ALLNAMES:(Bricsys NV)

46 results Offices all Languages en Stemming true Single Family Member false Include NPL false

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1. **3971755** GEOMETRY-DRIVEN PARAMETERS IN COMPUTER-AIDED DESIGN EP - 23.03.2022

Int.Class G06F 30/10 **Appl.No** 20196666 **Applicant** BRICSYS NV **Inventor** KAZAKOV ALEXEY

A CAD model comprises one or more entities. A parameter and a dimensional constraint based on the parameter are received. Via direct user manipulation of an element in a GUI, wherein an element is an entity or part of an entity of the CAD model, a sequence of multiple desired movements is obtained. Upon obtaining a desired movement, a solution for the CAD model compliant with the dimensional constraint and the desired movement is computed via a constraint solver. If a solution can be computed, a rendering of the CAD model in the GUI is updated correspondingly. Via user input, the parameter is unlocked for direct user manipulation prior to the direct user manipulation. Computation of a solution via the constraint solver includes computing a new numerical value for the unlocked parameter.

2. **20210240882** CAD MODEL COMPRESSION VIA AUTOMATED BLOCK GENERATION US - 05.08.2021

Int.Class G06F 30/17 **Appl.No** 17263495 **Applicant** BRICSYS NV **Inventor** Tjerk GAUDERIS

A CAD model comprises multiple entities. Each entity comprises one or more subentities, wherein a subentity is a vertex, an edge or a face. From the CAD model a group of multiple entities comprising an identical geometry is obtained. This step comprises verifying whether the entities of a pair of entities comprise an identical geometry via sequentially verifying identity conditions of a sequence of multiple identity conditions, until either an identity condition of the sequence fails or all identity conditions of the sequence are verified. Each identity condition is based on the subentities of the pair of entities. A block definition comprising a block geometry based on said identical geometry is created. In the CAD model, the entities of the group are replaced with block references comprising a pointer to the block definition. The CAD model is thereby compressed.

3. **20210173981** AUTOMATIC PARAMETRIZATION OF A CAD MODEL US - 10.06.2021

Int.Class G06F 30/23 **Appl.No** 17263489 **Applicant** BRICSYS NV **Inventor** Chloë GUIDI

A CAD model comprises a set of at least three subentities. A candidate set of pairwise numerical constraints is obtained for the set of subentities, such that a first graph, representing the subentities of the set of subentities as nodes and the pairwise numerical constraints of the candidate set as edges, is connected. A minimal spanning subset of pairwise numerical constraints is obtained from the candidate set, such that a second graph, representing the subentities of the set of subentities as nodes and the pairwise numerical constraints of the minimal spanning subset as edges, is a spanning tree. A parameter set to parameterize the pairwise numerical constraints of the minimal spanning subset is determined. The parameter set and parametric constraints, based on the parameter set and the numerical values of the numerical constraints of the minimal spanning subset, are added to the CAD model.

4. **20210173982** CREATION OF AN EXPLODED VIEW OF AN ASSEMBLY IN CAD US - 10.06.2021

Int.Class G06F 30/25 **Appl.No** 17263501 **Applicant** BRICSYS NV **Inventor** Aleksei ULIANENKO

A CAD model comprises multiple parts forming an assembly. Per part, one or more test directions are determined. Per part and per test direction of the part, a blocking subset of parts is determined. For a part and test direction, a candidate set of candidate parts may be filtered via a view box. Based on the test direction, a ray set of border points associated with the part may be determined. A blocking subset may be determined from the candidate set based on ray tracing in the test direction from the border points of the ray set. A disassembly direction and one or more disassembly parts are selected from said multiple parts and the corresponding test directions based on the determined blocking subsets. An exploded view comprising a relative displacement of the one or more disassembly parts in the disassembly direction is created and displayed via a visualization means.

5. **3830738** CAD MODEL COMPRESSION VIA AUTOMATED BLOCK GENERATION EP - 09.06.2021

Int.Class G06F 30/00 **Appl.No** 19755402 **Applicant** BRICSYS NV **Inventor** GAUDERIS TJERK

A CAD model comprises multiple entities. Each entity comprises one or more subentities, wherein a subentity is a vertex, an edge or a face. From the CAD model a group of multiple entities comprising an identical geometry is obtained. This step comprises verifying whether the entities of a pair of entities comprise an identical geometry via sequentially verifying identity conditions of a sequence of multiple identity conditions, until either an identity condition of the sequence fails or all identity conditions of the sequence are verified. Each identity condition is based on the subentities of the pair of entities. A block definition comprising a block geometry based on said identical geometry is created. In the CAD model, the entities of the group are replaced with block references comprising a pointer to the block definition. The CAD model is thereby compressed.

6. **20210165928** GEOMETRY-BASED DETAIL PROPAGATION IN CAD MODELS US - 03.06.2021

Int.Class G06F 30/13 **Appl.No** 17263483 **Applicant** BRICSYS NV **Inventor** Jürgen DE ZAEYTIJD

Computer-implemented detail propagation in a CAD model is disclosed. A detail and a reference base set comprising N≥1 reference base solids are obtained via user selection. A detail volume to be replicated, encompassing the detail, is automatically computed. The detail volume comprises a surface and for each reference base solid a reference intersection curve of the surface and the reference base solid. A candidate base set comprising N candidate base solids comprising properties compatible with the reference base solids is automatically searched for. The detail volume is automatically mapped onto the candidate base set via a transformation. The mapping of the detail volume is automatically validated via the reference intersection curves. The detail

volume is replicated, or replicating of the detail volume is suggested to a user via a visualization means, to replace the corresponding volume at the candidate base set according to the validated mapping.

7. **3796202** AUTOMATED DETAIL ADAPTATION AND INSERTION IN A CAD MODEL EP - 24.03.2021

Int.Class G06F 30/13 **Appl.No** 19198098 **Applicant** BRICSYS NV **Inventor** DE ZAEYTIJD JÜRGEN

8. **20210081581** REGULAR GRID RECOGNITION IN A CAD MODEL US - 18.03.2021

Int.Class G06G 7/48 **Appl.No** 17019222 **Applicant** BRICSYS NV **Inventor** Roman Milovanov

A multitude of equal elements is identified in a CAD model. An element is an entity, a feature, a grid, an entity reference, a feature reference or a grid reference. Equal elements comprise an identical element geometry. A regular grid of multiple repetition positions is determined based on insertion positions of equal elements of the multitude. A group of multiple equal elements of the multitude, which comprise an insertion position associated with a repetition position of the regular grid, is replaced in the CAD model with grid data. The grid data comprises a grid insertion position, element data, and element repetition data. The element data may be a pointer to an element definition comprising said identical element geometry. The element repetition data may comprise linearly independent vectors and a number of repetitions according to each vector. Compression and ergonomic subsequent user editing of the CAD model are achieved.

9. **20210081582** AUTOMATED DETAIL ADAPTATION AND INSERTION IN A CAD MODEL US - 18.03.2021

Int.Class G06F 30/10 **Appl.No** 17024603 **Applicant** BRICSYS NV **Inventor** Jürgen DE ZAEYTIJD

Based on user input, a detail and N base solids at or near the detail are obtained. A solid type for each base solid is obtained. A reference parametrization for the base solids based on the solid types of the base solids is obtained. The reference parametrization comprises one or more parameters and associated initial parameter values for the base solids. N target solids are retrieved which comprise properties compatible with the N base solids based on the reference parametrization. A spatial transformation and new parameter values for the reference parametrization which form a mapping between the base solids and the target solids are computed. An adapted detail is inserted at or near the target solids, or the insertion thereof is suggested via a visualization means. The adapted detail is based on the detail, the spatial transformation and the new parameter values.

10. **3792808** REGULAR GRID RECOGNITION IN A CAD MODEL EP - 17.03.2021

Int.Class G06F 30/10 **Appl.No** 19197298 **Applicant** BRICSYS NV **Inventor** MILOVANOV ROMAN

A multitude of equal elements is identified in a CAD model. An element is an entity, a feature, a grid, an entity reference, a feature reference or a grid reference. Equal elements comprise an identical element geometry. A regular grid of multiple repetition positions is determined based on insertion positions of equal elements of the multitude. A group of multiple equal elements of the multitude, which comprise an insertion position associated with a repetition position of the regular grid, is replaced in the CAD model with grid data. The grid data comprises a grid insertion position, element data, and element repetition data. The element data may be a pointer to an element definition comprising said identical element geometry. The element repetition data may comprise linearly independent vectors and a number of repetitions according to each vector. Compression and ergonomic subsequent user editing of the CAD model are achieved.