Composition & Aggregation

Relationships Between Objects

Inheritance, Composition & Aggregation

Between Objects

All about expressing a relationship between objects

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Composition

Parts of an Object

- A way to combine essential parts into a larger whole

- Implies ownership

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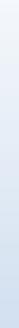Web Design & Development Bachelor of Science Degree

Composition Test

Parts of an Object

- A = part, B = larger object

- A is a B

- A is part of B

- B has no meaning without A

- A's lifespan is dependent on B

- A is a composite object

Composition Test

Handy Metaphor

- Fingers **are part of** a Hand

- When the hand dies, so does the fingers

- The hand **owns** the fingers

Other Composites

Examples

- Accounts are an composite part of a company.

- An engine is a composite part of a car.

- Your head is a composite part of you.

Aggregation

Parts of an Object

- When an object is composed of other objects.

Aggregation Test

On top of an object

- A = part, B = larger object

- B has a A

- B uses a A

- A's lifespan is independent of B

- A is an aggregate object

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Aggregation Test

A pond

- A pond **has a** duck

- The duck can exist away from the pond.

- A duck is an aggregate part of the pond

Other Aggregates

Examples

- Employees are an aggregate part of a company.

- A passenger is an aggregate part of a car.

- A hat is an aggregate part of you.

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