

주차 관리 프로그램

C # P R O J E C T

허동화 이원만 권승연 김민아 이진주 윤혜림 장상은 이지훈

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CHAPTER 01

프로그램 시연

Form1

주차 관리 프로그램

공간선택

주차

출차

초기화

공간번호

차량번호

이름

전화번호

16

12하1234

허동화

01022104662

공간번호	차량번호	이름	전화번호	일시
13				
14				
15				
16	12하1234	허동화	01022104662	2022-03-22 오후 9:52
17				
18				
19				

로그 내용

2022-03-22 09:52:05 (공간번호:16, 이름:허동화, 차량번호:12하1234 주차)
2022-03-22 09:51:52 (프로그램 시작)

로그 불러오기

현재시간 : 2022-03-22 21:52:51



Form2

주차 공간 배치도

01	02	03	04	05	06	07	08	09	10
----	----	----	----	----	----	----	----	----	----

11	12	13	14	15	16	17	18	19	20
----	----	----	----	----	----	----	----	----	----

21	22	23	24	25	26	27	28	29	30
----	----	----	----	----	----	----	----	----	----



CHAPTER 02

코드 소개 및 설명

Data.cs

데이터베이스 연결

참조 10개

```
public class Data
```

```
{
```

```
    const string ORADB = "Data Source=(DESCRIPTION=(ADDRESS_LIST=" +  
        "(ADDRESS=(PROTOCOL=TCP)(HOST=localhost)(PORT=1521)))" +  
        "(CONNECT_DATA=(SERVER=DEDICATED)(SERVICE_NAME=XE)))"; +  
        "User Id=c##scott;Password=tiger;";
```

```
    public static OracleConnection OraConn = new OracleConnection(ORADB);
```

```
    public static List<ParkingCar> cars = new List<ParkingCar>();
```

```
    const string TABLE = "projectcar";
```

참조 3개

```
static void ConnectDB()
```

```
{
```

```
    try
```

```
    {
```

```
        OraConn.Open();
```

```
    }
```

```
    catch (Exception)
```

```
    {
```

```
        throw;
```

```
    }
```

```
}
```


Data.cs

데이터베이스 쿼리문(SELECT)으로
정보 불러오기

```
public static void selectQuery()
{
    ConnectDB();

    string sql;
    sql = "select * from " + TABLE + " order by to_number(parknum)";

    OracleDataAdapter oda = new OracleDataAdapter();
    oda.SelectCommand = new OracleCommand();
    oda.SelectCommand.Connection = OraConn;
    oda.SelectCommand.CommandText = sql;

    DataSet ds = new DataSet();
    oda.Fill(ds, TABLE);

    cars.Clear();

    foreach (DataRow item in ds.Tables[0].Rows)
    {
        ParkingCar car = new ParkingCar();
        car.ParkNum = int.Parse(item["parknum"].ToString());
        car.CarNumber = item["carnumber"].ToString();
        car.DriverName = item["drivername"].ToString();
        car.PhoneNumber = item["phonenumber"].ToString();
        car.ParkingTime = item["parkingtime"].ToString()
            == "" ? new DateTime() : DateTime.Parse(item["parkingtime"].ToString());

        cars.Add(car);
    }

    OraConn.Close();
}
```


Data.cs

데이터베이스 쿼리문(UPDATE)

실행

참조 1개

```
static string Query(string menu, string parknum, string carnumber, string drivename, string phonenum)
{
    string query = "";
    switch (menu)
    {
        case "update":
            query = $"update {TABLE} set carnumber='{carnumber}',drivename='{drivename}',phonenum='{phonenum}' where parknum='{parknum}'";
            break;
        case "delete":
            query = $"delete {TABLE} where carnumber='{carnumber}' and drivename='{drivename}' and phonenum='{phonenum}'";
            break;
        default:
            break;
    }
    return query;
}
```

참조 3개

```
public static void executeQuery(string menu, string parknum, string carnumber = null, string drivename = null, string phonenum = null)
{
    ConnectDB();
    string query = "";
    try
    {
        OracleCommand cmd = new OracleCommand();
        cmd.Connection = OraConn;
        query = Query(menu, parknum, carnumber, drivename, phonenum);
        cmd.CommandText = query;
        cmd.ExecuteNonQuery();
    }
}
```


Form1.cs

UI 디자인 및 배경색상 설정
(윈도우 창 포함)

참조 1개

```
public Form1()
{
    InitializeComponent();
    Color c = Color.FromArgb(224, 229, 236); //배경색
    Color d = Color.FromArgb(91, 91, 91); //글자색
    Color e = Color.FromArgb(109, 109, 109); //listview1 헤드글자색
    Color f = Color.FromArgb(240, 240, 240); //listview1 헤드배경색
    this.BackColor = c;
    this.ForeColor = d;
    this.dataGridView1.ColumnHeadersDefaultCellStyle.ForeColor = d;
    Region = System.Drawing.Region.FromHrgn(CreateRoundRectRgn(0, 0, Width, Height));
    textBox1.BackColor = c; textBox2.BackColor = c; textBox3.BackColor = c; textBox4.BackColor = c;
    textBox1.ForeColor = d; textBox2.ForeColor = d; textBox3.ForeColor = d; textBox4.ForeColor = d;
    Data.selectQuery();
    refreshScreen();
    listView1.View = View.Details;
    listView1.FullRowSelect = true;
    listView1.ForeColor = d;
    colorListViewHeader(ref listView1, f, e);
    Log_Info("프로그램 시작");
    listView1.Columns[1].Width = listView1.Width - SystemInformation.VerticalScrollBarWidth;
}
```

Form1.cs

원도우 창 이동

Datagridview에 저장된 값 입력

```
private Point mousePoint;
참조 1개
private void Form1_MouseDown(object sender, MouseEventArgs e)
{
    mousePoint = new Point(e.X, e.Y);
}

참조 1개
private void Form1_MouseMove(object sender, MouseEventArgs e)
{
    if ((e.Button & MouseButtons.Left) == MouseButtons.Left)
    {
        Location = new Point(this.Left - (mousePoint.X - e.X),
                               this.Top - (mousePoint.Y - e.Y));
    }
}

참조 4개
void refreshScreen()
{
    dataGridView1.DataSource = null;
    try
    {
        if (Data.cars.Count > 0)
        {
            dataGridView1.DataSource = Data.cars;
        }
    }
}
```


Form1.cs

—
각 버튼에 대한 이벤트 입력

주차, 출차

Form2.cs로 이동

Datagridview 초기화

참조 1개

```
private void button4_Click(object sender, EventArgs e)
{
    Form2 f2 = new Form2(this);
    f2.Show();
}
```

참조 1개

```
private void button6_Click(object sender, EventArgs e)
{
    DialogResult result = MessageBox.Show("테이블을 초기화하시겠습니까?");
    if (result == DialogResult.Yes)
    {
        Log_Info("테이블 초기화");
        Data.executeQuery("delete", textBox1.Text, "", "", "");
        refreshScreen();
    }
    else
    {
        return;
    }
}
```

Form1.cs

Log 자동 저장 및 불러오기

```
참조 5개
public bool Log_Info(string strMsg)
{
    try
    {
        string strCheckFolder = "";
        string strFileName = "";
        string strLocal = Application.ExecutablePath.Substring(0, Application.ExecutablePath.LastIndexOf(@"\"));
        strCheckFolder = strLocal + @"\Log";
        if (!System.IO.Directory.Exists(strCheckFolder))
        {
            System.IO.Directory.CreateDirectory(strCheckFolder);
        }
        strFileName = strCheckFolder + @"\ " + DateTime.Now.ToString("yyyyMMdd") + ".txt";
        System.IO.StreamWriter FileWriter = new System.IO.StreamWriter(strFileName, true);
        string msg = DateTime.Now.ToString("yyyy-MM-dd hh:mm:ss") + " (" + strMsg + ")" + "\r\n";
        FileWriter.Write(msg);
        FileWriter.Flush();
        FileWriter.Close();
        ListViewItem lvi = new ListViewItem();
        lvi.SubItems.Add(msg);
        listView1.Items.Insert(0, lvi);
    }
    catch (Exception)
    {
        return false;
        throw;
    }
    return true;
}
```


Form2.cs

UI 디자인 및 배경색상 설정 (윈도우 창 포함)

```
참조 1개
public Form2(Form1 form)
{
    InitializeComponent();
    f1 = form;
    Color c = Color.FromArgb(224, 229, 236); //배경색
    Color d = Color.FromArgb(91, 91, 91); //글자색
    Color e = Color.FromArgb(64, 64, 64); //버튼색
    this.BackColor = c;
    this.ForeColor = d;
    Region = System.Drawing.Region.FromHrgn(CreateRoundRectRgn(0, 0, Width, Height, 20, 20));
    park1.BackColor = e; park2.BackColor = e; park3.BackColor = e; park4.BackColor = e; park5.BackColor = e;
    park6.BackColor = e; park7.BackColor = e; park8.BackColor = e; park9.BackColor = e; park10.BackColor = e; park11.BackColor = e;
    park12.BackColor = e; park13.BackColor = e; park14.BackColor = e; park15.BackColor = e; park16.BackColor = e; park17.BackColor = e;
    park18.BackColor = e; park19.BackColor = e; park20.BackColor = e; park21.BackColor = e; park22.BackColor = e; park23.BackColor = e;
    park24.BackColor = e; park25.BackColor = e; park26.BackColor = e; park27.BackColor = e; park28.BackColor = e;
    ifCarOn(1, park1); ifCarOn(2, park2); ifCarOn(3, park3); ifCarOn(4, park4); ifCarOn(5, park5);
    ifCarOn(6, park6); ifCarOn(7, park7); ifCarOn(8, park8); ifCarOn(9, park9); ifCarOn(10, park10); ifCarOn(11, park11);
    ifCarOn(12, park12); ifCarOn(13, park13); ifCarOn(14, park14); ifCarOn(15, park15); ifCarOn(16, park16);
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    ifCarOn(102, park102); ifCarOn(103, park103); ifCarOn(104, park104); ifCarOn(105, park105); ifCarOn(106, park106);
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    ifCarOn(287, park287); ifCarOn(288, park288); ifCarOn(289, park289); ifCarOn(290, park290); ifCarOn(291, park291);
    ifCarOn(292, park292); ifCarOn(293, park293); ifCarOn(294, park294); ifCarOn(295, park295); ifCarOn(296, park29
```

Form2.cs

주차공간에 차가 주차되어 있을 시,
차 이미지 표시

주차공간 선택 시,
Form1의 Textbox에 주차된 차의
정보 자동 입력

```
참조 30개
public void ifCarOn(int num, Button park)
{
    ParkingCar car = Data.selectQuery(num);
    if (car.CarNumber != "")
    {
        park.Image = Properties.Resources.car4;
    }
}

참조 30개
public void buttonOn(int num)
{
    ParkingCar car = Data.selectQuery(num);
    f1.textBox1.Text = car.ParkNum.ToString();
    f1.textBox2.Text = car.CarNumber;
    f1.textBox3.Text = car.DriverName;
    f1.textBox4.Text = car.PhoneNumber;
    Dispose();
}
```


Q & A

/

Are there any question?

THANK
YOU EVERYONE

구현물 표시할 + 있습니다.