

# Pengembangan Aplikasi Video Conference Untuk Aktivitas Diskusi Berkelompok = Video Conference Application Development For Group Discussion Activities

Azkiya Hanna Rofifah, author

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## Abstrak

Dalam menghadapi abad ke-21, peserta didik diharapkan memiliki skill dalam critical thinking and problem solving, communication, collaboration, dan creativity. Pengembangan skill tersebut dapat dilakukan melalui penerapan metode pembelajaran Cooperative Problem Based Learning (CPBL) yang banyak dilakukan menggunakan aplikasi video conference pada masa pandemi COVID-19. Dalam praktiknya, beberapa aspek CPBL belum dipenuhi oleh aplikasi video conference yang marak digunakan saat ini, khususnya pemberian evaluasi kinerja peserta didik, interaksi fasilitator dengan peserta didik, dan aksesibilitas informasi diskusi. Penelitian ini melibatkan empat dosen dan enam belas peserta didik dari Fakultas Ilmu Komputer Universitas Indonesia sebagai responden wawancara. Pertanyaan wawancara disusun berdasarkan kerangka kerja PBL dan hasilnya digunakan untuk pemetaan usulan solusi pengembangan aplikasi video conference bernama Wiyata. Usulan solusi diterapkan dalam rancangan desain yang dimulai dengan pembuatan user journey, benchmarking, serta pembuatan desain antarmuka. Sementara pengembangan sistem berdasarkan usulan solusi dimulai dengan perancangan implementasi sistem menggunakan diagram UML, pemilihan teknologi, perancangan arsitektur aplikasi, pengembangan bagian backend dan frontend, hingga deployment. Setelah perancangan desain dan pengembangan sistem, pengujian dan evaluasi dilakukan. Pengujian rancangan desain menggunakan metode Usability Testing dan SUS dan menghasilkan skor rata-rata sebesar 78.75 atau nilai B. Sementara pengujian implementasi sistem dilakukan dengan functional testing. Hasil functional testing menunjukkan keberhasilan implementasi aplikasi dari sisi fasilitator dan peserta didik berturut-turut adalah 92% dan 93%.

.....In facing the 21st century, students are expected to have skills in critical thinking and problem solving, communication, collaboration, and creativity. These skills can be developed through the application of the Cooperative Problem Based Learning (CPBL) method which is frequently done using video conferencing applications during the COVID-19 pandemic. Several aspects of CPBL have not been supported by video conferencing applications that are widely used today, in particular providing evaluations of student performance, interaction of facilitators with students, and accessibility of discussion information. This research involved four lecturers and sixteen students from the Faculty of Computer Science, University of Indonesia as respondents. The interviews question were arranged based on PBL framework and the results were used to map the proposed video conference application development solution called Wiyata. The proposed solution was implemented in the design, starting with creating user journeys, benchmarking, and building the user interface. Meanwhile, the system development based on the proposed solution began with system design using UML diagrams, technology selection, application architecture design, backend and frontend development, and deployment. After designing the user interface and developing the application, testing and evaluation are carried out. The design was tested by using the Usability Testing and SUS methods and resulted in an average score of 78.75 or a B value. Meanwhile, the system implementation was tested by functional testing. The results of functional testing show that the success rate of the application

from the facilitator's and student's point of view are 92% and 93%, respectively.