CLAIMS

1. A method for creating a model of a virtual object or digital entity, the method comprising:

receiving a plurality of human body portion models, wherein each respective human body portion model has a plurality of basic shapes, each basic shape comprising one or more regions and a set of muscle deformation descriptors influencing animation of a sequence of events within the respective basic shape according to corresponding muscle action units;

categorizing the muscle deformation descriptors according to groups based on a region influenced (“region of influence”) by the muscle action units of categorized muscle deformation descriptors;

generating at least one region masks for each basic shape based on the region of influence;

receiving a plurality of specified demographic prediction modifications to be made to one or more of the basic shapes of at least one human body portion model; and

generating at least one modified basic shape by blending at least two of the specified demographic prediction modifications together at a respective region mask.

2. The method of claim of claim 1, wherein generating the region mask comprises:

generating the region mask based on at least one deformation gradients relative to a shape of undeformed muscles corresponding to the muscle action units of categorized muscle deformation descriptors.

3. The method of claim 1 wherein the demographic prediction modifications include preserve variables to preserve selected features.

4. The method of any one of claims 1 to 3 wherein the plurality of basic shapes belong to one of: a body shape, a partial body shape, an upper body shape, a face shape and part of a partial face shape.

5. The method of any one of claims 1 to 4 wherein the plurality of the specified demographic prediction modifications includes at least one of of: an ageing prediction modification, a gender prediction modification, an ethnicity prediction modification and a physique prediction modification.

6. The method of any one of claims 1 to 5, wherein the plurality of basic shapes is a face or part of a face;

wherein generating the plurality of modified basic shapes includes:

generating one of: an eyeball asset, a cornea asset, a teeth asset, a tongue asset and a skull asset.

7. A system comprising one or more processors, and a non-transitory computer-readable medium including one or more sequences of instructions that, when executed by the one or more processors, cause the system to perform operations comprising:

receiving a plurality of human body portion models, wherein each respective human body portion model has a plurality of basic shapes, each basic shape comprising one or more regions and a set of muscle deformation descriptors influencing animation of a sequence of events within the respective basic shape according to corresponding muscle action units;

categorizing the muscle deformation descriptors according to groups based on a region influenced (“region of influence”) by the muscle action units of categorized muscle deformation descriptors;

generating at least one region masks for each basic shape based on the region of influence;

receiving a plurality of specified demographic prediction modifications to be made to one or more of the basic shapes of at least one human body portion model; and

generate at least one modified basic shape by blending at least two of the specified demographic prediction modifications together at a respective region mask.

8. The system of claim 7, wherein generate the region mask comprises:

generate the region mask based on at least one deformation gradients relative to a shape of undeformed muscles corresponding to the muscle action units of categorized muscle deformation descriptors.

9. The system of claim 7 or claim 8, wherein the demographic prediction modifications include preserve variables to preserve selected features.

10. The system of any one of claims 7 to 9, wherein the plurality of basic shapes belong to one of: a body shape, a partial body shape, an upper body shape, a face shape and a partial face shape.

11. The system of any one of claims 7 to 11 wherein the plurality of the specified demographic prediction modifications includes at least one of: an ageing prediction modification, a gender prediction modification, an ethnicity prediction modification and a physique prediction modification.

12. The system of any one of claims 20 to 33 wherein the plurality of basic shapes is a face or part of a face; and

wherein generating the plurality of modified basic shapes includes:

generating one of: an eyeball asset, a cornea asset, a teeth asset, a tongue asset and a skull asset.

13. A computer program product comprising a non-transitory computer-readable medium having a computer-readable program code embodied therein to be executed by one or more processors, the program code including instructions for:

receiving a plurality of human body portion models, wherein each respective human body portion model has a plurality of basic shapes, each basic shape comprising one or more regions and a set of muscle deformation descriptors influencing animation of a sequence of events within the respective basic shape according to corresponding muscle action units;

categorizing the muscle deformation descriptors according to groups based on a region influenced (“region of influence”) by the muscle action units of categorized muscle deformation descriptors;

generating at least one region masks for each basic shape based on the region of influence;

receiving a plurality of specified demographic prediction modifications to be made to one or more of the basic shapes of at least one human body portion model; and

generate at least one modified basic shape by blending at least two of the specified demographic prediction modifications together at a respective region mask.

14. The computer program product of claim 13, wherein generated the region mask comprises:

generating the region mask based on at least one deformation gradients relative to a shape of undeformed muscles corresponding to the muscle action units of categorized muscle deformation descriptors.

15. The computer program product of claim 13 or claim 14, wherein the demographic prediction modifications include preserve variables to preserve selected features.

16. The computer program product of any one of claims 13 to 15, wherein the plurality of basic shapes belong to one of: a body shape, a partial body shape, an upper body shape, a face shape and part of a partial face shape.

17. The computer program product of any one of claims 13 to 16, wherein the plurality of the specified demographic prediction modifications includes at least one of: an ageing prediction modification, a gender prediction modification, an ethnicity prediction modification and a physique prediction modification.

18. The computer program product of any one of claims 13 to 17, wherein the plurality of basic shapes is a face or part of a face; and

wherein generating the plurality of modified basic shapes includes:

generating one of: an eyeball asset, a cornea asset, a teeth asset, a tongue asset and a skull asset.