On planar embeddings

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A (projective) lax embedding of a connected point–line geometry $\Gamma = (P, L)$ is an injective mapping $e$ from the point–set $P$ of $\Gamma$ to the point–set of a desarguesian projective space $PG(V)$, with underlying vector space $V$ over a skew–field $K$, such that

(E1) the image $e(P)$ of $P$ spans $PG(V)$;

(E2) for every line $L$ of $\Gamma$, $e(L)$ spans a line of $PG(V)$;

(E3) no two distinct lines of $\Gamma$ are mapped by $e$ into the same line of $PG(V)$.

A lax embedding is said to be planar if $PG(V) = PG(2,K)$.

In this talk, some more or less known examples of planar embeddings of point–line geometries are presented, and a new construction of planar embeddings is provided.
Moreover, some questions about dominant planar embeddings are treated.