

Heart and Blood Flow Simulation using Position Based Dynamics

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Cardiovascular Disease (CVD) is considered to be the common cause of death in several counties while the necessity of experienced cardiologists is at its peak. The fate of the patients depends solely on how well-equipped the personnel and the hospitals are to overcome the clinical issues. Still, it can take a substantial amount of time for the practitioners to perfect their skills, even more so for rookies who just entered this daunting field. Hence, an educational oriented tool will undoubtedly assist the newcomers in this critical profession. This thesis aims to utilize a recent simulation technology namely “Position Based Dynamic” method to visualize the mechanism and phenomenon of the muscle and blood inside the human heart, including the heart muscle movement, the blood current and the interaction between them. Then an evaluation interview was conducted with a medical professor to review the simulated animation. As a result, the system had proven to be a promising means to examine the human heart and to investigate the differences between normal and abnormal cases.

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