(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :03/08/2023

(21) Application No.202311052294 A
(43) Publication Date : 01/09/2023

(54) Title of the invention : A SYSTEM AND METHOD FOR RECONSTRUCTION OF OBSTRUCTED FACE PORTIONS IN A VIRTUAL REALITY ENVIRONMENT

(51) International classification	:G06F0003010000, G02B0027010000, G06T0015040000, G06T0019200000, G06T0017000000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
A method and system (100) for reconstructing obstructed face portions in a virtual reality (VR) environment, aimed at providing users with a more immersive and realistic VR experience. The system comprises sensors (104) embedded in a head-mounted display (HMD) (102), a real-time rendering engine (112), and a blending engine (114). The sensors (104) embedded in the HMD are responsible for capturing facial landmarks from the user's face. The real-time rendering engine (112), working in conjunction with a powerful processing unit, utilizes the captured facial landmarks to estimate the position and shape of obstructed face portions. Techniques such as 3D modeling and morphable models are employed to reconstruct the hidden face portions that are obscured by the HMD (102). A blending engine (114) applies techniques such as texture mapping to the reconstructed face portions, while alpha blending ensures smooth integration between the reconstructed face portions and the virtual environment in real-time

No. of Pages : 22 No. of Claims : 10