

SWEN304/SWEN435 Database System Engineering

Tutorial 2: EER

week 5, T1, 2024

Suppose the local video shop hires you to design a database for them. They provide you with the following list of requirements. People need to be stored with their name, age and address. For customers it is possible to store their customer number, whereas for staff it is possible to store their staff id. The video shop rents out movies which are either videos or DVDs. A video has a video number, a DVD has its DVD number and some features. The shop would also like to keep track of sequels, i.e. one movie might be a sequel of another movie. Finally, the shop records when a customer hires a movie from a certain staff member. Therefore, the date needs to be stored as well.

- (a) Develop a EER diagram according to the requirements above. In case you feel there is some information missing, make appropriate assumptions (justify them!).
- (b) Describe the Entity- and Relationship types and Clusters in the EER diagram from **a)** using their formal definition:

i.e. $E = (attr(E), id(E))$, $R = (comp(R), attr(R), id(R))$, and $C = C_1 \oplus \dots \oplus C_n$