

Task 3: (E)ER-diagram to Relational Mapping

Step 1:

(Mapping of strong entities)

Here we include all the simple attributes and the simple components of the composite attributes. We don't include any multivalued attributes just yet. We also chose 1 primary key from our entity to put in our relation.

BANK ACCOUNT

<u>AccountNumber</u>	bankName
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USER

<u>UserID</u>	name	surname	username	password	email	country	dateOfBirth	student	individual	family
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REVIEW

<u>ReviewID</u>	comment	rating
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CONTENT

<u>ContentID</u>	language	genre	title	releaseDate	IMDBrating	summary	runtime	productionStudio	image
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CREW

<u>CrewID</u>	name	birthday	deathday	country	image
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Step 2:

(Mapping of weak entities)

N/A

Step 3:

(Mapping of 1:1 relationships)

Here we choose the side with total participation and add the primary key of the other side to this side as a foreign key.

BANK ACCOUNT

<u>AccountNumber</u>	bankName
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USER

<u>UserID</u>	name	surname	username	password	email	country	dateOfBirth	student	individual	family	AccountNumber
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REVIEW

<u>ReviewID</u>	comment	rating
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CONTENT

<u>ContentID</u>	language	genre	title	releaseDate	IMDBrating	summary	runtime	productionStudio	image
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CREW

<u>CrewID</u>	name	birthday	deathday	country	image
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Step 4:

(Mapping of 1:N relationships)

Here we map all the existing 1:N relationships. We choose the side N as the “S” relationship and add the primary key from the other side (the “1” side) to the “S” side. We also add any relationship attributes to the “S” side and update the relational model as follows:

BANK ACCOUNT

<u>AccountNumber</u>	bankName
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USER

<u>UserID</u>	name	surname	username	password	email	country	dateOfBirth	student	individual	family	AccountNumber
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REVIEW

<u>ReviewID</u>	comment	rating	UserID	ContentID
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CONTENT

<u>ContentID</u>	language	genre	title	releaseDate	IMDBrating	summary	runtime	productionStudio	image
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CREW

<u>CrewID</u>	name	birthday	deathday	country	image
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Step 5:

(Mapping of M:N relationships)

Here we map all the existing 1:N relationships. We choose the side N as the “S” relationship and add the primary key from the other side (the “1” side) to the “S” side. We also add any relationship attributes to the “S” side and update the relational model as follows:

BANK ACCOUNT

<u>AccountNumber</u>	bankName
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USER

<u>UserID</u>	name	surname	username	password	email	country	dateOfBirth	student	individual	family	AccountNumber
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REVIEW

<u>ReviewID</u>	comment	rating	UserID	ContentID
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CONTENT

<u>ContentID</u>	language	genre	title	releaseDate	IMDBrating	summary	runtime	productionStudio	image
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CREW

<u>CrewID</u>	name	birthday	deathday	country	image
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WORKS_ON

<u>ContentID</u>	<u>CrewID</u>
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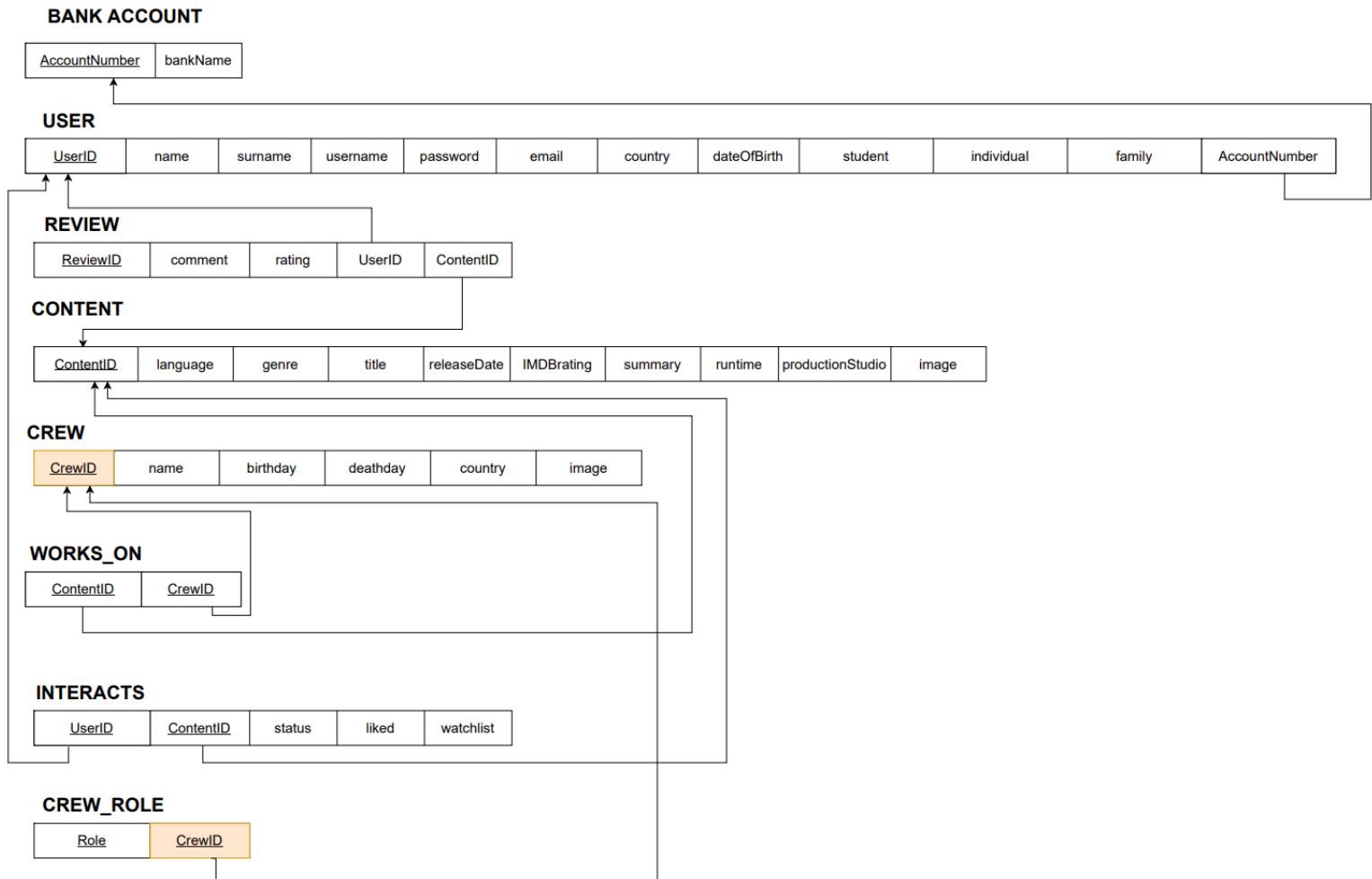
INTERACTS

<u>UserID</u>	<u>ContentID</u>	status	liked	watchlist
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Step 6:

(Mapping of multivalued attributes)

Here we will now include the multivalued attributes that we previously left out in Step 1. We create a new relation “R” for each multivalued attribute we have. We will then take the primary key from our entity and include it as a foreign key in “R” and also add our multivalued attribute to R. If our attribute is composite, we include its simple attributes:

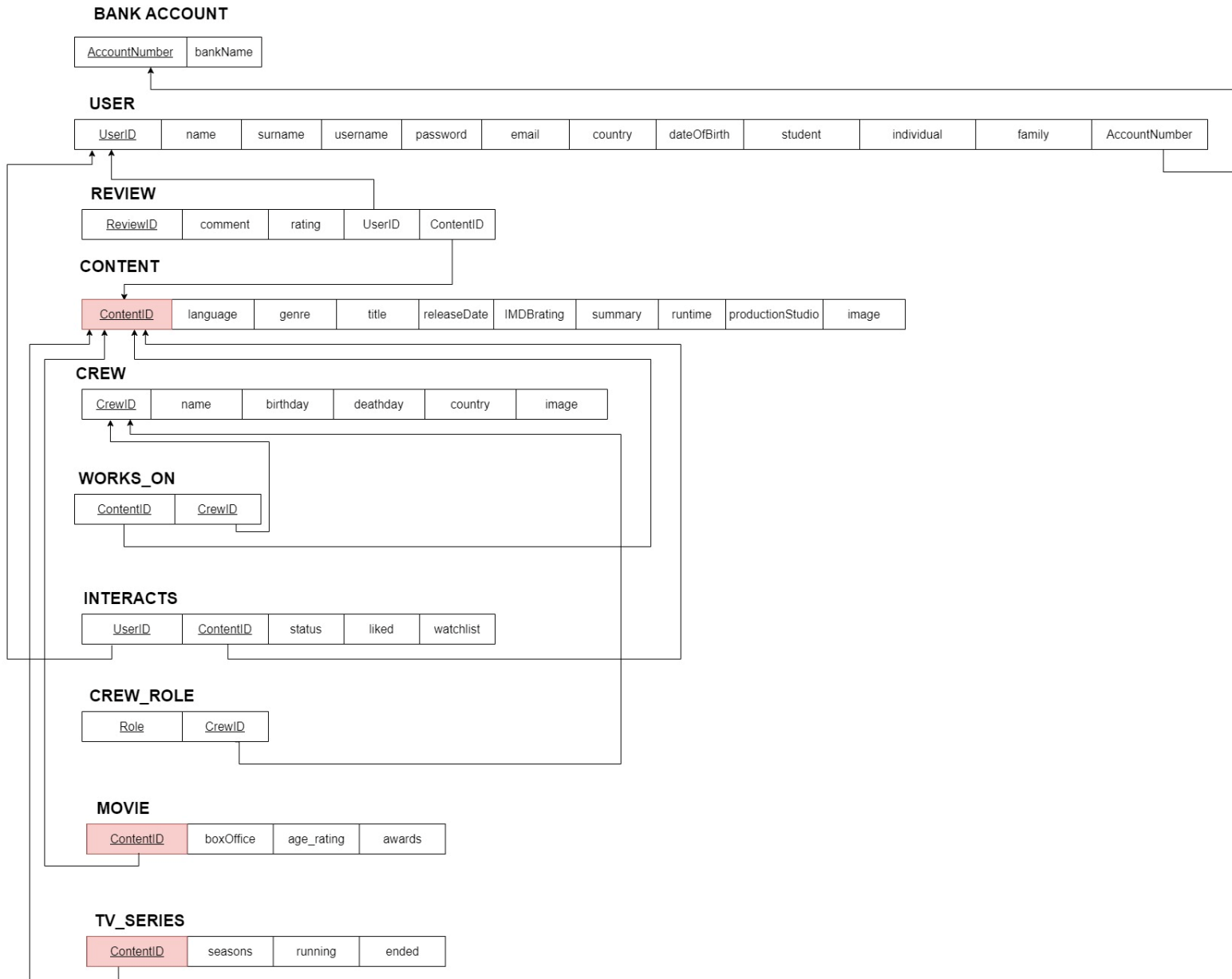


Step 7:

(Mapping of n-ary relationships)

N/A

Step 8:
(Mapping specialisation and generalisation)
We used Approach 1:



Step 9:
(Mapping unions)
N/A