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— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

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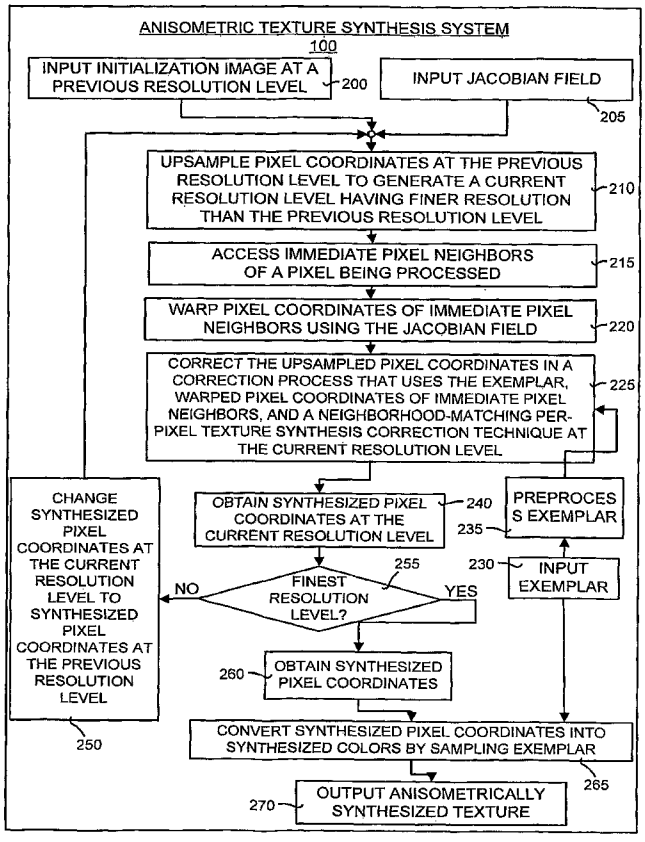
(54) Title: ANISOMETRIC TEXTURE SYNTHESIS



(57) Abstract: An anisometric texture synthesis system and method for generating anisometric textures having a similar visual appearance as a given exemplar, but with varying orientation and scale. This variation is achieved by modifying the upsampling and correction processes of the texture synthesis technique using a Jacobian field. The modified correction process includes accessing only immediate neighbors of a pixel instead of non-local pixels. This constraint that only immediate neighbors be used also allows the generation of seamless anisometric surface textures. This is achieved by using indirection maps containing indirection pointers that are used to jump from a set of pixels outside the boundary of a texture atlas chart to another chart. The system and method also includes an anisometric synthesis magnification technique that uses a Jacobian field to modify the magnification step of a synthesis magnification scheme and account for anisometry.

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