

Yuda Apri Nor Hadi. 2026. *Pengembangan Game Edukasi Berbantuan Artificial Intelligence pada Materi Dasar-Dasar Pemrograman di SMKN 1 Sepuluh*. Skripsi, Program Studi Pendidikan Informatika, Fakultas Keguruan dan Ilmu Pendidikan, Universitas Trunodjoyo Madura.

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ABSTRAK

Pembelajaran dasar-dasar pemrograman di SMKN 1 Sepuluh masih menghadapi berbagai kendala, seperti rendahnya minat belajar siswa, keterbatasan media pembelajaran interaktif, dan kesulitan memahami konsep algoritma yang bersifat abstrak. Penelitian ini bertujuan untuk mengembangkan *Game Edukasi Code Quest* berbantuan *Artificial Intelligence* (AI) sebagai media pembelajaran pada materi algoritma dan pemrograman serta mengetahui tingkat kelayakannya. Penelitian ini menggunakan metode *Research and Development* (R&D) dengan model ADDIE yang meliputi tahap *Analyze*, *Design*, *Development*, *Implementation*, dan *Evaluation*. Subjek penelitian terdiri atas ahli media, ahli materi, dan siswa kelas X TKJ SMKN 1 Sepuluh. Teknik pengumpulan data menggunakan lembar validasi dan angket respons pengguna. Hasil penelitian menunjukkan bahwa *Game Edukasi Code Quest* berhasil dikembangkan dengan fitur materi pembelajaran, mode latihan, *puzzle Coding*, tantangan pemrograman, dan Nova AI sebagai asisten pembelajaran. Hasil validasi ahli materi memperoleh persentase 91% dan ahli media 87% dengan kategori sangat layak. Respons pengguna menunjukkan kategori sangat baik dengan persentase uji coba individu 87%, kelompok kecil 83,71%, dan kelompok besar 84,8%. Dengan demikian, *Game Edukasi Code Quest* berbantuan AI sangat layak digunakan sebagai media pembelajaran algoritma dan pemrograman di SMKN 1 Sepuluh.

Kata kunci: *Artificial Intelligence*, *Game Edukasi*, *Media Pembelajaran*, *Algoritma dan Pemrograman*, *ADDIE*.

Yuda Apri Nor Hadi. 2026. *Development of an Artificial Intelligence-Assisted Educational Game for Basic Programming Learning at SMKN 1 Sepuluh*. Thesis, Informatics Education Study Program, Faculty of Teacher Training and Education, Trunojoyo University of Madura.
Advisor: Muhamad Afif Effindi, S.Kom., M.T.

ABSTRACT

Learning basic programming at SMKN 1 Sepuluh still faces several challenges, including low student learning interest, limited interactive learning media, and difficulties in understanding abstract algorithmic concepts. This study aimed to develop an Artificial Intelligence (AI)-assisted educational Game called Code Quest as a learning medium for algorithm and programming materials and to determine its feasibility. This research employed the Research and Development (R&D) method using the ADDIE model, which consists of the Analyze, Design, Development, Implementation, and Evaluation stages. The research subjects included media experts, material experts, and Grade X students of the Computer and Network Engineering program at SMKN 1 Sepuluh. Data were collected through validation sheets and user response questionnaires. The results showed that the Code Quest educational Game was successfully developed with features including learning materials, practice mode, Coding puzzles, programming challenges, and Nova AI as a learning Assistant. The material expert validation obtained a score of 91%, while the media expert validation obtained 87%, both categorized as highly feasible. User responses were categorized as very good, with percentages of 87% in individual trials, 83.71% in small-group trials, and 84.8% in large-group trials. Therefore, the AI-assisted Code Quest educational Game is highly feasible for use as a learning medium for algorithms and programming at SMKN 1 Sepuluh.

Keywords: *Artificial Intelligence, Educational Game, Learning Media, Algorithms and Programming, ADDIE.*