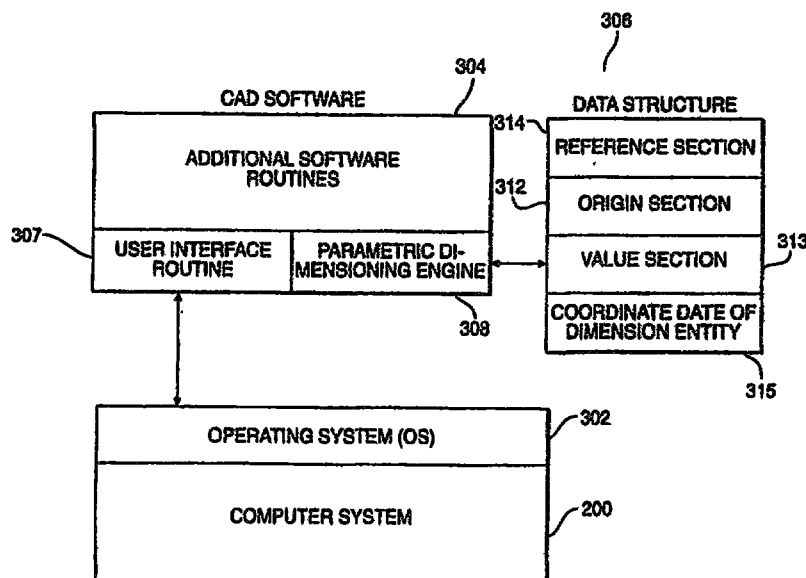




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(54) Title: A REFERENCE BASED PARAMETRIC DIMENSIONING METHOD AND SYSTEM



(57) Abstract

The described CAD system enables a drafter to easily enter dimension entities, which describe the physical dimensions of an object in a CAD drawing or model. The dimension entities define either linear, angular, or radial dimensions, and for each dimension entity, the user defines a reference origin in addition to the normal dimensional information. The value of each defined dimension entity may be a simple constant, a parameter, or an expression of multiple constants and parameters. By virtue of the added reference origin, a very complex network of related dimension entities can be simply defined and easily modified. The recalculation of the dimension entities is performed by a parametric dimensioning engine that transforms groups of entities from the global space of the general CAD drawing or model into a local space. While in local space, the parametric dimensioning recalculates the coordinate data of the entities.