Pengembangan E-Maintenance Bangunan Cagar Budaya Berbasis Work Breakdown Structure (WBS) Menggunakan Building Information Modeling (BIM) untuk Meningkatkan Kinerja Pemeliharaan Bangunan Gedung = Development of E-Maintenance In Heritage Building Based on Work Breakdown Structure (WBS) using Building Information Modeling (BIM) to Improve Building Maintenance Performance

Sheba Bilqis, author

Abstrak

Cagar Budaya adalah warisan budaya bersifat kebendaan yang berupa benda, bangunan , struktur, situs, dan kawasan di darat dan/atau di air yang perlu dilestarikan keberadaannya karena memiliki nilai penting bagi sejarah, ilmu pengetahuan, pendidikan, agama, dan/atau kebudayaan melalui proses penetapan. Kementerian Sekretariat Negara RI saat ini mengelola 6 Istana yang tersebar di Indonesia, yaitu Istana Negara, Istana Merdeka, Istana Kepresidenan Bogor, Istana Kepresidenan Cipanas, Istana Kepresidenan Yogyakarta serta Istana Kepresidenan Tampaksiring. Istana-istana tersebut menjadi tempat penting bagi presiden beserta wakil presiden dalam menjalankan roda pemerintahan baik dimasa lampau maupun dimasa sekarang. Saat ini keenam Istana Kepresidenan yang dimaksud telah ditetapkan sebagai Bangunan Gedung Cagar Budaya (BGCB) dan keberadaannya menjadi nilai penting dalam upaya pelestarian cagar budaya yang sudah diatur dalam Permen PU Nomor 19 Tahun 2021 tentang Pedoman Teknis Penyelenggaraan Bangunan Gedung yang dilestarikan. Atas dasar tersebut keandalan bangunan perlu didukung dengan sistem pemeliharaan yang baik, tepat dan benar terhadap bangunan gedung cagar budaya. Penelitian ini bertujuan mengembangkan e-maintenance berbasis (1) Work Breakdown Structure (WBS), sebagai dasar awal perencanaan pemeliharaan bangunan gedung cagar budaya, yang nantinya aktivitas kegiatana di urai menjadi suatu pedoman pelaksanaan pemeliharaan BGCB, selanjutnya diintegrasikan pada (2) Building Information Modeling (BIM) yang memuat informasi, pedoman, dan data historis pemeliharaan bangunan. Model ini kemudian dimasukkan dalam (3) Sistem Informasi, untuk mendukung kemudahan akses yang dapat mempercepat proses pemeliharaan bangunan gedung cagar budaya. Pengembangan e-maintenance ini akan meningkatkan kinerja pemeliharaan bangunan cagar budaya dan diharapkan dapat diadopsi untuk bangunan historis lainnya. Metodologi penelitian yang digunakan berupa validasi pakar, wawancara, studi literatur dan studi kasus. Hasil validasi kemudian diintegrasikan ke dalam BIM dan dikembangkan dalam sebuah sistem informasi yang diuji coba terhadap obyek penelitian bangunan gedung cagar budaya berupa bangunan gedung Istana Kepresidenan Bogor.

.....Cultural Heritage is material in the form of objects, buildings, structures, sites, and areas on land and / or in water that need to be preserved because they have important values for history, science, education, religion, and/or culture through the determination process. The Ministry of State Secretariat of the Republic of Indonesia currently manages 6 palaces spread across Indonesia: the State Palace, Merdeka Palace, Bogor Presidential Palace, Cipanas Presidential Palace, Yogyakarta Presidential Palace, and Tampaksiring Presidential Palace. These palaces are important places for the president and vice president in running the wheels of government both in the past and present. Currently, the six Presidential Palaces in question have been designated as Cultural Heritage Buildings, and their existence is an important value in efforts to

preserve cultural Heritage, which has been regulated in The Ministry of Public Works Regulation Number 19 of 2021 concerning Technical Guidelines for the Implementation of Preserved Buildings. On this basis, building reliability must be supported by a good, precise, and correct maintenance system for cultural heritage buildings. This study aims to develop e-maintenance based on (1) Work Breakdown Structure (WBS) as the initial basis for planning the maintenance of cultural heritage buildings, which later the activities will be broken down into a guideline for the implementation of BGCB maintenance, then integrated into (2) Building Information Modeling (BIM) which contains information, guidelines, and historical data on building maintenance. This model is then included in (3) Information Systems to support ease of access that can speed up the maintenance process of cultural heritage buildings. The development of this e-maintenance will improve the maintenance performance of cultural heritage buildings and is expected to be adopted for other historical buildings. The research methodology used is in the form of expert validation, interviews, literature studies and case studies. The validation results were then integrated into BIM and developed in an information system tested on the object of research on cultural heritage buildings in the form of the Bogor Presidential Palace building.