REPUBLIK INDONESIA
KEMENTERIAN HUKUM DAN HAK ASASI MANUSIA

SURAT PENCATATAN

CIPTAAN

Dalam rangka pelindungan ciptaan di bidang ilmu pengetahuan, seni dan sastra berdasarkan Undang-Undang Nomor 28 Tahun 2014 tentang Hak Cipta, dengan ini menerangkan:

Nomor dan tanggal permohonan	:	EC00202056403, 5 Desember 2020
Pencipta		
Nama	:	**Edy Winarno, Imam Husni Al Amin dkk**
Alamat	:	Klipang Pesona Asri III Blok E No. 46 RT 10 / RW 28 Sendangmulyo Tembalang, Semarang, JAWA TENGAH, 50242
Kewarganegaraan	:	Indonesia
Pemegang Hak Cipta		
Nama	:	**Edy Winarno, Imam Husni Al Amin dkk**
Alamat	:	Klipang Pesona Asri III Blok E No.46 RT 10 / RW 28 Sendangmulyo Tembalang, Semarang, JAWA TENGAH, 50272
Kewarganegaraan	:	Indonesia
Jenis Ciptaan	:	**Program Komputer**
Judul Ciptaan	:	**SISTEM PRESENSI BERBASIS PENGENALAN WAJAH MENGGUNAKAN METODE HYBRID FEATURE EXTRACTION**
Tanggal dan tempat diumumkan untuk pertama kali di wilayah Indonesia atau di luar wilayah Indonesia	:	5 Desember 2020, di Semarang
Jangka waktu pelindungan	:	Berlaku selama 50 (lima puluh) tahun sejak Ciptaan tersebut pertama kali dilakukan Pengumuman.
Nomor pencatatan	:	000224600

adalah benar berdasarkan keterangan yang diberikan oleh Pemohon.
Surat Pencatatan Hak Cipta atau produk Hak terkait ini sesuai dengan Pasal 72 Undang-Undang Nomor 28 Tahun 2014 tentang Hak Cipta.

a.n. MENTERI HUKUM DAN HAK ASASI MANUSIA
DIREKTUR JENDERAL KEKAYAAN INTELEKTUAL

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Disclaimer:
Dalam hal pemohon memberikan keterangan tidak sesuai dengan surat pernyataan, Menteri berwenang untuk mencabut surat pencatatan pemohon.

LAMPIRAN PENCIPTA

No	Nama	Alamat
1	Edy Winarno	Klipang Pesona Asri III Blok E No. 46 RT 10 / RW 28 Sendangmulyo Tembalang
2	Imam Husni Al Amin	Jl. Gemah Selatan II No. 56 RT 07 / RW 06 Gemah Pedurungan
3	Wiwien Hadikurniawati	Jl. Banjarsari No. 10 C RT 01 / RW 02 Tembalang Tembalang
4	Muchamad Taufiq Anwar	Bandungan RT 06 / RW 01 Gedangan Tuntang

LAMPIRAN PEMEGANG

No	Nama	Alamat
1	Edy Winarno	Klipang Pesona Asri III Blok E No.46 RT 10 / RW 28 Sendangmulyo Tembalang
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3	Wiwien Hadikurniawati	Jl. Banjarsari No. 10 C RT 01 / RW 02 Tembalang Tembalang
4	Muchamad Taufiq Anwar	Bandungan RT 06 / RW 01 Gedangan Tuntang

HAK CIPTA

PROGRAM KOMPUTER

SISTEM PRESENSI BERBASIS PENGENALAN WAJAH MENGGUNAKAN METODE HYBRID FEATURE EXTRACTION

PENCIPTA

1. Edy Winarno
2. Imam Husni Al Amin
3. Wiwien Hadikurniawati
4. Muchamad Taufiq Anwar

UNIVERSITAS STIKUBANK SEMARANG

2020

DESKRIPSI

Sistem presensi berbasis pengenalan wajah menggunakan metode hybrid feature extraction digunakan sebagai aplikasi sistem presensi kehadiran. Presensi kehadiran digunakan untuk mendeteksi dan mengenali identitas seseorang dan kemudian disimpan sebagai basis data wajah. Sistem presensi kehadiran berbasis wajah yang dikembangkan pada penelitian ini adalah sistem presensi wajah menggunakan metode hybrid feature extraction. Metode ini merupakan sebuah pengembangan metode baru yang menggabungkan beberapa metode ekstraksi fitur dengan melakukan beberapa pembobotan pada setiap metode sehingga dapat dihasilkan sebuah metode ekstraksi fitur baru yang lebih akurat. Sistem presensi wajah ini diimplementasikan menggunakan arsitektur client-server yang diintegrasikan pada jaringan komputer. Model arsitektur server-client pada jaringan komputer ini bisa digunakan untuk mesin presensi wajah yang dapat diakses secara intranet maupun via online menggunakan internet. Sistem presensi wajah menggunakan kamera ini sangat aman dan akurat untuk mendeteksi user karena memiliki proses data yang lebih akurat dan ketelitian tinggi, sehingga dapat menghasilkan sebuah sistem yang handal dan kuat untuk mengidentifikasi wajah manusia. Penelitian presensi wajah ini dapat dimanfaatkan untuk model presensi wajah yang bisa menghasilkan data presensi yang dapat diakses secara online, realtime dan dapat digunakan pada tempat yang berbeda.

SPESIFIKASI CIPTAAN

1. Software menggunakan Bahasa pemrograman C++
2. Software implementasi menggunakan tool Open Computer Vision V.1.4.3
3. Peripheral menggunakan Dual Vision Camera dan VGA Camera
4. Software Sistem Presensi Wajah dapat digunakan hingga 250 database wajah
5. Software sistem presensi wajah dapat digunakan secara real-time dengan waktu pengujian

LISTING PROGRAM

```
#pragma once

#include <iostream>
#include <fstream>
#include <sstream>
#include <string>

#include "msclr\marshal_cppstd.h"
#include "stdafx.h"

#include "FormAbout.h"
#include "FormAdministrator.h"
#include "FormCamera.h"
#include "FormHowto.h"
#include "FormLogin.h"
#include "FormPhoto.h"
#include "FormReport.h"
#include "FormPerson.h"
#include "FormSetting.h"

#include "FTPHelper.h"

using namespace std;
using namespace System;
using namespace System::Collections;
using namespace System::ComponentModel;
using namespace System::Data;
using namespace System::Diagnostics;
using namespace System::Drawing;
using namespace System::Runtime::InteropServices;
using namespace System::Windows::Forms;

using namespace System::Data::SqlClient;
using namespace System::Configuration;
using namespace System::Data::Odbc;
using namespace System::Data::Common;
using namespace System::Data::OleDb;
using namespace System::Windows::Forms;

using namespace NameSpaceAbout;
using namespace NameSpaceAdministrator;
using namespace NameSpaceCamera;
using namespace NameSpaceHowto;
using namespace NameSpaceLogin;
using namespace NameSpacePhoto;
using namespace NameSpaceReport;
using namespace NameSpacePerson;
using namespace NameSpaceSetting;

using namespace NameSpaceFTPHelper;

namespace NameSpaceMain
{
        public ref class FormMain : public System::Windows::Forms::Form
        {
                FormAbout^ formAbout;
                FormAdministrator^ formAdministrator;
                FormCamera^ formCamera;
                FormHowto^ formHowto;
                FormLogin^ formLogin;
                FormPhoto^ formPhoto;
                FormReport^ formReport;
                FormPerson^ formPerson;
                FormSetting^ formSetting;

        private: FTPHelper ^ ftphelper;

        private: System::Windows::Forms::ToolStripMenuItem^ menuitemFile;
        private: System::Windows::Forms::ToolStripMenuItem^ submenuitemCamera;
        private: System::Windows::Forms::ToolStripMenuItem^ submenuitemLogin;
```

```
                        private: System::Windows::Forms::ToolStripMenuItem^ submenuitemLogout;
                        private: System::Windows::Forms::ToolStripMenuItem^ submenuitemExit;
                        private: System::Windows::Forms::ToolStripMenuItem^ menuitemAdministrasion;
                        private: System::Windows::Forms::ToolStripMenuItem^ submenuitemPhoto;

                        private: System::Windows::Forms::ToolStripMenuItem^ submenuitemPerson;

                        private: System::Windows::Forms::ToolStripMenuItem^ submenuitemReport;
                        private: System::Windows::Forms::ToolStripMenuItem^ submenuitemAdministrator;

                        private: System::Windows::Forms::ToolStripMenuItem^ bantuanToolStripMenuItem;
                        private: System::Windows::Forms::ToolStripMenuItem^ submenuitemHowto;
                        private: System::Windows::Forms::ToolStripMenuItem^ submenuitemAbout;
                        private: System::Windows::Forms::Timer^  timerLogin;
                        private: System::Windows::Forms::ToolStripMenuItem^  submenuitemSetting;

                        private: System::Windows::Forms::MenuStrip^ menuStrip;

                        public:
                                FormMain(void)
                                {
                                        InitializeComponent();
                                }

                        protected:
                                ~FormMain()
                                {
                                        if (components)
                                        {
                                                delete components;
                                        }
                                }

                        private: System::Windows::Forms::StatusStrip^ statusStrip;
                        private: System::Windows::Forms::ToolStripStatusLabel^ statusLabel;
                        private: System::Windows::Forms::ToolStripStatusLabel^ toolstripStatuslabel;
                        private: System::ComponentModel::IContainer^ components;

                #pragma region Windows Form Designer generated code

                                         void InitializeComponent(void)
                                         {
                                                 this->components = (gcnew
System::ComponentModel::Container());
                                                 this->statusStrip = (gcnew
System::Windows::Forms::StatusStrip());
                                                 this->toolstripStatuslabel = (gcnew
System::Windows::Forms::ToolStripStatusLabel());
                                                 this->statusLabel = (gcnew
System::Windows::Forms::ToolStripStatusLabel());
                                                 this->menuitemFile = (gcnew
System::Windows::Forms::ToolStripMenuItem());
                                                 this->submenuitemCamera = (gcnew
System::Windows::Forms::ToolStripMenuItem());
                                                 this->submenuitemLogin = (gcnew
System::Windows::Forms::ToolStripMenuItem());
                                                 this->submenuitemLogout = (gcnew
System::Windows::Forms::ToolStripMenuItem());
                                                 this->submenuitemExit = (gcnew
System::Windows::Forms::ToolStripMenuItem());
                                                 this->menuitemAdministrasion = (gcnew
System::Windows::Forms::ToolStripMenuItem());
                                                 this->submenuitemPhoto = (gcnew
System::Windows::Forms::ToolStripMenuItem());
                                                 this->submenuitemPerson = (gcnew
System::Windows::Forms::ToolStripMenuItem());
                                                 this->submenuitemReport = (gcnew
System::Windows::Forms::ToolStripMenuItem());
                                                 this->submenuitemSetting = (gcnew
System::Windows::Forms::ToolStripMenuItem());
                                                 this->submenuitemAdministrator = (gcnew
System::Windows::Forms::ToolStripMenuItem());
                                                 this->bantuanToolStripMenuItem = (gcnew
System::Windows::Forms::ToolStripMenuItem());
```

```
                                                  this->submenuitemHowto = (gcnew
System::Windows::Forms::ToolStripMenuItem());
                                                  this->submenuitemAbout = (gcnew
System::Windows::Forms::ToolStripMenuItem());
                                                  this->menuStrip = (gcnew
System::Windows::Forms::MenuStrip());
                                                  this->timerLogin = (gcnew
System::Windows::Forms::Timer(this->components));
                                                  this->statusStrip->SuspendLayout();
                                                  this->menuStrip->SuspendLayout();
                                                  this->SuspendLayout();
                                                  //
                                                  // statusStrip
                                                  //
                                                  this->statusStrip->BackColor =
System::Drawing::Color::FromArgb(static_cast<System::Int32>(static_cast<System::Byte>(224)),
static_cast<System::Int32>(static_cast<System::Byte>(224)),

static_cast<System::Int32>(static_cast<System::Byte>(224)));
                                                  this->statusStrip->Items->AddRange(gcnew cli::array<
System::Windows::Forms::ToolStripItem^  >(2) {this->toolstripStatuslabel,
                                                          this->statusLabel});
                                                  this->statusStrip->Location =
System::Drawing::Point(0, 727);
                                                  this->statusStrip->Name = L"statusStrip";
                                                  this->statusStrip->Size = System::Drawing::Size(932,
22);
                                                  this->statusStrip->TabIndex = 6;
                                                  this->statusStrip->Text = L"statusStrip";
                                                  //
                                                  // toolstripStatuslabel
                                                  //
                                                  this->toolstripStatuslabel->Name =
L"toolstripStatuslabel";
                                                  this->toolstripStatuslabel->Size =
System::Drawing::Size(0, 17);
                                                  //
                                                  // statusLabel
                                                  //
                                                  this->statusLabel->AutoSize = false;
                                                  this->statusLabel->Name = L"statusLabel";
                                                  this->statusLabel->Size = System::Drawing::Size(650,
17);
                                                  this->statusLabel->TextAlign =
System::Drawing::ContentAlignment::MiddleLeft;
                                                  //
                                                  // menuitemFile
                                                  //
                                                  this->menuitemFile->DropDownItems->AddRange(gcnew
cli::array< System::Windows::Forms::ToolStripItem^  >(4) {this->submenuitemCamera,
                                                          this->submenuitemLogin, this-
>submenuitemLogout, this->submenuitemExit});
                                                  this->menuitemFile->Name = L"menuitemFile";
                                                  this->menuitemFile->Size = System::Drawing::Size(53,
20);
                                                  this->menuitemFile->Text = L"Berkas";
                                                  //
                                                  // submenuitemCamera
                                                  //
                                                  this->submenuitemCamera->Name =
L"submenuitemCamera";
                                                  this->submenuitemCamera->Size =
System::Drawing::Size(114, 22);
                                                  this->submenuitemCamera->Text = L"Kamera";
                                                  this->submenuitemCamera->Click += gcnew
System::EventHandler(this, &FormMain::submenuitemCamera_Click);
                                                  //
                                                  // submenuitemLogin
                                                  //
                                                  this->submenuitemLogin->Name = L"submenuitemLogin";
                                                  this->submenuitemLogin->Size =
System::Drawing::Size(114, 22);
                                                  this->submenuitemLogin->Text = L"Login";
                                                  this->submenuitemLogin->Click += gcnew
System::EventHandler(this, &FormMain::submenuitemLogin_Click);
                                                  //
                                                  // submenuitemLogout
                                                  //
                                                  this->submenuitemLogout->Name =
L"submenuitemLogout";
                                                  this->submenuitemLogout->Size =
System::Drawing::Size(114, 22);
                                                  this->submenuitemLogout->Text = L"Logout";
                                                  this->submenuitemLogout->Click += gcnew
System::EventHandler(this, &FormMain::submenuitemLogout_Click);
                                                  //
                                                  // submenuitemExit
                                                  //
                                                  this->submenuitemExit->Name = L"submenuitemExit";
                                                  this->submenuitemExit->Size =
System::Drawing::Size(114, 22);
                                                  this->submenuitemExit->Text = L"Keluar";
                                                  this->submenuitemExit->Click += gcnew
System::EventHandler(this, &FormMain::submenuitemExit_Click);
                                                  //
                                                  // menuitemAdministrasion
                                                  //
                                                  this->menuitemAdministrasion->DropDownItems-
>AddRange(gcnew cli::array< System::Windows::Forms::ToolStripItem^  >(5) {this->submenuitemPhoto,
                                                          this->submenuitemPerson, this-
>submenuitemReport, this->submenuitemSetting, this->submenuitemAdministrator});
                                                  this->menuitemAdministrasion->Name =
L"menuitemAdministrasion";
                                                  this->menuitemAdministrasion->Size =
System::Drawing::Size(85, 20);
                                                  this->menuitemAdministrasion->Text =
L"Administrasi";
                                                  //
                                                  // submenuitemPhoto
                                                  //
                                                  this->submenuitemPhoto->Name = L"submenuitemPhoto";
                                                  this->submenuitemPhoto->Size =
System::Drawing::Size(117, 22);
                                                  this->submenuitemPhoto->Text = L"Foto";
                                                  this->submenuitemPhoto->Click += gcnew
System::EventHandler(this, &FormMain::submenuitemPhoto_Click);
                                                  //
                                                  // submenuitemPerson
                                                  //
                                                  this->submenuitemPerson->Name =
L"submenuitemPerson";
                                                  this->submenuitemPerson->Size =
System::Drawing::Size(117, 22);
                                                  this->submenuitemPerson->Text = L"Orang";
                                                  this->submenuitemPerson->Click += gcnew
System::EventHandler(this, &FormMain::submenuitemPerson_Click);
                                                  //
                                                  // submenuitemReport
                                                  //
                                                  this->submenuitemReport->Name =
L"submenuitemReport";
                                                  this->submenuitemReport->Size =
System::Drawing::Size(117, 22);
                                                  this->submenuitemReport->Text = L"Laporan";
                                                  this->submenuitemReport->Click += gcnew
System::EventHandler(this, &FormMain::submenuitemReport_Click);
                                                  //
                                                  // submenuitemSetting
                                                  //
                                                  this->submenuitemSetting->Name =
L"submenuitemSetting";
                                                  this->submenuitemSetting->Size =
System::Drawing::Size(117, 22);
                                                  this->submenuitemSetting->Text = L"Aturan";
                                                  this->submenuitemSetting->Click += gcnew
System::EventHandler(this, &FormMain::submenuitemSetting_Click);
                                                  //
                                                  // submenuitemAdministrator
                                                  //
                                                  this->submenuitemAdministrator->Name = 
L"submenuitemAdministrator";
                                                  this->submenuitemAdministrator->Size = 
System::Drawing::Size(117, 22);
                                                  this->submenuitemAdministrator->Text = L"Admin";
                                                  this->submenuitemAdministrator->Click += gcnew 
System::EventHandler(this, &FormMain::submenuitemAdministrator_Click);
                                                  //
                                                  // bantuanToolStripMenuItem
                                                  //
                                                  this->bantuanToolStripMenuItem->DropDownItems-
>AddRange(gcnew cli::array< System::Windows::Forms::ToolStripItem^  >(2) {this->submenuitemHowto, 
                                                          this->submenuitemAbout});
                                                  this->bantuanToolStripMenuItem->Name = 
L"bantuanToolStripMenuItem";
                                                  this->bantuanToolStripMenuItem->Size = 
System::Drawing::Size(63, 20);
                                                  this->bantuanToolStripMenuItem->Text = L"Bantuan";
                                                  this->bantuanToolStripMenuItem->Visible = false;
                                                  //
                                                  // submenuitemHowto
                                                  //
                                                  this->submenuitemHowto->Name = L"submenuitemHowto";
                                                  this->submenuitemHowto->Size = 
System::Drawing::Size(141, 22);
                                                  this->submenuitemHowto->Text = L"Penggunaan";
                                                  this->submenuitemHowto->Click += gcnew 
System::EventHandler(this, &FormMain::submenuitemHowto_Click);
                                                  //
                                                  // submenuitemAbout
                                                  //
                                                  this->submenuitemAbout->Name = L"submenuitemAbout";
                                                  this->submenuitemAbout->Size = 
System::Drawing::Size(141, 22);
                                                  this->submenuitemAbout->Text = L"Tentang";
                                                  this->submenuitemAbout->Click += gcnew 
System::EventHandler(this, &FormMain::submenuitemAbout_Click);
                                                  //
                                                  // menuStrip
                                                  //
                                                  this->menuStrip->BackColor = 
System::Drawing::Color::FromArgb(static_cast<System::Int32>(static_cast<System::Byte>(224)), 
static_cast<System::Int32>(static_cast<System::Byte>(224)), 

static_cast<System::Int32>(static_cast<System::Byte>(224)));
                                                  this->menuStrip->Items->AddRange(gcnew cli::array< 
System::Windows::Forms::ToolStripItem^  >(3) {this->menuitemFile, this->menuitemAdministrasion, 
                                                          this->bantuanToolStripMenuItem});
                                                  this->menuStrip->Location = 
System::Drawing::Point(0, 0);
                                                  this->menuStrip->Name = L"menuStrip";
                                                  this->menuStrip->Size = System::Drawing::Size(932, 
24);
                                                  this->menuStrip->TabIndex = 12;
                                                  this->menuStrip->Text = L"Menu Utama";
                                                  //
                                                  // timerLogin
                                                  //
                                                  this->timerLogin->Tick += gcnew 
System::EventHandler(this, &FormMain::timerLog_Tick);
                                                  //
                                                  // FormMain
                                                  //
                                                  this->AutoScaleDimensions = 
System::Drawing::SizeF(6, 13);
                                                  this->AutoScaleMode = 
System::Windows::Forms::AutoScaleMode::Font;
                                                  this->BackColor = 
System::Drawing::Color::WhiteSmoke;
                                                  this->ClientSize = System::Drawing::Size(932, 749);
                                                  this->Controls->Add(this->statusStrip);
                                                  this->Controls->Add(this->menuStrip);
```

```
                                                this->IsMdiContainer = true;
                                                this->MainMenuStrip = this->menuStrip;
                                                this->Name = L"FormMain";
                                                this->StartPosition =
System::Windows::Forms::FormStartPosition::CenterScreen;
                                                this->Text = L"Aplikasi Kehadiran Pegawai";
                                                this->WindowState =
System::Windows::Forms::FormWindowState::Maximized;
                                                this->Load += gcnew System::EventHandler(this,
&FormMain::FormMain_Load);
                                                this->statusStrip->ResumeLayout(false);
                                                this->statusStrip->PerformLayout();
                                                this->menuStrip->ResumeLayout(false);
                                                this->menuStrip->PerformLayout();
                                                this->ResumeLayout(false);
                                                this->PerformLayout();

                                        }

                #pragma endregion


                                        //
=====================================================================================================
==============
                                        // FORM LOAD
                                        //
=====================================================================================================
==============

                                        void FormMain_Load(System::Object^ sender,
System::EventArgs^ e)
                                        {
                                                startForm();
                                        }

                                        //
=====================================================================================================
==============
                                        // SUBMENU
                                        //
=====================================================================================================
==============

                        private: System::Void submenuitemCamera_Click(System::Object^ sender,
System::EventArgs^ e) {
                                                showCameraform();
                                        }

                        private: System::Void submenuitemLogin_Click(System::Object^ sender,
System::EventArgs^ e) {
                                                actLogin();
                                        }

                        private: System::Void submenuitemLogout_Click(System::Object^ sender,
System::EventArgs^ e) {
                                                actLogout();
                                        }

                        private: System::Void submenuitemExit_Click(System::Object^ sender,
System::EventArgs^ e) {
                                                Application::Exit();
                                        }

                        private: System::Void submenuitemPhoto_Click(System::Object^ sender,
System::EventArgs^ e) {
                                                showPhotoform();
                                        }

                        private: System::Void submenuitemPerson_Click(System::Object^ sender,
System::EventArgs^ e) {
                                                showPersonform();
                                        }
                        private: System::Void submenuitemReport_Click(System::Object^ sender,
System::EventArgs^ e) {
                                                  showReportform();
                                          }

                        private: System::Void submenuitemSetting_Click(System::Object^  sender,
System::EventArgs^  e) {
                                                  showSettingform();
                                          }

                        private: System::Void submenuitemAdministrator_Click(System::Object^ sender,
System::EventArgs^ e) {
                                                  showAdministratorform();
                                          }

                        private: System::Void submenuitemHowto_Click(System::Object^ sender,
System::EventArgs^ e) {
                                                  showHowtoform();
                                          }

                        private: System::Void submenuitemAbout_Click(System::Object^ sender,
System::EventArgs^ e) {
                                                  showAboutform();
                                          }

                        private: System::Void timerLog_Tick(System::Object^  sender,
System::EventArgs^  e) {
                                                  checkLoginform();
                                          }

                        private: void startForm()
                                          {
                                                  ftphelper = gcnew FTPHelper();
                                                  ftphelper->downloadFile("ftp://"+ftphelper-
>hostname+"/data_server/eye.xml", "data_client/eye.xml");
                                                  ftphelper->downloadFile("ftp://"+ftphelper-
>hostname+"/data_server/face.xml", "data_client/face.xml");
                                                  ftphelper->downloadFile("ftp://"+ftphelper-
>hostname+"/data_server/facedataasimetric.xml", "data_client/facedataasimetric.xml");
                                                  ftphelper->downloadFile("ftp://"+ftphelper-
>hostname+"/data_server/haarcascade.xml", "data_client/haarcascade.xml");

                                                  //                      ftphelper-
>deleteFile("ftp://"+ftphelper->hostname+"/picture.png");
                                                  //                      ftphelper-
>checkFile("ftp://"+ftphelper->hostname+"/picture.png");
                                                  //                      ftphelper-
>downloadFile("ftp://"+ftphelper->hostname+"/picture.png", "picture.png");
                                                  //                      ftphelper-
>getList("ftp://"+ftphelper->hostname+"/");
                                                  //                      ftphelper-
>getURIdate("ftp://"+ftphelper->hostname+"/picture.png");
                                                  //                      ftphelper-
>getFiledate("picture.png");

                                                  formAdministrator = gcnew FormAdministrator;
                                                  formAdministrator->MdiParent = this;
                                                  formAdministrator->Dock = DockStyle::None;

                                                  formCamera = gcnew FormCamera;
                                                  formCamera->MdiParent = this;
                                                  formCamera->Dock = DockStyle::None;

                                                  formLogin = gcnew FormLogin;
                                                  formLogin->MdiParent = this;
                                                  formLogin->Dock = DockStyle::None;

                                                  formPhoto = gcnew FormPhoto;
                                                  formPhoto->MdiParent = this;
                                                  formPhoto->Dock = DockStyle::None;

                                                  formReport = gcnew FormReport;
                                                  formReport->MdiParent = this;
                                                  formReport->Dock = DockStyle::None;
```

```
                         formPerson = gcnew FormPerson;
                         formPerson->MdiParent = this;
                         formPerson->Dock = DockStyle::None;

                         formSetting = gcnew FormSetting;
                         formSetting->MdiParent = this;
                         formSetting->Dock = DockStyle::None;

                         formHowto = gcnew FormHowto;
                         formHowto->MdiParent = this;
                         formHowto->Dock = DockStyle::None;

                         formAbout = gcnew FormAbout;
                         formAbout->MdiParent = this;
                         formAbout->Dock = DockStyle::None;

                         actLogin();
                 }

private: void showUsermenu()
                 {
                         submenuitemLogout->Visible=false;
                         menuitemAdministrasion->Visible=false;
                         submenuitemLogout->Visible=false;
                         submenuitemLogin->Visible=true;
                         formCamera->glovarAdministratorflag = false;
                         formCamera->labelPersonName->Visible = false;
                         formCamera->comboboxPersonsName->Visible = false;
                         formCamera->buttonSave->Visible = false;
                         formCamera->loadPersonsNameToCB();
                 }

private: void showAdminmenu()
                 {
                         submenuitemLogout->Visible=true;
                         menuitemAdministrasion->Visible=true;
                         submenuitemLogout->Visible=true;
                         submenuitemLogin->Visible=false;
                         formCamera->glovarAdministratorflag = true;
                         formCamera->labelPersonName->Visible = true;
                         formCamera->comboboxPersonsName->Visible = true;
                         formCamera->buttonSave->Visible = true;
                         formCamera->loadPersonsNameToCB();
                 }

private: void actLogin()
                 {
                         formLogin->setLogflag();
                         formLogin->resetForm();
                         showUsermenu();
                         showLoginform();
                 }

private: void showLoginform()
                 {
                         timerLogin->Enabled=true;
                         timerLogin->Start();
                         formLogin->Show();
                         formLogin->BringToFront();
                 }

private: void hideLoginform()
                 {
                         timerLogin->Enabled=false;
                         timerLogin->Stop();
                         formLogin->Hide();
                 }

private: void checkLoginform()
                 {
                         if(formLogin->getLogflag()==true)
                         {
                                 timerLogin->Enabled=false;
```

```
                            timerLogin->Stop();
                            hideLoginform();
                            showAdminmenu();
                        }
                    }

            private: void actLogout()
                    {
                        formLogin->setLogflag();
                        showUsermenu();
                        showLoginform();
                    }

            private: void showCameraform()
                    {
                        formCamera->glovarMinimizedflag = false;
                        formCamera->Show();
                        formCamera->startForm();
                    }

            private: void showHowtoform()
                    {
                        formHowto->Show();
                    }

            private: void showAboutform()
                    {
                        formAbout->Show();
                    }

            private: void showPhotoform()
                    {
                        if(formLogin->getLogflag()==true)
                        {
                            formPhoto->Show();
                        }
                    }

            private: void showPersonform()
                    {
                        if(formLogin->getLogflag()==true)
                        {
                            formPerson->Show();
                            formPerson->loadPersonsToPersonsDGV();
                        }
                    }

            private: void showReportform()
                    {
                        if(formLogin->getLogflag()==true)
                        {
                            formReport->Show();
                            formReport->startForm();
                        }
                    }
            private: void showSettingform()
                    {
                        if(formLogin->getLogflag()==true)
                        {
                            formSetting->Show();
                            formSetting->loadSetting();
                        }
                    }
            private: void showAdministratorform()
                    {
                        if(formLogin->getLogflag()==true)
                        {
                            formAdministrator->Show();
                            formAdministrator-
>loadAdministratorsToAdministratorsDGV();
                        }
                    }
            };
```

MANUAL BOOK

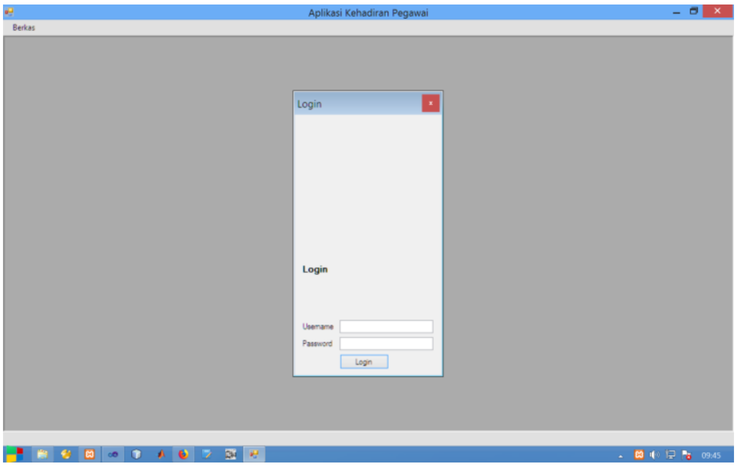
PENGGUNAAN PROGRAM KOMPUTER

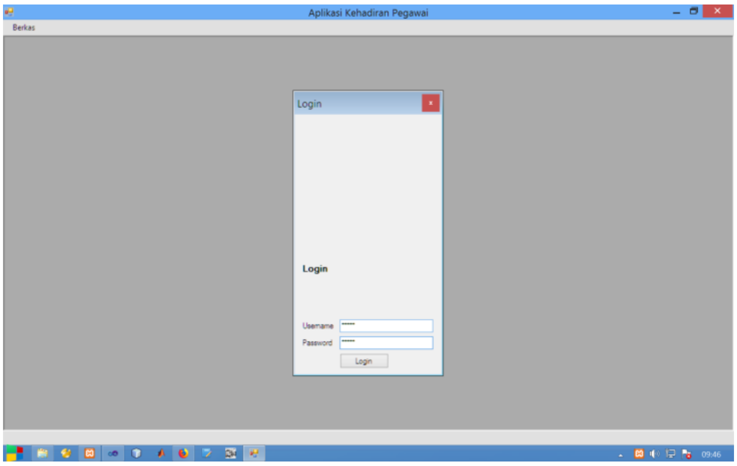
“SISTEM PRESENSI BERBASIS PENGENALAN WAJAH MENGGUNAKAN METODE HYBRID FEATURE EXTRACTION”

A. PROSES INSTALASI

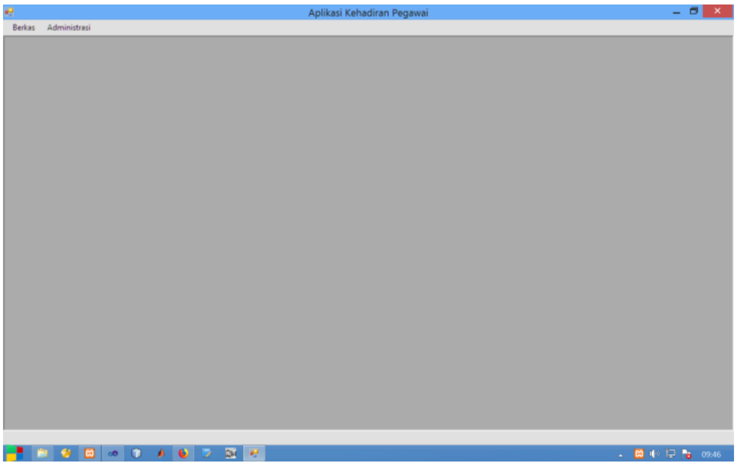
Proses instalasi dilakukan pada komputer berbasis windows dengan menginstall software OpenCV yang dapat diunduh secara open access (free) dari internet. Setelah OpenCV terinstall dengan benar maka program bisa dijalankan. Lakukan proses “RUN” pada file yang telah dibuka, sehingga tampilan dapat dilihat seperti di bawah ini:

1. Lakukan proses login

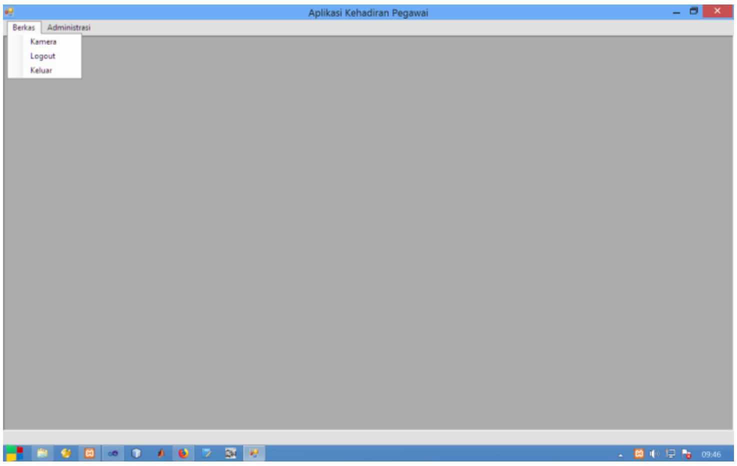




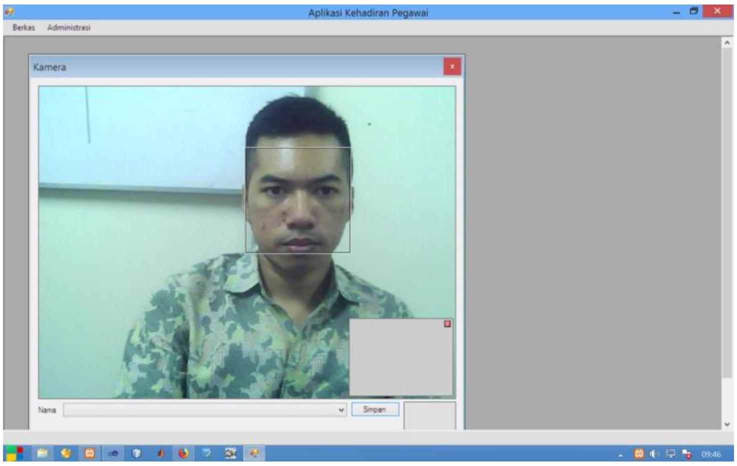
2. Lakukan proses pengisian database citra wajah pada berkas



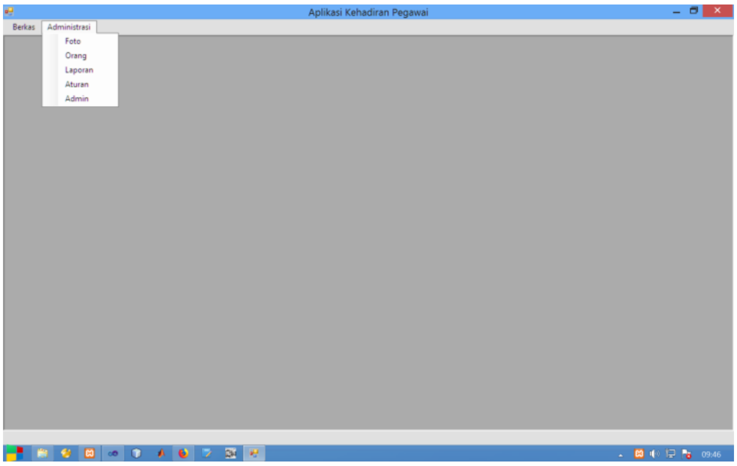
3. Lakukan pengambilan citra wajah untuk disimpan pada database wajah



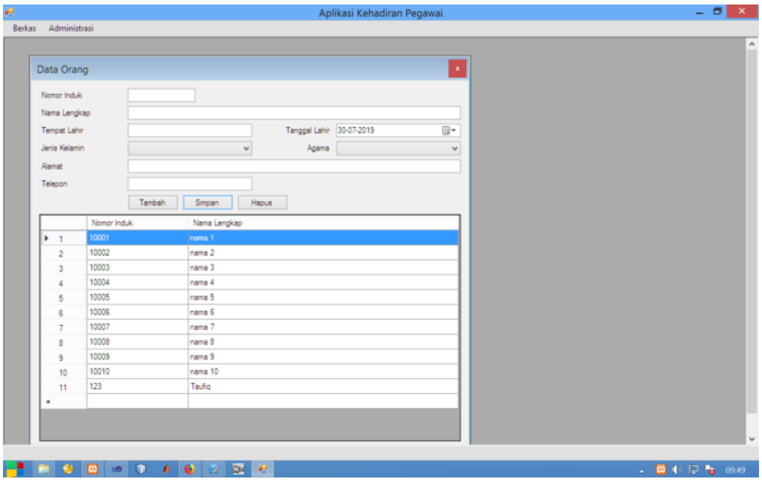
4. Pastikan wajah terdeteksi oleh kamera



5. Lakukan proses pengisian pada menu Administrasi untuk menampilkan foto, orang, laporan, aturan dan manajemen Admin



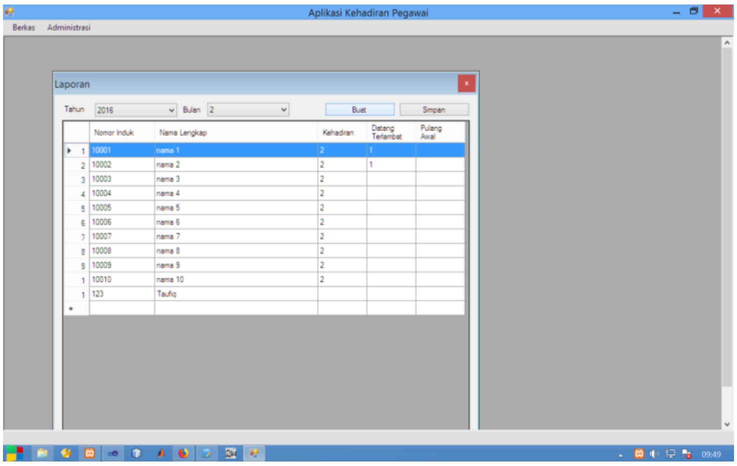
6. Lakukan pengisian data setiap wajah yang disimpan pada database



Nomor Induk
Nama Lengkap
Tempat Lahir
Tanggal Lahir 30-07-2019
Jenis Kelamin
Agama
Alamat
Telepon

	Nomor Induk	Nama Lengkap
1	10001	nama 1
2	10002	nama 2
3	10003	nama 3
4	10004	nama 4
5	10005	nama 5
6	10006	nama 6
7	10007	nama 7
8	10008	nama 8
9	10009	nama 9
10	10010	nama 10
11	123	Taufiq
*		

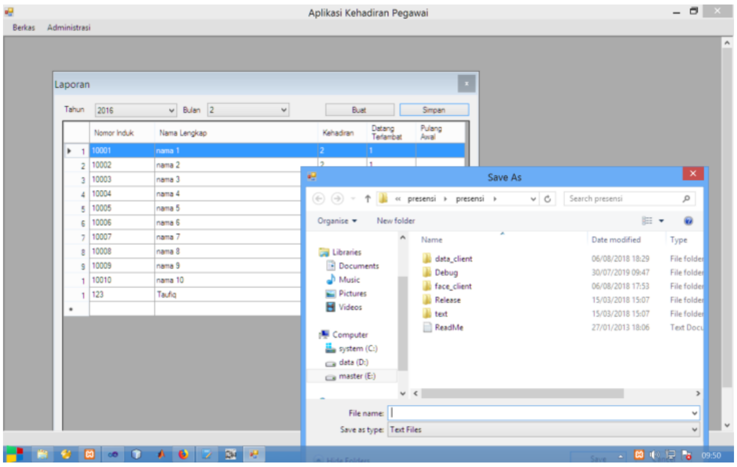
7. Pastikan data setiap wajah tersimpan secara benar



Tahun: 2016
Bulan: 2

	Nomor Induk	Nama Lengkap	Kehadiran	Datang Terlambat	Pulang Awal
1	10001	nama 1	2	1	
2	10002	nama 2	2	1	
3	10003	nama 3	2		
4	10004	nama 4	2		
5	10005	nama 5	2		
6	10006	nama 6	2		
7	10007	nama 7	2		
8	10008	nama 8	2		
9	10009	nama 9	2		
1	10010	nama 10	2		
1	123	Taufiq			
*					

8. Lakukan proses penyimpanan setiap citra wajah yang disimpan

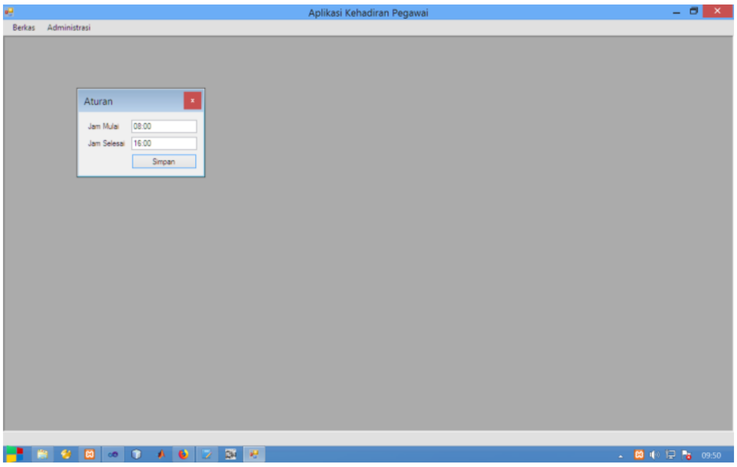


Tahun: 2016
Bulan: 2

Name	Date modified	Type
data_client	06/08/2018 18:29	File folder
Debug	30/07/2019 09:47	File folder
face_client	06/08/2018 17:53	File folder
Release	15/03/2018 15:07	File folder
text	15/03/2018 15:07	File folder
ReadMe	27/01/2013 18:06	Text Docu

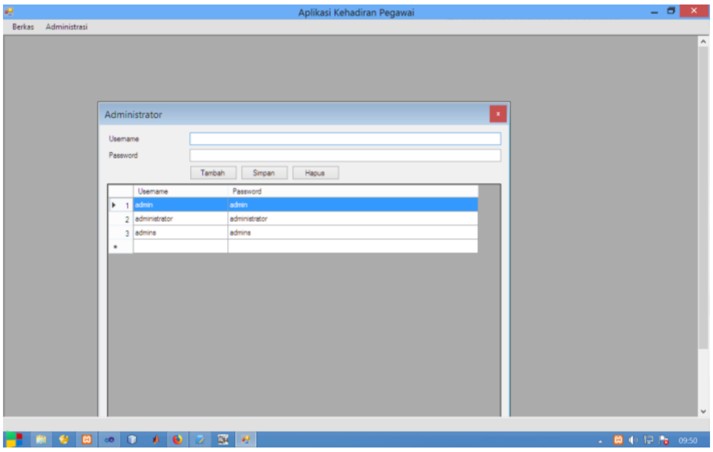
File name:
Save as type: Text Files

9. Atur waktu atau jam kehadiran dan kepulangan



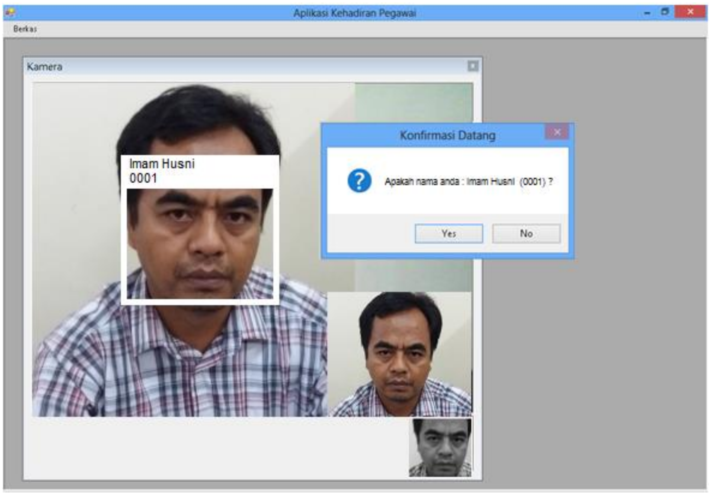
Jam Mulai: 08:00
Jam Selesai: 16:00

10. Tentukan hak admin untuk menentukan manajemen level administrasi



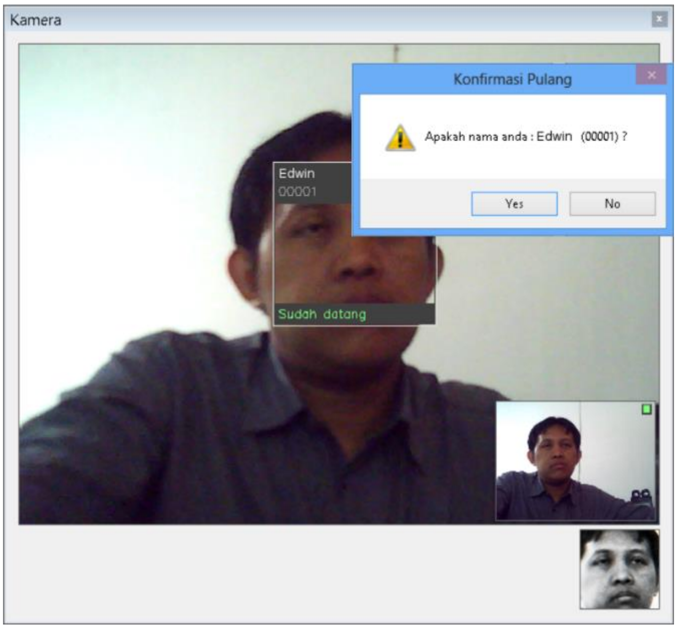
	Username	Password
1	admin	admin
2	administrator	administrator
3	admins	admins
*		

11. Lakukan proses penyimpanan setiap data wajah



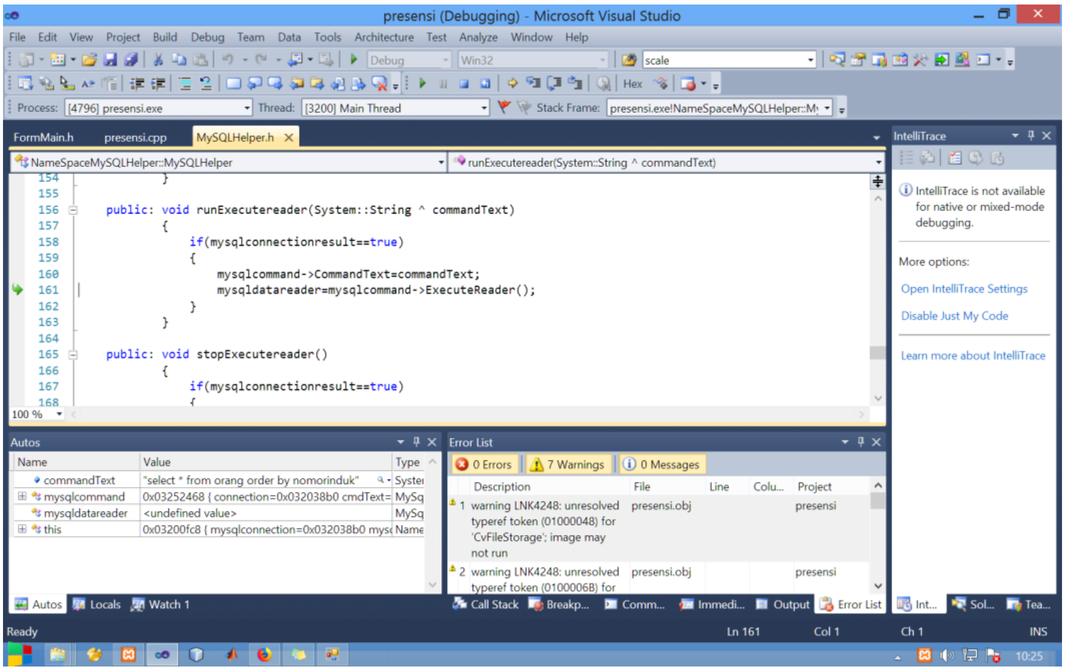
Apakah nama anda : Imam Husni (0001) ?

12. Lakukan pengujian data wajah



Apakah nama anda : Edwin (00001) ?

LAMPIRAN



Process: [4796] presensi.exe Thread: [3200] Main Thread Stack Frame: presensi.exe!NameSpaceMySQLHelper::M

NameSpaceMySQLHelper::MySQLHelper — runExecutereader(System::String ^ commandText)

```
            }

    public: void runExecutereader(System::String ^ commandText)
            {
                if(mysqlconnectionresult==true)
                {
                    mysqlcommand->CommandText=commandText;
                    mysqldatareader=mysqlcommand->ExecuteReader();
                }
            }

    public: void stopExecutereader()
            {
                if(mysqlconnectionresult==true)
                {
```

IntelliTrace is not available for native or mixed-mode debugging.

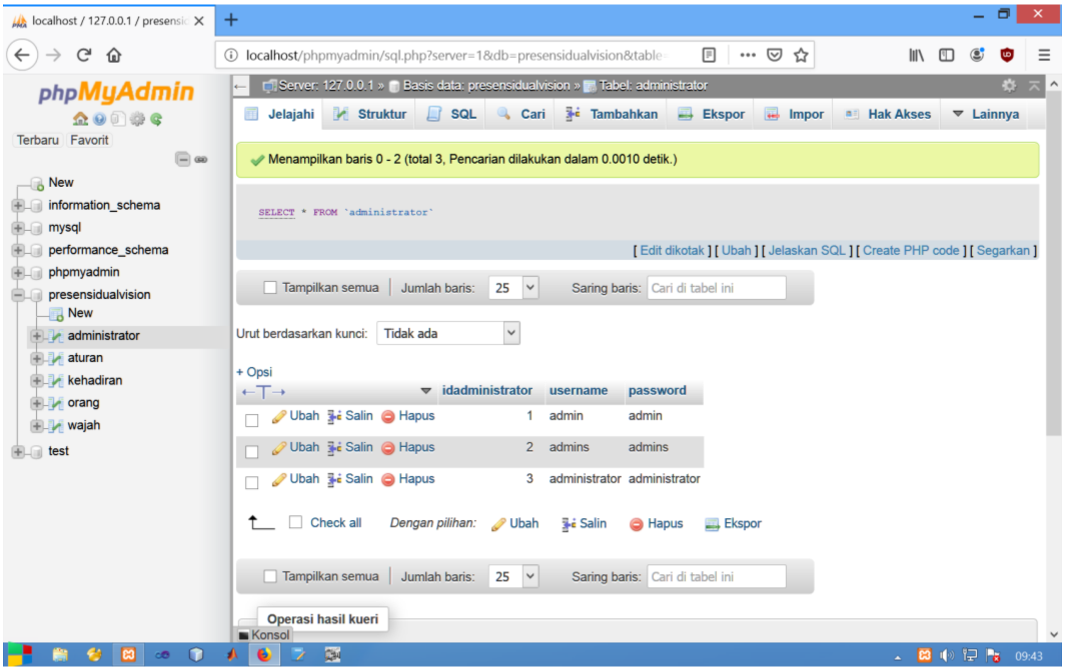
Autos

Name	Value	Type
commandText	"select * from orang order by nomorinduk"	Syste
⊞ mysqlcommand	0x03252468 { connection=0x032038b0 cmdText=	MySq
mysqldatareader	<undefined value>	MySq
⊞ this	0x03200fc8 { mysqlconnection=0x032038b0 mys	Name

Error List — 0 Errors | 7 Warnings | 0 Messages

	Description	File	Line	Colu...	Project
1	warning LNK4248: unresolved typeref token (01000048) for 'CvFileStorage'; image may not run	presensi.obj			presensi
2	warning LNK4248: unresolved typeref token (0100006B) for	presensi.obj			presensi

Ready Ln 161 Col 1 Ch 1 INS



localhost/phpmyadmin/sql.php?server=1&db=presensidualvision&table=

Server: 127.0.0.1 » Basis data: presensidualvision » Tabel: administrator

✓ Menampilkan baris 0 - 2 (total 3, Pencarian dilakukan dalam 0.0010 detik.)

```
SELECT * FROM `administrator`
```

[Edit dikotak] [Ubah] [Jelaskan SQL] [Create PHP code] [Segarkan]

□ Tampilkan semua | Jumlah baris: 25 Saring baris: Cari di tabel ini

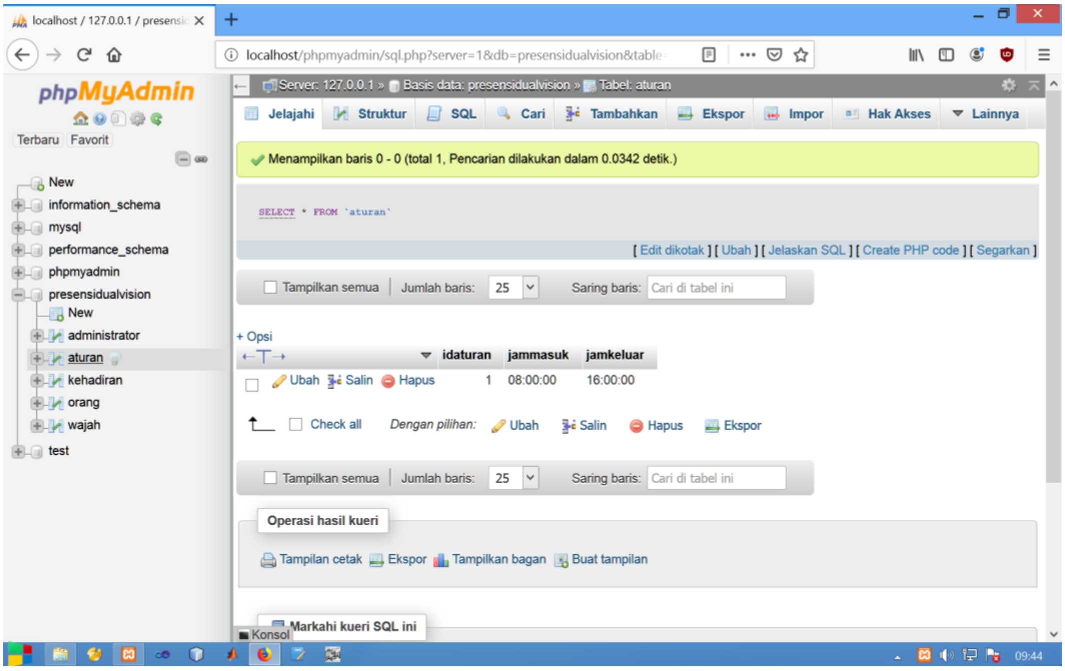
Urut berdasarkan kunci: Tidak ada

+ Opsi

	idadministrator	username	password
□ Ubah Salin Hapus	1	admin	admin
□ Ubah Salin Hapus	2	admins	admins
□ Ubah Salin Hapus	3	administrator	administrator

□ Check all *Dengan pilihan:* Ubah Salin Hapus Ekspor

□ Tampilkan semua | Jumlah baris: 25 Saring baris: Cari di tabel ini



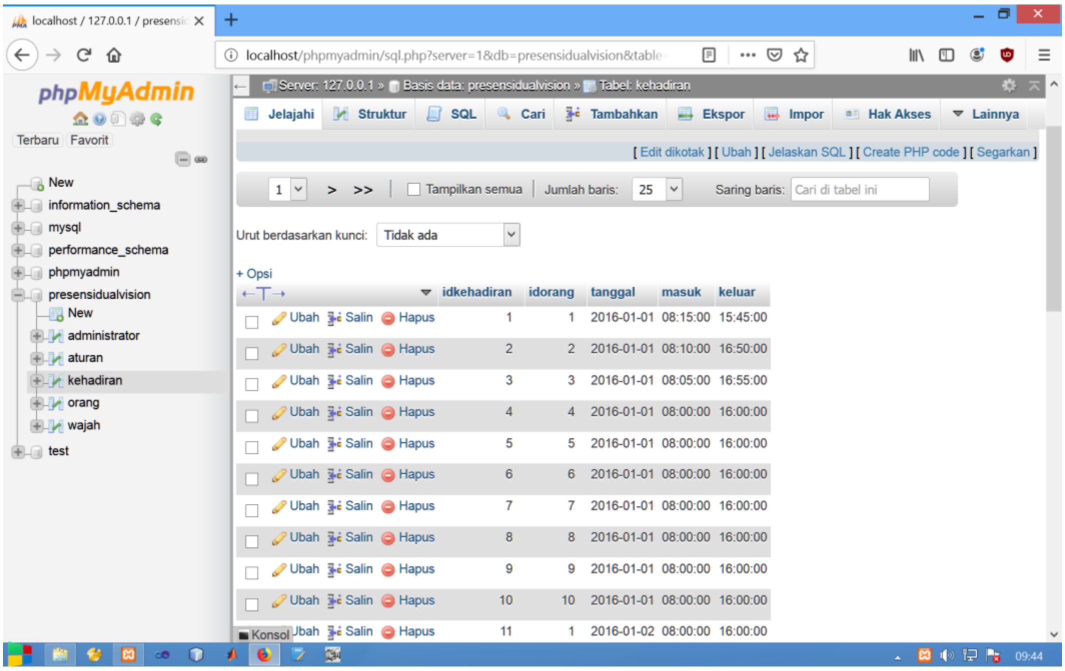
✓ Menampilkan baris 0 - 0 (total 1, Pencarian dilakukan dalam 0.0342 detik.)

```
SELECT * FROM `aturan`
```

□ Tampilkan semua | Jumlah baris: 25 | Saring baris: Cari di tabel ini

	idaturan	jammasuk	jamkeluar
□ Ubah Salin Hapus	1	08:00:00	16:00:00

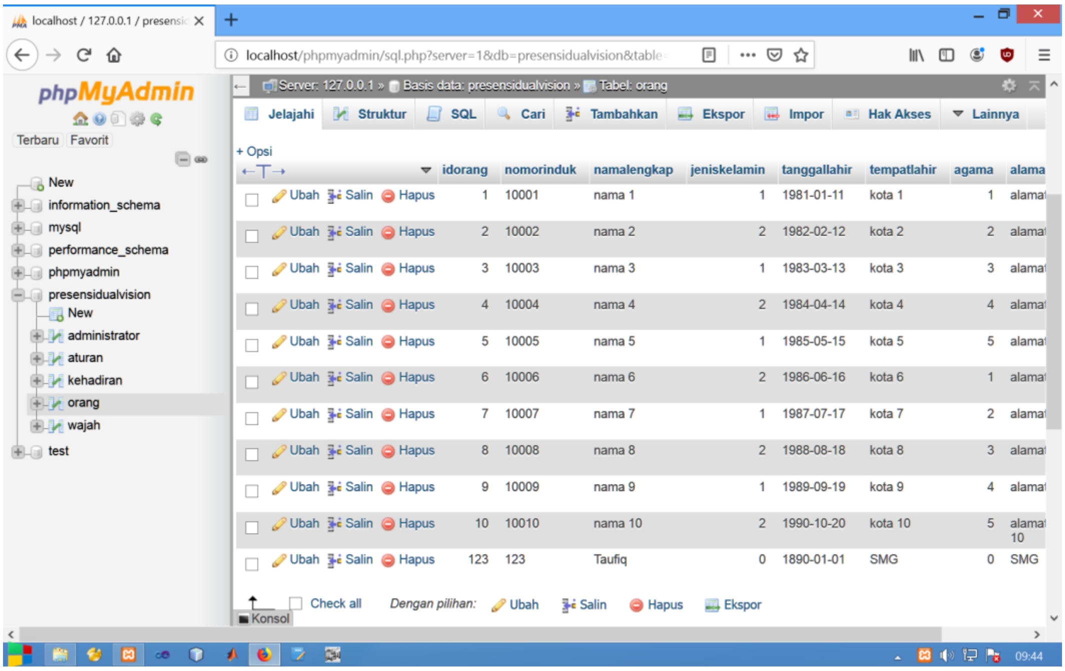
□ Tampilkan semua | Jumlah baris: 25 | Saring baris: Cari di tabel ini


localhost / 127.0.0.1 / presensi
localhost/phpmyadmin/sql.php?server=1&db=presensidualvision&table
phpMyAdmin
Terbaru Favorit
New
information_schema
mysql
performance_schema
phpmyadmin
presensidualvision
New
administrator
aturan
kehadiran
orang
wajah
test
Server: 127.0.0.1 » Basis data: presensidualvision » Tabel: kehadiran
Jelajahi
Struktur
SQL
Cari
Tambahkan
Ekspor
Impor
Hak Akses
Lainnya
[Edit dikotak] [Ubah] [Jelaskan SQL] [Create PHP code] [Segarkan]
+ Opsi
Konsol
09:44

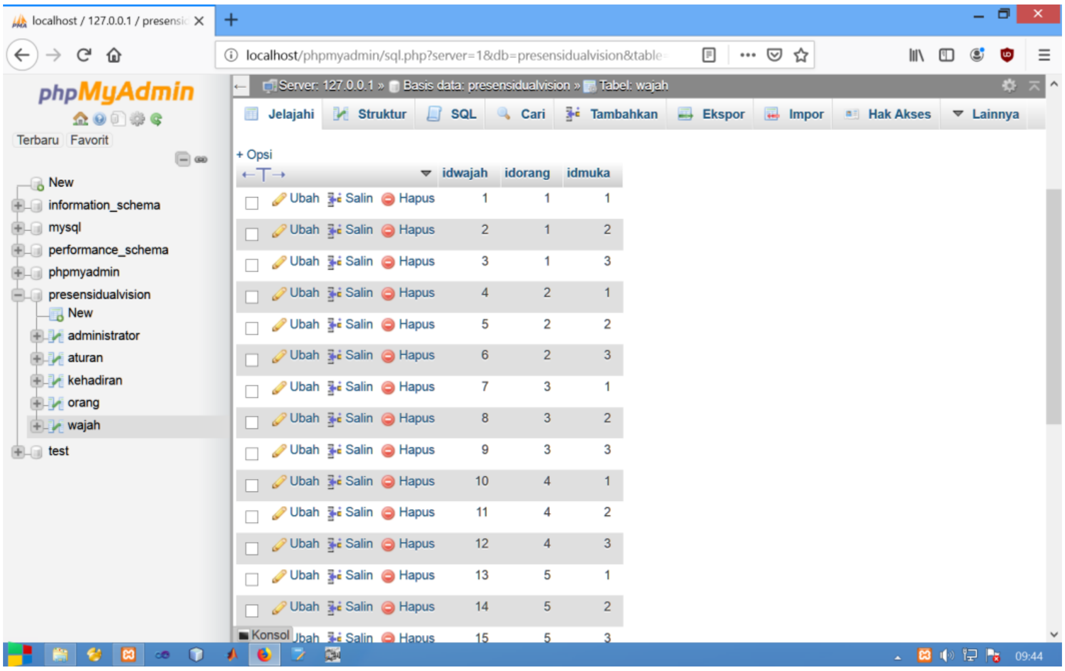
1 > >> | □ Tampilkan semua | Jumlah baris: 25 | Saring baris: Cari di tabel ini

Urut berdasarkan kunci: Tidak ada

	idkehadiran	idorang	tanggal	masuk	keluar
□ Ubah Salin Hapus	1	1	2016-01-01	08:15:00	15:45:00
□ Ubah Salin Hapus	2	2	2016-01-01	08:10:00	16:50:00
□ Ubah Salin Hapus	3	3	2016-01-01	08:05:00	16:55:00
□ Ubah Salin Hapus	4	4	2016-01-01	08:00:00	16:00:00
□ Ubah Salin Hapus	5	5	2016-01-01	08:00:00	16:00:00
□ Ubah Salin Hapus	6	6	2016-01-01	08:00:00	16:00:00
□ Ubah Salin Hapus	7	7	2016-01-01	08:00:00	16:00:00
□ Ubah Salin Hapus	8	8	2016-01-01	08:00:00	16:00:00
□ Ubah Salin Hapus	9	9	2016-01-01	08:00:00	16:00:00
□ Ubah Salin Hapus	10	10	2016-01-01	08:00:00	16:00:00
Ubah Salin Hapus	11	1	2016-01-02	08:00:00	16:00:00


localhost / 127.0.0.1 / presensi
localhost/phpmyadmin/sql.php?server=1&db=presensidualvision&table
phpMyAdmin
Terbaru Favorit
New
information_schema
mysql
performance_schema
phpmyadmin
presensidualvision
New
administrator
aturan
kehadiran
orang
wajah
test
Server: 127.0.0.1 » Basis data: presensidualvision » Tabel: orang
Jelajahi Struktur SQL Cari Tambahkan Ekspor Impor Hak Akses Lainnya
+ Opsi
Check all
Dengan pilihan: Ubah Salin Hapus Ekspor
Konsol
09:44

	idorang	nomorinduk	namalengkap	jeniskelamin	tanggallahir	tempatlahir	agama	alama
☐ Ubah Salin Hapus	1	10001	nama 1	1	1981-01-11	kota 1	1	alamat
☐ Ubah Salin Hapus	2	10002	nama 2	2	1982-02-12	kota 2	2	alamat
☐ Ubah Salin Hapus	3	10003	nama 3	1	1983-03-13	kota 3	3	alamat
☐ Ubah Salin Hapus	4	10004	nama 4	2	1984-04-14	kota 4	4	alamat
☐ Ubah Salin Hapus	5	10005	nama 5	1	1985-05-15	kota 5	5	alamat
☐ Ubah Salin Hapus	6	10006	nama 6	2	1986-06-16	kota 6	1	alamat
☐ Ubah Salin Hapus	7	10007	nama 7	1	1987-07-17	kota 7	2	alamat
☐ Ubah Salin Hapus	8	10008	nama 8	2	1988-08-18	kota 8	3	alamat
☐ Ubah Salin Hapus	9	10009	nama 9	1	1989-09-19	kota 9	4	alamat
☐ Ubah Salin Hapus	10	10010	nama 10	2	1990-10-20	kota 10	5	alamat 10
☐ Ubah Salin Hapus	123	123	Taufiq	0	1890-01-01	SMG	0	SMG


localhost / 127.0.0.1 / presensi
localhost/phpmyadmin/sql.php?server=1&db=presensidualvision&table
phpMyAdmin
Terbaru Favorit
New
information_schema
mysql
performance_schema
phpmyadmin
presensidualvision
New
administrator
aturan
kehadiran
orang
wajah
test
Server: 127.0.0.1 » Basis data: presensidualvision » Tabel: wajah
Jelajahi Struktur SQL Cari Tambahkan Ekspor Impor Hak Akses Lainnya
+ Opsi
Konsol
09:44

	idwajah	idorang	idmuka
☐ Ubah Salin Hapus	1	1	1
☐ Ubah Salin Hapus	2	1	2
☐ Ubah Salin Hapus	3	1	3
☐ Ubah Salin Hapus	4	2	1
☐ Ubah Salin Hapus	5	2	2
☐ Ubah Salin Hapus	6	2	3
☐ Ubah Salin Hapus	7	3	1
☐ Ubah Salin Hapus	8	3	2
☐ Ubah Salin Hapus	9	3	3
☐ Ubah Salin Hapus	10	4	1
☐ Ubah Salin Hapus	11	4	2
☐ Ubah Salin Hapus	12	4	3
☐ Ubah Salin Hapus	13	5	1
☐ Ubah Salin Hapus	14	5	2
Ubah Salin Hapus	15	5	3