

DXF Context Map (In Progress)

Graphical Element	Non-Graphical Element	Definition	Instantiation
Entity	Object		
Arc	Header		
Circle	Classes		
LWPPolyline	Table		
Line	Block		
Text			

Header	Tables	Model Space	Paper Space

Ubiquitous Language

- Graphical Element:** Things we need to draw
- Non-Graphical Element:** Contains positioning data, groupings, and metadata.
- DXF Metadata:** These may be especially important because they may contain parts of the DXF we need to retain to re-constitute a valid DXF.

Notes

Tables Section: These can be used to specify predefined constants, line styles, text styles, layers, view tables, user coordinate systems, etc. We will only use tables to define some layers for use later on. Note: not all programs that support DXF import will support layers and those that do usually insist on the layers being defined before use. The following will create a default line style and initialise layers 1 and 2 for use later on.

Tagged data: each data element is preceded with an integer called a group code.

Objects differ from entities: object have no graphical representation, entities do. Entities = graphical objects. Objects = non-graphical objects.

Entities appear in BLOCK and ENTITIES sections.

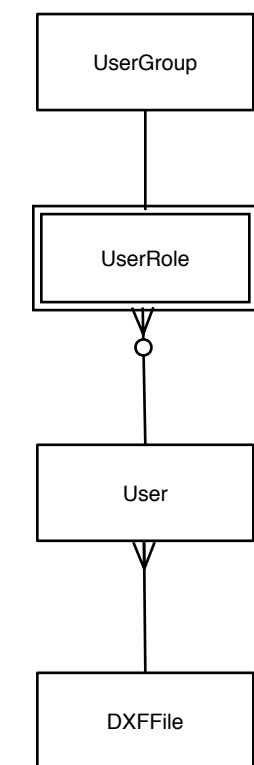
Some entity group codes always appear, some only appear if they override defaults.

The end of an entity is defined by the 0 group.

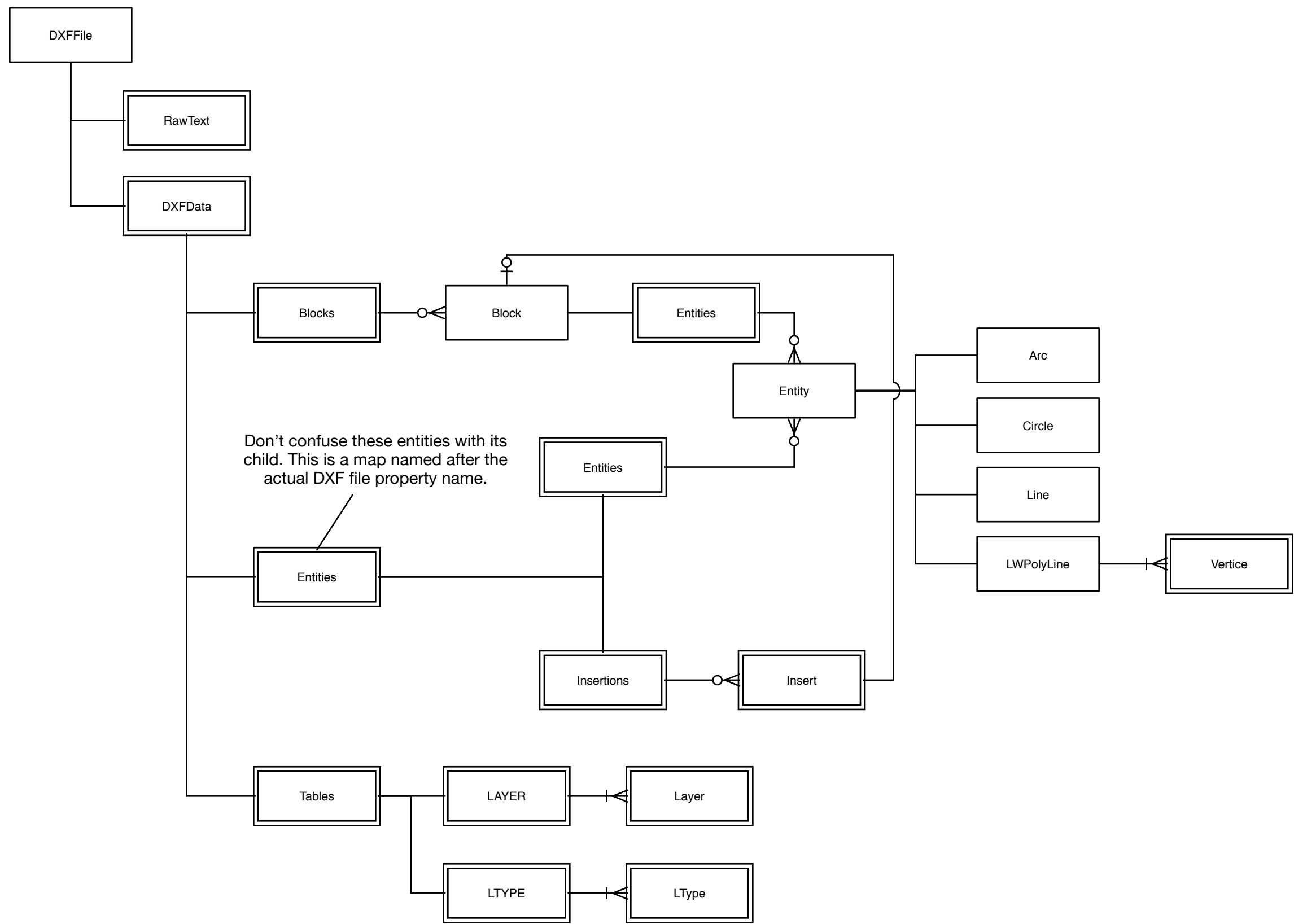
DXF Component Details						
EntityCommon lineTypeName : ArrayOf(Vertex) layer : ??? lineTypeScale : Number visible : Boolean colorNumber : Number extrusion : InstanceOf(Position)	ExtMinHeader extMin : InstanceOf(Position)	Table [row] : Dict	Blocks entities : ArrayOf(Entity) xRef : Number name : String x : Number y : Number z : Number	Entity type : EntityType xRef : Number name : String x : Number y : Number z : Number	PolyLine extends EntityCommon type : 'POLYLINE' vertices : ArrayOf(Vertex) closed : Boolean thickness : Number	EntityType (enum) ARC CIRCLE ELLIPSE INSERT POINT LINE LWPOLYLINE MESH MTEXT POLYLINE SOLID SPLINE VERTEX
Position x : Number y : Number z : Number	ExtMaxHeader extMax : InstanceOf(Position)	TableLayer name : String lineTypeName : String colorNumber : Number flags : ??????? lineWeightEnum : ????			Arc extends EntityCommon type : 'ARC' position : InstanceOf(Position) thickness : Number radius : Number startAngle : Number endAngle : Number	
Vertex type : 'VERTEX' x : Number y : Number bulge : Number		TableStyle name : String lineTypeName : String fixedTextHeight : ???? widthFactor : ??????? obliqueAngle : ???? flags : ???? lastHeightUsed : ???? primaryFontFileName : String bigFontFileName : String			Circle extends EntityCommon type : 'CIRCLE' position : InstanceOf(Position) radius : Number	Consider this for MText attributes: https://github.com/bjnortier/dxf/blob/master/lib/handlers/entity/mtext.js#L9-L56
Corners : Array 0 : InstanceOf(Position) 1 : InstanceOf(Position) 2 : InstanceOf(Position) 3 : InstanceOf(Position)		TableLType Note: This seems to get ignored			Ellipse extends EntityCommon type : 'ELLIPSE' position : InstanceOf(Position) major : InstanceOf(Position) axisRatio : Number startAngle : Number endAngle : Number	Consider colors: https://github.com/bjnortier/dxf/blob/master/lib/uttl/colors.js
					Insert extends EntityCommon type : 'INSERT' block : InstanceOf(Block) position : InstanceOf(Position) xScale : Number yScale : Number zScale : Number columnSpacing : Number rowSpacing : Number rotation : Number columnCount : Number rowCount : Number	
					Line extends EntityCommon type : 'LINE' block : InstanceOf(Block) start : InstanceOf(Position) thickness : Number end : InstanceOf(Position)	
					LWPPolyline extends EntityCommon type : 'LW_POLYLINE' closed : Boolean vertices : ArrayOf(Vertex) thickness : Number	
					MText extends EntityCommon type : 'MTEXT' string : String vertices : ArrayOf(Vertex) thickness : Number	
					Point extends EntityCommon type : 'POINT' position : InstanceOf(Position) thickness : Number	
					PolyLine extends EntityCommon type : 'POLYLINE' closed : Boolean thickness : Number	
					Solid extends EntityCommon type : 'SOLID' corners : Corners thickness : Number	
					Spline extends EntityCommon type : 'SPLINE' controlPoints : ArrayOf(Position) knots : ArrayOf(?????????) knowTolerance : Number controlPointTolerance : Number fitTolerance : Number flag : ?????? https://github.com/bjnortier/dxf/blob/master/lib/handlers/entity/spline.js#L41-L46 closed : Boolean degree : Number numberOfKnots : Number numberOfControlPoints : Number NumberOfFitPoints : Number	

DXF Entity Relationship Diagram

Application Domain



DXF Software Domain



Exported JSON Entity Relationship Diagram

