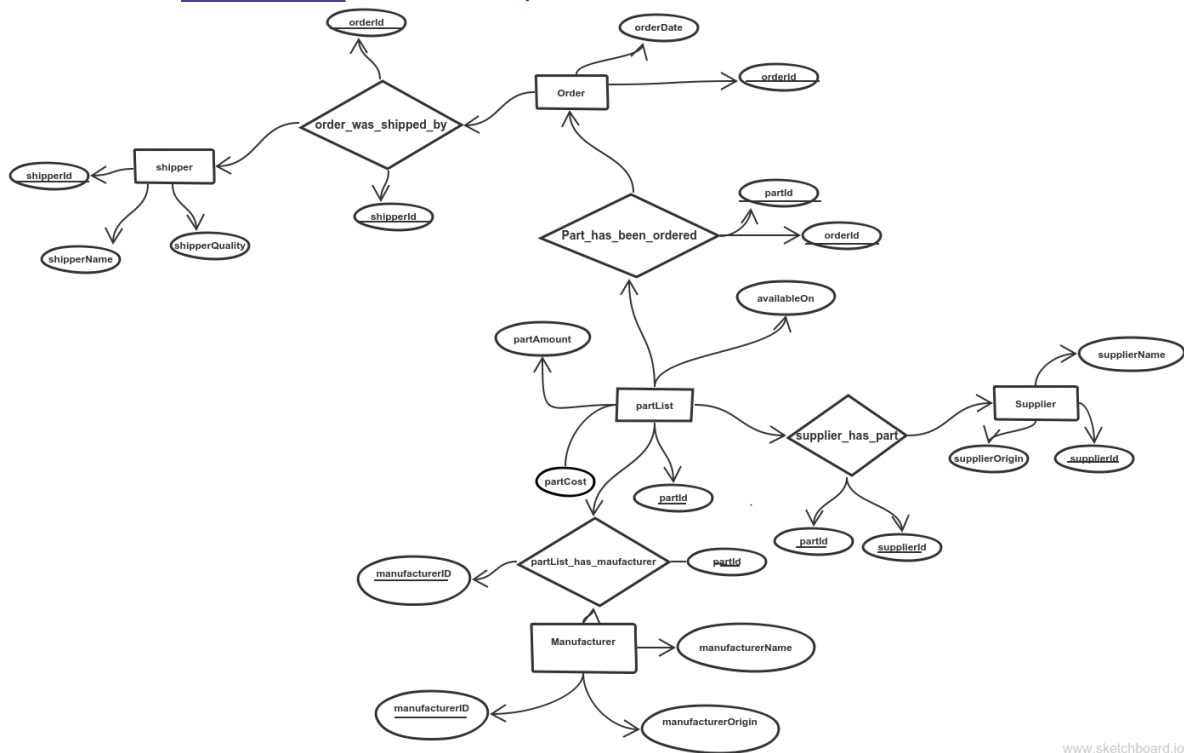
Paul-Jullus-von
REUTER-SCHULE
Kassel

Tasks:

1. Set up a Entity-Relationship-Diagram that is fulfilling the requirements above. It must contain primary and foreign keys, useful attributes and cardinalities.
2. Make sure, that no redundancies occur.
3. Develop a MySQL script to implement the logic model to a database.

Results see next page:

ER-diagram

drop database if exists drohne;

create database if not exists drohne;
use drohne;

create table if not exists partlist(partid integer not null auto_increment, partcost float, availableon date, partamount integer, primary key(partid));

create table if not exists supplier(supplierid integer not null auto_increment, supplierorigin varchar(50), suppliername varchar(20), primary key(supplierid));

create table if not exists manufacturer(manufacturerid integer not null auto_increment, manufacturername varchar(50), manufacturerorigin varchar(50), primary key(manufacturerid));

create table if not exists supplier_has_part(supplierid integer not null, partid integer not null);
create table if not exists patlist_has_manufacturer(partid integer not null, manufacturerid integer not null);

SQL-Script