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(57) Abstract :

The present invention relates to a biophilic design system for architectural spaces that integrates natural and nature-inspired elements to enhance occupant well-being, cognitive performance, and environmental sustainability. The system comprises living plants, natural materials, daylight-optimized lighting, water features, and biophilic wall coverings strategically incorporated into the built environment. A dynamic lighting system mimics natural sunlight, while an intelligent control unit adjusts light intensity, air quality, and environmental settings based on user preferences and external conditions. Additionally, a bio-based air filtration system purifies indoor air using plants and activated carbon, while acoustic elements introduce natural soundscapes for relaxation. The system allows personalized adjustments via a smart interface, creating adaptable, stress-reducing environments. The invention finds applications in homes, offices, healthcare, hospitality, and educational spaces.

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