

RANCANG BANGUN SISTEM REPOSITORY DAN DEMONSTRASI KARYA MAHASISWA FIK UPNVJ BERBASIS *WEB* (PENGEMBANGAN BASIS DATA DAN MANAJEMEN ADMIN)

CIRA ALANDIA

ABSTRAK

Pengelolaan karya mahasiswa di Fakultas Ilmu Komputer UPN “Veteran” Jakarta masih menghadapi kendala berupa data yang tersebar, proses administrasi yang terpisah, dan belum terhubungnya repositori kode dengan informasi akademik. Penelitian ini bertujuan merancang basis data terintegrasi, mengembangkan logika *backend* Sistem Manajemen Admin, serta mengolah data repositori menjadi informasi akademik terstruktur. Permasalahan yang dibahas meliputi perancangan arsitektur basis data, pembatasan ruang lingkup data antara Admin Program Studi dan Superadmin, serta transformasi data repositori Gitea untuk kebutuhan pemantauan dan pelaporan. Sistem dikembangkan menggunakan metode *Extreme Programming* dengan Node.js, Express.js, Prisma ORM, PostgreSQL, dan Gitea. Hasil pengembangan menghasilkan basis data yang saling terhubung, pengelolaan administratif berdasarkan lingkup kewenangan, serta penyajian data repositori dalam bentuk informasi akademik yang dapat ditelusuri, disaring, dan diekspor. Pengujian menunjukkan bahwa 436 kasus *unit testing* dan 14 skenario pengujian basis data berhasil dijalankan tanpa kegagalan. *User Acceptance Testing* terhadap 188 pelaksanaan skenario memperoleh tingkat kesesuaian sebesar 100%. Hasil tersebut menunjukkan bahwa sistem mampu mendukung pengelolaan karya mahasiswa secara terstruktur, terintegrasi, dan sesuai dengan kebutuhan pengguna.

Kata kunci: basis data, repositori karya mahasiswa, Sistem Manajemen Admin, Gitea, *Extreme Programming*

**DESIGN AND DEVELOPMENT OF A WEB-BASED REPOSITORY
AND DEMONSTRATION SYSTEM FOR STUDENT ACADEMIC WORKS AT
FIK UPNVJ (DEVELOPMENT OF THE DATABASE AND
ADMINISTRATIVE MANAGEMENT MODULE)**

CIRA ALANDIA

ABSTRACT

The management of student works at the Faculty of Computer Science, Universitas Pembangunan Nasional “Veteran” Jakarta, still faces fragmented data, separate administrative processes, and a lack of integration between code repositories and academic information. This study aims to design an integrated database, develop the backend logic of an Admin Management System, and transform repository data into structured academic information. The problems addressed include database architecture design, data-scope restrictions between Study Program Admins and Superadmins, and the transformation of Gitea repository data for monitoring and reporting. The system was developed using Extreme Programming with Node.js, Express.js, Prisma ORM, PostgreSQL, and Gitea. The development produced an interconnected database, administrative management based on authority scope, and repository data presented as academic information that can be searched, filtered, and exported. Testing showed that 436 unit test cases and 14 database testing scenarios were completed without failures. User Acceptance Testing involving 188 executed scenarios achieved a 100% conformity rate. These results indicate that the system supports structured and integrated management of student works and meets user requirements.

Keywords: *database, student work repository, Admin Management System, Gitea, Extreme Programming*