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«Высшая школа экономики»

*Факультет экономики, менеджмента и бизнес-информатики*

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**ПРОЕКТ 4**

*Отчет*

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**Оглавление**

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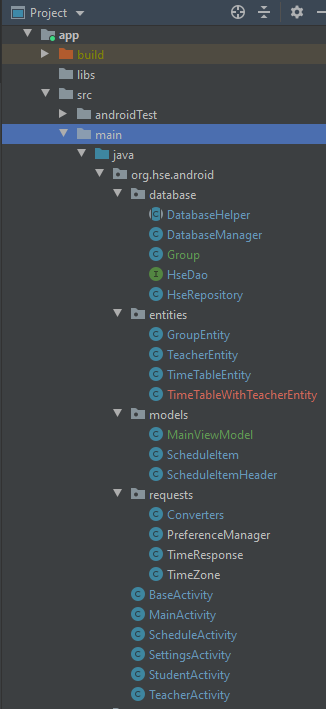
# **Постановка задачи**

1. Доработать base проект согласно презентации;
2. После смены группы или преподавателя автоматически перезапрашивать данные по доступному расписанию;
3. По аналогии с HseRepository#getTimeTableTeacherByDate() сделать метод получения данных из БД по дате и по ИД группы. Переписать места в коде отмеченные “// TODO move to DB query“;
4. Доработать функцию ScheduleActivity#filterItem(). Сделать фильтрацию данных на день и на неделю на основе текущего типа расписания (день или неделя). Данные фильтровать так: если тип на день - выводим расписание на этот день недели из БД, если на неделю - выводим раписание от текущего дня недели до последнего дня текущей недели;
5. Переписать функцию getTime() (получение текущего времени от сервера) на LiveData;
6. Вынести все строковые константы в ресурсы;

# **1 Задание**

Задача: Доработать base проект согласно презентации.

Вносим изменения в скрипты согласно презентации:

Для удобства распределяем файлы по катигориям.

***Рисунок 1.1 – Файловая система***

BaseActivity:

package org.hse.android;  
  
import android.annotation.SuppressLint;  
import android.os.Bundle;  
import android.util.Log;  
import android.widget.TextView;  
import androidx.annotation.Nullable;  
import androidx.appcompat.app.AppCompatActivity;  
import androidx.lifecycle.ViewModelProviders;  
import com.google.gson.Gson;  
import org.hse.android.models.MainViewModel;  
import org.hse.android.requests.TimeResponse;  
import org.jetbrains.annotations.NotNull;  
import java.io.IOException;  
import java.text.DateFormatSymbols;  
import java.text.SimpleDateFormat;  
import java.util.Date;  
import java.util.Locale;  
import okhttp3.Call;  
import okhttp3.Callback;  
import okhttp3.OkHttpClient;  
import okhttp3.Request;  
import okhttp3.Response;  
import okhttp3.ResponseBody;  
  
public class BaseActivity extends AppCompatActivity {  
 enum ScheduleType { *DAY*, *WEEK* }  
 enum ScheduleMode { *STUDENT*, *TEACHER* }  
  
 private final static String *TAG* = "BaseActivity";  
 public static final String *URL* = "https://api.ipgeolocation.io/ipgeo?apiKey=b03018f75ed94023a005637878ec0977";  
  
 protected TextView time, current\_time;  
 protected Date currentTime;  
 public static Date *time\_export*;  
  
 private OkHttpClient client = new OkHttpClient();  
  
 protected MainViewModel mainViewModel;  
  
 @Override  
 protected void onCreate(@Nullable Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 mainViewModel = ViewModelProviders.*of*(this).get(MainViewModel.class);  
 }  
  
 protected void getTime(){  
 Request request = new Request.Builder().url(*URL*).build();  
 Call call = client.newCall(request);  
 call.enqueue(new Callback() {  
 @Override  
 public void onFailure(@NotNull Call call, @NotNull IOException e) {  
 Log.*e*("tag", e.getMessage());  
 }  
  
 @Override  
 public void onResponse(@NotNull Call call, @NotNull Response response) {  
 parseResponse(response);  
 }  
 });  
 }  
  
 protected void initTime() { getTime(); }  
  
 protected void showTime(Date dateTime){  
 time = findViewById(R.id.*time*);  
 current\_time = findViewById(R.id.*current\_time*);  
 if (dateTime == null) return;  
 currentTime = dateTime;  
  
 String[] Week\_days = { "", "Воскресенье", "Понедельник", "Вторник", "Среда", "Четверг", "Пятница", "Субота" };  
 DateFormatSymbols symbols = new DateFormatSymbols( new Locale("ru", "ru"));  
 symbols.setShortWeekdays(Week\_days);  
 @SuppressLint("SimpleDateFormat")  
 SimpleDateFormat simpleDateFormat = new SimpleDateFormat("HH:mm, E", symbols);  
 *time\_export* = currentTime;  
 time.setText(String.*format*("%s", simpleDateFormat.format(currentTime)));  
 }  
  
 private void parseResponse(Response response) {  
 Gson gson = new Gson();  
 ResponseBody body = response.body();  
 try {  
 if (body == null) return;  
 String string = body.string();  
 Log.*d*(*TAG*, string);  
 TimeResponse timeResponse = gson.fromJson(string, TimeResponse.class);  
 String currentTimeVal = timeResponse.getTimeZone().getCurrentTime();  
 SimpleDateFormat simpleDateFormat = new SimpleDateFormat("yyyy-MM-dd HH:mm:ss.SSS", Locale.*getDefault*());  
 Date dateTime = simpleDateFormat.parse(currentTimeVal);  
 // run on UI thread  
 runOnUiThread(() -> {  
 showTime(dateTime);  
 mainViewModel.currentTime.setValue(dateTime);  
 });  
 }  
 catch (Exception e) { Log.*e*(*TAG*, "", e); }  
 }  
}

StudentActivity:

package org.hse.android;  
  
import android.annotation.SuppressLint;  
import android.content.Intent;  
import android.os.Bundle;  
import android.util.Log;  
import android.view.View;  
import android.widget.AdapterView;  
import android.widget.ArrayAdapter;  
import android.widget.Spinner;  
import android.widget.TextView;  
import androidx.lifecycle.ViewModelProviders;  
import org.hse.android.database.Group;  
import org.hse.android.entities.GroupEntity;  
import org.hse.android.entities.TimeTableEntity;  
import org.hse.android.entities.TimeTableWithTeacherEntity;  
import org.hse.android.models.MainViewModel;  
import java.text.SimpleDateFormat;  
import java.util.ArrayList;  
import java.util.Date;  
import java.util.List;  
import java.util.Locale;  
import java.util.Objects;  
  
public class StudentActivity extends BaseActivity {  
 protected MainViewModel mainViewModel;  
  
 private static final String *TAG* = "StudentActivity";  
  
 private TextView status, subject, cabinet, corp, teacher, time\_start, time\_end, type\_subj;  
 private Spinner spinner\_student;  
 public Date currentTime;  
 private ArrayAdapter<Group> adapter;  
  
 @Override protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_student*);  
 Objects.*requireNonNull*(getSupportActionBar()).hide();  
 mainViewModel = ViewModelProviders.*of*(this).get(MainViewModel.class);  
  
 spinner\_student = findViewById(R.id.*groupList*);  
  
 List<Group> groups = new ArrayList<>();  
 initGroupList(groups);  
  
 adapter = new ArrayAdapter<>(this, android.R.layout.*simple\_spinner\_item*, groups);  
 adapter.setDropDownViewResource(android.R.layout.*simple\_spinner\_dropdown\_item*);  
  
 spinner\_student.setAdapter(adapter);  
  
 spinner\_student.setOnItemSelectedListener(new AdapterView.OnItemSelectedListener() {  
 public void onItemSelected(AdapterView<?> parent, View itemSelected, int selectedItemPosition, long selectedId) {  
 Object item = adapter.getItem(selectedItemPosition);  
 showTime(currentTime);  
 Log.*d*(*TAG*,"selectedItem: " + item);  
 }  
 public void onNothingSelected(AdapterView<?> parent) { }  
 });  
  
 initTime();  
  
 time\_start = findViewById(R.id.*start*);  
 time\_end = findViewById(R.id.*end*);  
 type\_subj = findViewById(R.id.*type*);  
 status = findViewById(R.id.*status*);  
 subject = findViewById(R.id.*name*);  
 cabinet = findViewById(R.id.*place*);  
 corp = findViewById(R.id.*corp*);  
 teacher = findViewById(R.id.*teacher*);  
 initData();  
  
 View scheduleDay = findViewById(R.id.*schedule\_day*);  
 scheduleDay.setOnClickListener(v -> showSchedule(ScheduleType.*DAY*));  
 View scheduleWeek = findViewById(R.id.*schedule\_week*);  
 scheduleWeek.setOnClickListener(v -> showSchedule(ScheduleType.*WEEK*));  
 }  
  
 private void initData() { initDataFromTimeTable(null); }  
  
 @Override  
 public void showTime(Date dateTime) {  
 super.showTime(dateTime);  
 mainViewModel.getTimeTableTeacherByDate(dateTime).observe(this, list -> {  
 for (TimeTableWithTeacherEntity listEntity : list) {  
 Log.*d*(*TAG*, listEntity.timeTableEntity.subjName + " " + listEntity.teacherEntity.fio);  
 // *TODO move to DB query* if (getSelectedGroup() != null && getSelectedGroup().getId().equals(listEntity.timeTableEntity.groupId)) {  
 initDataFromTimeTable(listEntity);  
 }  
 }  
 });  
 }  
  
 private void initGroupList(final List<Group> groups){  
 mainViewModel.getGroups().observe(this, list -> {  
 List<Group> groupsResult = new ArrayList<>();  
 for (GroupEntity listEntity : list) {  
 groupsResult.add(new Group(listEntity.id, listEntity.name));  
 }  
 adapter.clear();  
 adapter.addAll(groupsResult);  
 });  
 }  
  
 //private void initGroupList(List<Group> groups){  
 // String[] pr = { "ПИ", "БИ", "УБ", "Э", "И", "Ю" };  
 // String[] yr = { "16", "17", "18", "19", "20" };  
 // int i=0;  
 // for (String p : pr) {  
 // for (String y : yr) {  
 // for (int z = 1; z < 5; z++) {  
 // i++;  
 // groups.add(new Group(i, p + "-" + y + "-" + z));  
 // }  
 // }  
 // }  
 //}  
  
 private void showSchedule(ScheduleType type) {  
 Object selectedItem = spinner\_student.getSelectedItem();  
 if (!(selectedItem instanceof Group)) { return; }  
 showScheduleImpl(type, (Group) selectedItem, currentTime);  
 }  
  
 protected void showScheduleImpl(ScheduleType type, Group group, Date currentTime) {  
 Intent intent = new Intent(this, ScheduleActivity.class);  
 intent.putExtra(ScheduleActivity.*ARG\_NAME*, group.getName());  
 intent.putExtra(ScheduleActivity.*ARG\_ID*, group.getId());  
 intent.putExtra(ScheduleActivity.*ARG\_TYPE*, type);  
 intent.putExtra(ScheduleActivity.*ARG\_MODE*, ScheduleMode.*STUDENT*);  
 intent.putExtra(ScheduleActivity.*ARG\_TIME*, currentTime);  
 startActivity(intent);  
 }  
  
 @SuppressLint("SetTextI18n")  
 private void initDataFromTimeTable(TimeTableWithTeacherEntity timeTableTeacherEntity) {  
 if (timeTableTeacherEntity == null) {  
 time\_start.setText("00:00");  
 time\_end.setText("00:00");  
 status.setText("Нет пар");  
  
 type\_subj.setText("");  
 subject.setText("Дисциплина");  
 cabinet.setText("Кабинет");  
 corp.setText("Корпус");  
 teacher.setText("Преподаватель");  
 return;  
 }  
 status.setText("Идет пара");  
 TimeTableEntity timeTableEntity = timeTableTeacherEntity.timeTableEntity;  
  
 time\_start.setText(formatToMinutes(timeTableTeacherEntity.timeTableEntity.timeStart));  
 time\_end.setText(formatToMinutes(timeTableTeacherEntity.timeTableEntity.timeEnd));  
 type\_subj.setText(timeTableEntity.type);  
 subject.setText(timeTableEntity.subjName);  
 cabinet.setText("Ауд. " + timeTableEntity.cabinet);  
 corp.setText("Корп. " + timeTableEntity.corp);  
 teacher.setText("Преп. " + timeTableTeacherEntity.teacherEntity.fio);  
 }  
  
 private String formatToMinutes(Date date){  
 SimpleDateFormat simpleDateFormat = new SimpleDateFormat("HH:mm", Locale.*getDefault*());  
 return simpleDateFormat.format(date);  
 }  
  
 protected Group getSelectedGroup(){  
 return (Group) spinner\_student.getSelectedItem();  
 }  
}

TeacherActivity:

package org.hse.android;  
  
import android.annotation.SuppressLint;  
import android.content.Intent;  
import android.os.Bundle;  
import android.util.Log;  
import android.view.View;  
import android.widget.AdapterView;  
import android.widget.ArrayAdapter;  
import android.widget.Spinner;  
import android.widget.TextView;  
import androidx.lifecycle.ViewModelProviders;  
import org.hse.android.database.Group;  
import org.hse.android.entities.TeacherEntity;  
import org.hse.android.entities.TimeTableEntity;  
import org.hse.android.entities.TimeTableWithTeacherEntity;  
import org.hse.android.models.MainViewModel;  
import java.text.SimpleDateFormat;  
import java.util.ArrayList;  
import java.util.Date;  
import java.util.List;  
import java.util.Locale;  
import java.util.Objects;  
  
public class TeacherActivity extends BaseActivity {  
 protected MainViewModel mainViewModel;  
  
 private static final String *TAG* = "TeacherActivity";  
  
 private TextView status, subject, cabinet, corp, teacher, time\_start, time\_end, type\_subj;  
 private Spinner spinner\_teacher;  
 public Date currentTime;  
 ArrayAdapter<Group> adapter;  
  
 @Override protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_teacher*);  
 Objects.*requireNonNull*(getSupportActionBar()).hide();  
 mainViewModel = ViewModelProviders.*of*(this).get(MainViewModel.class);  
  
 spinner\_teacher = findViewById(R.id.*teacherList*);  
  
 List<Group> groups = new ArrayList<>();  
 initGroupList(groups);  
  
 adapter = new ArrayAdapter<>(this, android.R.layout.*simple\_spinner\_item*, groups);  
 adapter.setDropDownViewResource(android.R.layout.*simple\_spinner\_dropdown\_item*);  
  
 spinner\_teacher.setAdapter(adapter);  
  
 spinner\_teacher.setOnItemSelectedListener(new AdapterView.OnItemSelectedListener() {  
 public void onItemSelected(AdapterView<?> parent, View itemSelected, int selectedItemPosition, long selectedId) {  
 Object item = adapter.getItem(selectedItemPosition);  
 showTime(currentTime);  
 Log.*d*(*TAG*,"selectedItem: " + item);  
 }  
 public void onNothingSelected(AdapterView<?> parent) { }  
 });  
  
 initTime();  
  
 time\_start = findViewById(R.id.*start*);  
 time\_end = findViewById(R.id.*end*);  
 type\_subj = findViewById(R.id.*type*);  
 status = findViewById(R.id.*status*);  
 subject = findViewById(R.id.*name*);  
 cabinet = findViewById(R.id.*place*);  
 corp = findViewById(R.id.*corp*);  
 teacher = findViewById(R.id.*teacher*);  
 initData();  
  
 View scheduleDay = findViewById(R.id.*schedule\_day*);  
 scheduleDay.setOnClickListener(v -> showSchedule(ScheduleType.*DAY*));  
 View scheduleWeek = findViewById(R.id.*schedule\_week*);  
 scheduleWeek.setOnClickListener(v -> showSchedule(ScheduleType.*WEEK*));  
 }  
  
 private void initData() { initDataFromTimeTable(null); }  
  
 @Override  
 public void showTime(Date currentTime) {  
 super.showTime(currentTime);  
 mainViewModel.getTimeTableTeacherByDate(currentTime).observe(this, list -> {  
 for (TimeTableWithTeacherEntity listEntity : list) {  
 Log.*d*(*TAG*, listEntity.timeTableEntity.subjName + " " + listEntity.teacherEntity.fio);  
 // *TODO move to DB query* if (getSelectedGroup() != null && getSelectedGroup().getId().equals(listEntity.timeTableEntity.teacherId)) {  
 initDataFromTimeTable(listEntity);  
 }  
 }  
 });  
 }  
  
 private void initGroupList(List<Group> groups){  
 mainViewModel.getTeachers().observe(this, list -> {  
 List<Group> groupsResult = new ArrayList<>();  
 for (TeacherEntity listEntity : list) {  
 groupsResult.add(new Group(listEntity.id, listEntity.fio));  
 }  
 adapter.clear();  
 adapter.addAll(groupsResult);  
 });  
 }  
  
 private void showSchedule(ScheduleType type) {  
 Object selectedItem = spinner\_teacher.getSelectedItem();  
 if (!(selectedItem instanceof Group)) { return; }  
 showScheduleImpl(type, (Group) selectedItem, currentTime);  
 }  
  
 protected void showScheduleImpl(ScheduleType type, Group group, Date currentTime) {  
 Intent intent = new Intent(this, ScheduleActivity.class);  
 intent.putExtra(ScheduleActivity.*ARG\_NAME*, group.getName());  
 intent.putExtra(ScheduleActivity.*ARG\_ID*, group.getId());  
 intent.putExtra(ScheduleActivity.*ARG\_TYPE*, type);  
 intent.putExtra(ScheduleActivity.*ARG\_MODE*, ScheduleMode.*TEACHER*);  
 intent.putExtra(ScheduleActivity.*ARG\_TIME*, currentTime);  
 startActivity(intent);  
 }  
  
 @SuppressLint("SetTextI18n")  
 private void initDataFromTimeTable(TimeTableWithTeacherEntity timeTableTeacherEntity) {  
 if (timeTableTeacherEntity == null) {  
 time\_start.setText("00:00");  
 time\_end.setText("00:00");  
 status.setText("Нет пар");  
  
 type\_subj.setText("");  
 subject.setText("Дисциплина");  
 cabinet.setText("Кабинет");  
 corp.setText("Корпус");  
 teacher.setText("Преподаватель");  
 return;  
 }  
 status.setText("Идет пара");  
 TimeTableEntity timeTableEntity = timeTableTeacherEntity.timeTableEntity;  
  
 time\_start.setText(formatToMinutes(timeTableTeacherEntity.timeTableEntity.timeStart));  
 time\_end.setText(formatToMinutes(timeTableTeacherEntity.timeTableEntity.timeEnd));  
 type\_subj.setText(timeTableEntity.type);  
 subject.setText(timeTableEntity.subjName);  
 cabinet.setText("Ауд. " + timeTableEntity.cabinet);  
 corp.setText("Корп. " + timeTableEntity.corp);  
 teacher.setText("Преп. " + timeTableTeacherEntity.teacherEntity.fio);  
 }  
  
 private String formatToMinutes(Date date){  
 SimpleDateFormat simpleDateFormat = new SimpleDateFormat("HH:mm", Locale.*getDefault*());  
 return simpleDateFormat.format(date);  
 }  
  
 protected Group getSelectedGroup(){  
 return (Group) spinner\_teacher.getSelectedItem();  
 }  
}

DatabaseHelper:

package org.hse.android.database;  
  
import androidx.room.Database;  
import androidx.room.RoomDatabase;  
import androidx.room.TypeConverters;  
import org.hse.android.entities.GroupEntity;  
import org.hse.android.entities.TeacherEntity;  
import org.hse.android.entities.TimeTableEntity;  
import org.hse.android.requests.Converters;  
  
@Database(entities = {GroupEntity.class, TeacherEntity.class, TimeTableEntity.class}, version = 1, exportSchema = false)  
@TypeConverters({Converters.class})  
public abstract class DatabaseHelper extends RoomDatabase {  
 public static final String *DATABASE\_NAME* = "hse\_time\_table";  
 public abstract HseDao hseDao();  
}

DatabaseManager:

package org.hse.android.database;  
  
import android.content.Context;  
import androidx.annotation.NonNull;  
import androidx.room.Room;  
import androidx.room.RoomDatabase;  
import androidx.sqlite.db.SupportSQLiteDatabase;  
import org.hse.android.entities.GroupEntity;  
import org.hse.android.entities.TeacherEntity;  
import org.hse.android.entities.TimeTableEntity;  
import java.text.ParseException;  
import java.text.SimpleDateFormat;  
import java.util.ArrayList;  
import java.util.Date;  
import java.util.List;  
import java.util.Locale;  
import java.util.concurrent.Executors;  
  
public class DatabaseManager {  
 private DatabaseHelper db;  
  
 private static DatabaseManager *instance*;  
  
 public static DatabaseManager getInstance(Context context) {  
 if (*instance* == null) *instance* = new DatabaseManager(context.getApplicationContext());  
 return *instance*;  
 }  
  
 private DatabaseManager(Context context) {  
 db = Room.*databaseBuilder*(context, DatabaseHelper.class, DatabaseHelper.*DATABASE\_NAME*)  
 .addCallback(new RoomDatabase.Callback() {  
 @Override public void onCreate(@NonNull SupportSQLiteDatabase db) {  
 Executors.*newSingleThreadScheduledExecutor*().execute(() -> initData(context));  
 }}).build();  
 }  
  
 public HseDao getHseDao() { return db.hseDao(); }  
  
 private void initData(Context context) {  
 List<GroupEntity> groups = new ArrayList<>();  
 GroupEntity group = new GroupEntity();  
 group.id = 1;  
 group.name = "ПИ-18-1";  
 groups.add(group);  
 group = new GroupEntity();  
 group.id = 2;  
 group.name = "ПИ-18-2";  
 groups.add(group);  
 DatabaseManager.*getInstance*(context).getHseDao().insertGroup(groups);  
  
 List<TeacherEntity> teachers = new ArrayList<>();  
 TeacherEntity teacher = new TeacherEntity();  
 teacher.id = 1;  
 teacher.fio = "Петров Пётр Петрович";  
 teachers.add(teacher);  
 teacher = new TeacherEntity();  
 teacher.id = 2;  
 teacher.fio = "Андреев Андрей Андреевич";  
 teachers.add(teacher);  
 teacher = new TeacherEntity();  
 teacher.id = 3;  
 teacher.fio = "Дмитриев Дмитрий Дмитриевич";  
 teachers.add(teacher);  
 teacher = new TeacherEntity();  
 teacher.id = 4;  
 teacher.fio = "Кычкин Алексей Владимирович";  
 teachers.add(teacher);  
 teacher = new TeacherEntity();  
 teacher.id = 5;  
 teacher.fio = "Бартов Олег Борисович";  
 teachers.add(teacher);  
 teacher = new TeacherEntity();  
 teacher.id = 6;  
 teacher.fio = "Куприн Валентин Павлович";  
 teachers.add(teacher);  
 teacher = new TeacherEntity();  
 teacher.id = 7;  
 teacher.fio = "Карзенкова Александра Владимировна";  
 teachers.add(teacher);  
 DatabaseManager.*getInstance*(context).getHseDao().insertTeacher(teachers);  
  
 List<TimeTableEntity> timeTables = new ArrayList<>();  
 TimeTableEntity timeTable = new TimeTableEntity();  
 timeTable.id = 1;  
 timeTable.cabinet = "Кабинет 1";  
 timeTable.subGroup = "ПИ";  
 timeTable.subjName = "Философия";  
 timeTable.corp = "К1";  
 timeTable.type = "ЛЕКЦИЯ";  
 timeTable.timeStart = dateFromString("2021-02-04 10:00");  
 timeTable.timeEnd = dateFromString("2021-02-04 11:30");  
 timeTable.groupId = 1;  
 timeTable.teacherId = 1;  
 timeTables.add(timeTable);  
 timeTable = new TimeTableEntity();  
 timeTable.id = 2;  
 timeTable.cabinet = "Кабинет 2";  
 timeTable.subGroup = "ПИ";  
 timeTable.subjName = "Мобильная разработка";  
 timeTable.corp = "К1";  
 timeTable.type = "ПРАКТИЧЕСКОЕ ЗАНЯТИЕ";  
 timeTable.timeStart = dateFromString("2021-02-04 13:00");  
 timeTable.timeEnd = dateFromString("2021-02-04 15:00");  
 timeTable.groupId = 1;  
 timeTable.teacherId = 2;  
 timeTables.add(timeTable);  
 timeTable = new TimeTableEntity();  
 timeTable.id = 3;  
 timeTable.cabinet = "Дистанционно";  
 timeTable.subGroup = "ПИ";  
 timeTable.subjName = "Проектирование архитектуры программ.систем";  
 timeTable.corp = "К1";  
 timeTable.type = "ЛЕКЦИЯ";  
 timeTable.timeStart = dateFromString("2021-04-05 08:10");  
 timeTable.timeEnd = dateFromString("2021-04-05 09:30");  
 timeTable.groupId = 1;  
 timeTable.teacherId = 4;  
 timeTables.add(timeTable);  
 timeTable = new TimeTableEntity();  
 timeTable.id = 4;  
 timeTable.cabinet = "Дистанционно";  
 timeTable.subGroup = "ПИ";  
 timeTable.subjName = "Проектирование архитектуры программ.систем";  
 timeTable.corp = "К1";  
 timeTable.type = "ЛЕКЦИЯ";  
 timeTable.timeStart = dateFromString("2021-04-05 08:10");  
 timeTable.timeEnd = dateFromString("2021-04-05 09:30");  
 timeTable.groupId = 2;  
 timeTable.teacherId = 4;  
 timeTables.add(timeTable);  
 timeTable = new TimeTableEntity();  
 timeTable.id = 5;  
 timeTable.cabinet = "Дистанционно";  
 timeTable.subGroup = "ПИ";  
 timeTable.subjName = "Экономика программной инженерии";  
 timeTable.corp = "К1";  
 timeTable.type = "ЛЕКЦИЯ";  
 timeTable.timeStart = dateFromString("2021-04-05 09:40");  
 timeTable.timeEnd = dateFromString("2021-04-05 12:50");  
 timeTable.groupId = 1;  
 timeTable.teacherId = 5;  
 timeTables.add(timeTable);  
 timeTable = new TimeTableEntity();  
 timeTable.id = 6;  
 timeTable.cabinet = "Дистанционно";  
 timeTable.subGroup = "ПИ";  
 timeTable.subjName = "Экономика программной инженерии";  
 timeTable.corp = "К1";  
 timeTable.type = "ЛЕКЦИЯ";  
 timeTable.timeStart = dateFromString("2021-04-05 09:40");  
 timeTable.timeEnd = dateFromString("2021-04-05 12:50");  
 timeTable.groupId = 2;  
 timeTable.teacherId = 5;  
 timeTables.add(timeTable);  
 timeTable = new TimeTableEntity();  
 timeTable.id = 7;  
 timeTable.cabinet = "Дистанционно";  
 timeTable.subGroup = "ПИ";  
 timeTable.subjName = "Проектирование архитектуры программ.систем";  
 timeTable.corp = "К3";  
 timeTable.type = "ПРАКТИЧЕСКОЕ ЗАНЯТИЕ";  
 timeTable.timeStart = dateFromString("2021-04-06 08:10");  
 timeTable.timeEnd = dateFromString("2021-04-06 09:30");  
 timeTable.groupId = 2;  
 timeTable.teacherId = 6;  
 timeTables.add(timeTable);  
 timeTable = new TimeTableEntity();  
 timeTable.id = 8;  
 timeTable.cabinet = "Дистанционно";  
 timeTable.subGroup = "ПИ";  
 timeTable.subjName = "Проектирование архитектуры программ.систем";  
 timeTable.corp = "К3";  
 timeTable.type = "ПРАКТИЧЕСКОЕ ЗАНЯТИЕ";  
 timeTable.timeStart = dateFromString("2021-04-07 08:10");  
 timeTable.timeEnd = dateFromString("2021-04-07 09:30");  
 timeTable.groupId = 2;  
 timeTable.teacherId = 6;  
 timeTables.add(timeTable);  
 timeTable = new TimeTableEntity();  
 timeTable.id = 9;  
 timeTable.cabinet = "Дистанционно";  
 timeTable.subGroup = "ПИ";  
 timeTable.subjName = "Проектирование архитектуры программ.систем";  
 timeTable.corp = "К3";  
 timeTable.type = "ПРАКТИЧЕСКОЕ ЗАНЯТИЕ";  
 timeTable.timeStart = dateFromString("2021-04-07 08:10");  
 timeTable.timeEnd = dateFromString("2021-04-07 09:30");  
 timeTable.groupId = 1;  
 timeTable.teacherId = 6;  
 timeTables.add(timeTable);  
 timeTable = new TimeTableEntity();  
 timeTable.id = 10;  
 timeTable.cabinet = "Дистанционно";  
 timeTable.subGroup = "ПИ";  
 timeTable.subjName = "Проектирование архитектуры программ.систем";  
 timeTable.corp = "К3";  
 timeTable.type = "ПРАКТИЧЕСКОЕ ЗАНЯТИЕ";  
 timeTable.timeStart = dateFromString("2021-04-09 08:10");  
 timeTable.timeEnd = dateFromString("2021-04-09 09:30");  
 timeTable.groupId = 1;  
 timeTable.teacherId = 6;  
 timeTables.add(timeTable);  
 timeTable = new TimeTableEntity();  
 timeTable.id = 11;  
 timeTable.cabinet = "Дистанционно";  
 timeTable.subGroup = "ПИ";  
 timeTable.subjName = "Интеллектуальное право";  
 timeTable.corp = "К3";  
 timeTable.type = "ПРАКТИЧЕСКОЕ ЗАНЯТИЕ";  
 timeTable.timeStart = dateFromString("2021-04-09 09:40");  
 timeTable.timeEnd = dateFromString("2021-04-09 11:00");  
 timeTable.groupId = 1;  
 timeTable.teacherId = 7;  
 timeTables.add(timeTable);  
 timeTable = new TimeTableEntity();  
 timeTable.id = 12;  
 timeTable.cabinet = "Дистанционно";  
 timeTable.subGroup = "ПИ";  
 timeTable.subjName = "Интеллектуальное право";  
 timeTable.corp = "К3";  
 timeTable.type = "ПРАКТИЧЕСКОЕ ЗАНЯТИЕ";  
 timeTable.timeStart = dateFromString("2021-04-09 11:30");  
 timeTable.timeEnd = dateFromString("2021-04-09 12:50");  
 timeTable.groupId = 2;  
 timeTable.teacherId = 7;  
 timeTables.add(timeTable);  
 timeTable = new TimeTableEntity();  
 timeTable.id = 13;  
 timeTable.cabinet = "110";  
 timeTable.subGroup = "ПИ";  
 timeTable.subjName = "Экономика программной инженерии";  
 timeTable.corp = "К3";  
 timeTable.type = "ПРАКТИЧЕСКОЕ ЗАНЯТИЕ";  
 timeTable.timeStart = dateFromString("2021-04-10 08:10");  
 timeTable.timeEnd = dateFromString("2021-04-10 11:00");  
 timeTable.groupId = 1;  
 timeTable.teacherId = 5;  
 timeTables.add(timeTable);  
 timeTable = new TimeTableEntity();  
 timeTable.id = 14;  
 timeTable.cabinet = "110";  
 timeTable.subGroup = "ПИ";  
 timeTable.subjName = "Экономика программной инженерии";  
 timeTable.corp = "К3";  
 timeTable.type = "ПРАКТИЧЕСКОЕ ЗАНЯТИЕ";  
 timeTable.timeStart = dateFromString("2021-04-10 11:30");  
 timeTable.timeEnd = dateFromString("2021-04-10 14:30");  
 timeTable.groupId = 2;  
 timeTable.teacherId = 5;  
 timeTables.add(timeTable);  
 DatabaseManager.*getInstance*(context).getHseDao().insertTimeTable(timeTables);  
 }  
  
 private Date dateFromString(String value) {  
 SimpleDateFormat simpleDateFormat = new SimpleDateFormat("yyyy-MM-dd HH:mm", Locale.*getDefault*());  
 try { return simpleDateFormat.parse(value); }  
 catch (ParseException ignored) { }  
 return null;  
 }  
}

HseDao:

package org.hse.android.database;  
  
import androidx.lifecycle.LiveData;  
import androidx.room.Dao;  
import androidx.room.Delete;  
import androidx.room.Insert;  
import androidx.room.Query;  
import androidx.room.Transaction;  
import org.hse.android.entities.GroupEntity;  
import org.hse.android.entities.TeacherEntity;  
import org.hse.android.entities.TimeTableEntity;  
import org.hse.android.entities.TimeTableWithTeacherEntity;  
import java.util.Date;  
import java.util.List;  
  
@Dao  
public interface HseDao {  
 @Query("SELECT \* FROM `group`")  
 LiveData<List<GroupEntity>> getAllGroup();  
  
 @Insert  
 void insertGroup(List<GroupEntity> data);  
  
 @Delete  
 void delete(GroupEntity data);  
  
 @Query("SELECT \* FROM `teacher`")  
 LiveData<List<TeacherEntity>> getAllTeacher();  
  
 @Insert  
 void insertTeacher(List<TeacherEntity> data);  
  
 @Delete  
 void delete(TeacherEntity data);  
  
 @Query("SELECT \* FROM time\_table")  
 LiveData<List<TimeTableEntity>> getAllTimeTable();  
  
 @Query("SELECT \* FROM `time\_table`")  
 LiveData<List<TimeTableWithTeacherEntity>> getTimeTableTeacher();  
  
 @Insert  
 void insertTimeTable(List<TimeTableEntity> data);  
  
 @Transaction  
 @Query("SELECT \* FROM time\_table " +  
 " where teacher\_id = :teacherId " +  
 " and :date between time\_start and time\_end")  
 LiveData<TimeTableWithTeacherEntity> getTimeTableTeacher(Date date, int teacherId);  
  
 @Transaction  
 @Query("SELECT \* FROM time\_table " +  
 " where group\_id = :groupId " +  
 " and :date between time\_start and time\_end")  
 LiveData<TimeTableWithTeacherEntity> getTimeTableGroup(Date date, int groupId);  
  
 @Transaction  
 @Query("SELECT \* FROM time\_table " +  
 " where teacher\_id = :teacherId " +  
 " and :start < time\_end" +  
 " and :end > time\_start")  
 LiveData<List<TimeTableWithTeacherEntity>> getTimeTableTeacherRange(Date start, Date end, int teacherId);  
  
 @Transaction  
 @Query("SELECT \* FROM time\_table " +  
 " where group\_id = :groupId " +  
 " and :start < time\_end" +  
 " and :end > time\_start")  
 LiveData<List<TimeTableWithTeacherEntity>> getTimeTableGroupRange(Date start, Date end, int groupId);  
}

HseRepository:

package org.hse.android.database;  
  
import android.content.Context;  
import androidx.lifecycle.LiveData;  
import org.hse.android.entities.GroupEntity;  
import org.hse.android.entities.TeacherEntity;  
import org.hse.android.entities.TimeTableWithTeacherEntity;  
import java.util.Date;  
import java.util.List;  
  
public class HseRepository {  
 private DatabaseManager databaseManager;  
 private HseDao dao;  
  
 public HseRepository(Context context) {  
 databaseManager = DatabaseManager.*getInstance*(context);  
 dao = databaseManager.getHseDao();  
 }  
  
 public LiveData<List<GroupEntity>> getGroups() {  
 return dao.getAllGroup(); }  
  
 public LiveData<List<TeacherEntity>> getTeachers() {  
 return dao.getAllTeacher(); }  
  
 public LiveData<List<TimeTableWithTeacherEntity>> getTimeTableTeacherByDate(Date date) {  
 return dao.getTimeTableTeacher(); }  
  
 public LiveData<TimeTableWithTeacherEntity> getTimeWithTeacherByDate (Date date, int id){  
 return dao.getTimeTableTeacher(date, id); }  
  
 public LiveData<TimeTableWithTeacherEntity> getTimeWithGroupByDate(Date date, int id){  
 return dao.getTimeTableGroup(date, id); }  
  
 public LiveData<List<TimeTableWithTeacherEntity>> getTimeWithTeacherByDateRange(Date start, Date end, int teacherId) {  
 return dao.getTimeTableTeacherRange(start, end, teacherId); }  
  
 public LiveData<List<TimeTableWithTeacherEntity>> getTimeWithGroupByDateRange(Date start, Date end, int groupId) {  
 return dao.getTimeTableGroupRange(start, end, groupId); }  
}

GroupEntity:

package org.hse.android.entities;  
  
import androidx.annotation.NonNull;  
import androidx.room.ColumnInfo;  
import androidx.room.Entity;  
import androidx.room.Index;  
import androidx.room.PrimaryKey;  
  
@Entity(tableName = "group", indices = {@Index(value = {"name"}, unique = true)})  
public class GroupEntity {  
 @PrimaryKey  
 public int id;  
  
 @ColumnInfo(name = "name")  
 @NonNull  
 public String name = "";  
}

TeacherEntity:

package org.hse.android.entities;  
  
import androidx.annotation.NonNull;  
import androidx.room.ColumnInfo;  
import androidx.room.Entity;  
import androidx.room.Index;  
import androidx.room.PrimaryKey;  
  
@Entity(tableName = "teacher", indices = {@Index(value = {"fio"}, unique = true)})  
public class TeacherEntity {  
 @PrimaryKey  
 public int id;  
  
 @ColumnInfo(name = "fio")  
 @NonNull  
 public String fio = "";  
}

TimeTableEntity:

package org.hse.android.entities;  
  
import androidx.annotation.NonNull;  
import androidx.room.ColumnInfo;  
import androidx.room.Entity;  
import androidx.room.ForeignKey;  
import androidx.room.PrimaryKey;  
import java.util.Date;  
  
import static androidx.room.ForeignKey.*CASCADE*;  
  
@Entity(tableName = "time\_table", foreignKeys = {  
 @ForeignKey(entity = GroupEntity.class, parentColumns = "id", childColumns = "group\_id", onDelete = *CASCADE*),  
 @ForeignKey(entity = TeacherEntity.class, parentColumns = "id", childColumns = "teacher\_id", onDelete = *CASCADE*)})  
public class TimeTableEntity {  
 @PrimaryKey  
 public int id;  
  
 @ColumnInfo(name = "subj\_name")  
 @NonNull  
 public String subjName = "";  
  
 @ColumnInfo(name = "type")  
 @NonNull public String type = "";  
  
 @ColumnInfo(name = "time\_start")  
 public Date timeStart;  
  
 @ColumnInfo(name = "time\_end")  
 public Date timeEnd;  
  
 @ColumnInfo(name = "sub\_group")  
 @NonNull public String subGroup = "";  
  
 @ColumnInfo(name = "cabinet")  
 @NonNull public String cabinet = "";  
  
 @ColumnInfo(name = "corp")  
 @NonNull public String corp = "";  
  
 @ColumnInfo(name = "group\_id", index = true)  
 public int groupId;  
  
 @ColumnInfo(name = "teacher\_id", index = true)  
 public int teacherId;  
}

TimeTableWithTeacherEntity:

package org.hse.android.entities;  
  
import androidx.room.Embedded;  
import androidx.room.Relation;  
  
public class TimeTableWithTeacherEntity {  
 @Embedded  
 public TimeTableEntity timeTableEntity;  
  
 @Relation(parentColumn = "teacher\_id", entityColumn = "id")  
 public TeacherEntity teacherEntity;  
}

MainViewModel:

package org.hse.android.models;  
  
import android.app.Application;  
import androidx.annotation.NonNull;  
import androidx.lifecycle.AndroidViewModel;  
import androidx.lifecycle.LiveData;  
import androidx.lifecycle.MutableLiveData;  
import org.hse.android.database.HseRepository;  
import org.hse.android.entities.GroupEntity;  
import org.hse.android.entities.TeacherEntity;  
import org.hse.android.entities.TimeTableWithTeacherEntity;  
import java.util.Calendar;  
import java.util.Date;  
import java.util.GregorianCalendar;  
import java.util.List;  
  
public class MainViewModel extends AndroidViewModel {  
 private HseRepository repository;  
  
 public MutableLiveData<Date> currentTime;  
  
 public MainViewModel(@NonNull Application application){  
 super(application);  
 repository = new HseRepository(application);  
 currentTime = new MutableLiveData<Date>();  
 }  
  
 public LiveData<List<GroupEntity>> getGroups() {  
 return repository.getGroups();}  
  
 public LiveData<List<TeacherEntity>> getTeachers() {  
 return repository.getTeachers();}  
  
 public LiveData<List<TimeTableWithTeacherEntity>> getTimeTableTeacherByDate(Date date) {  
 return repository.getTimeTableTeacherByDate(date);  
 }  
  
 public LiveData<TimeTableWithTeacherEntity> getTimeWithTeacherByDate(Date date, int teacherId) {  
 return repository.getTimeWithTeacherByDate(date, teacherId);  
 }  
  
 public LiveData<TimeTableWithTeacherEntity> getTimeWithGroupByDate(Date date, int groupId) {  
 return repository.getTimeWithGroupByDate(date, groupId);  
 }  
  
 public LiveData<List<TimeTableWithTeacherEntity>> getTimeTableForStudentDay(Date date, Integer groupId) {  
 Date start = floorDay(date);  
 Date end = ceilDay(date);  
 return repository.getTimeWithGroupByDateRange(start, end, groupId);  
 }  
  
 public LiveData<List<TimeTableWithTeacherEntity>> getTimeTableForTeacherDay(Date date, Integer teacherId) {  
 Date start = floorDay(date);  
 Date end = ceilDay(date);  
 return repository.getTimeWithTeacherByDateRange(start, end, teacherId);  
 }  
  
 public LiveData<List<TimeTableWithTeacherEntity>> getTimeTableForStudentWeek(Date date, Integer groupId) {  
 Date start = floorDay(date);  
 Date end = ceilWeek(date);  
 return repository.getTimeWithGroupByDateRange(start, end, groupId);  
 }  
  
 public LiveData<List<TimeTableWithTeacherEntity>> getTimeTableForTeacherWeek(Date date, Integer teacherId) {  
 Date start = floorDay(date);  
 Date end = ceilWeek(date);  
 return repository.getTimeWithTeacherByDateRange(start, end, teacherId);  
 }  
  
 private Date floorDay(Date date){  
 Calendar c = new GregorianCalendar();  
 c.setTime(date);  
 c.set(Calendar.*HOUR\_OF\_DAY*, 0);  
 c.set(Calendar.*MINUTE*, 0);  
 c.set(Calendar.*SECOND*, 0);  
  
 return c.getTime();  
 }  
  
 private Date ceilDay(Date date){  
 Calendar c = new GregorianCalendar();  
 c.setTime(date);  
  
 c.set(Calendar.*HOUR\_OF\_DAY*, 23);  
 c.set(Calendar.*MINUTE*, 59);  
 c.set(Calendar.*SECOND*, 59);  
  
 return c.getTime();  
 }  
  
 private Date ceilWeek(Date date){  
 Calendar c = new GregorianCalendar();  
 c.setTime(date);  
 c.setFirstDayOfWeek(Calendar.*MONDAY*);  
  
 c.set(Calendar.*DAY\_OF\_WEEK*, Calendar.*SUNDAY*);  
 c.set(Calendar.*HOUR\_OF\_DAY*, 23);  
 c.set(Calendar.*MINUTE*, 59);  
 c.set(Calendar.*SECOND*, 59);  
  
 return c.getTime();  
 }  
}

Converters:

package org.hse.android.requests;  
  
import androidx.room.TypeConverter;  
  
import java.util.Date;  
  
public class Converters {  
 @TypeConverter  
 public static Date fromTimestamp(Long value) { return value == null ? null : new Date(value); }  
  
 @TypeConverter  
 public static Long dateToTimestamp(Date date) { return date == null ? null : date.getTime(); }  
}

# **2 Задание**

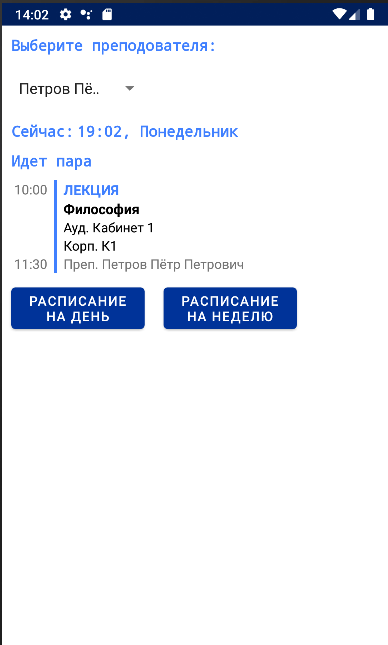
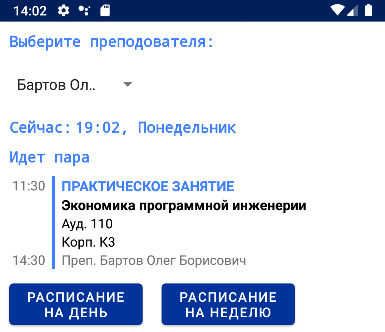
Задача: После смены группы или преподавателя автоматически перезапрашивать данные по доступному расписанию.

Добавляем действие по нажатию на элемент выпадающего списка:

spinner\_student.setOnItemSelectedListener(new AdapterView.OnItemSelectedListener() {  
 public void onItemSelected(AdapterView<?> parent, View itemSelected, int selectedItemPosition, long selectedId) {  
 Object item = adapter.getItem(selectedItemPosition);  
 showTime(currentTime);  
 Log.*d*(*TAG*,"selectedItem: " + item);  
 }  
 public void onNothingSelected(AdapterView<?> parent) { }  
});

После чего считываем нажатый элемент и перезаписываем данные:

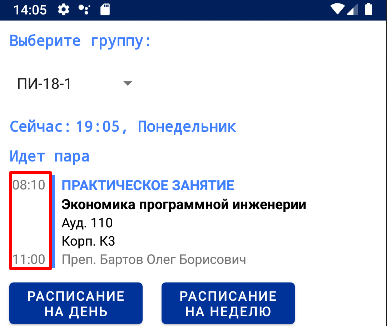
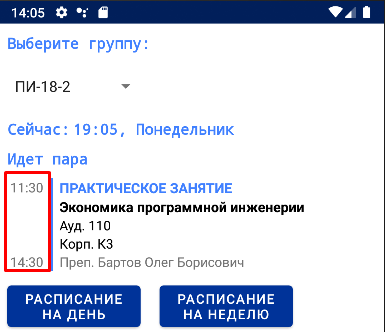
@Override  
public void showTime(Date dateTime) {  
 super.showTime(dateTime);  
 mainViewModel.getTimeTableTeacherByDate(dateTime).observe(this, list -> {  
 for (TimeTableWithTeacherEntity listEntity : list) {  
 Log.*d*(*TAG*, listEntity.timeTableEntity.subjName + " " + listEntity.teacherEntity.fio);  
 if (getSelectedGroup() != null && getSelectedGroup().getId().equals(listEntity.timeTableEntity.groupId)) {  
 initDataFromTimeTable(listEntity);  
 }  
 }  
 });  
}

@SuppressLint("SetTextI18n")  
private void initDataFromTimeTable(TimeTableWithTeacherEntity timeTableTeacherEntity) {  
 if (timeTableTeacherEntity == null) {  
 time\_start.setText("00:00");  
 time\_end.setText("00:00");  
 status.setText("Нет пар");  
  
 type\_subj.setText("");  
 subject.setText("Дисциплина");  
 cabinet.setText("Кабинет");  
 corp.setText("Корпус");  
 teacher.setText("Преподаватель");  
 return;  
 }  
 status.setText("Идет пара");  
 TimeTableEntity timeTableEntity = timeTableTeacherEntity.timeTableEntity;  
  
 time\_start.setText(formatToMinutes(timeTableTeacherEntity.timeTableEntity.timeStart));  
 time\_end.setText(formatToMinutes(timeTableTeacherEntity.timeTableEntity.timeEnd));  
 type\_subj.setText(timeTableEntity.type);  
 subject.setText(timeTableEntity.subjName);  
 cabinet.setText("Ауд. " + timeTableEntity.cabinet);  
 corp.setText("Корп. " + timeTableEntity.corp);  
 teacher.setText("Преп. " + timeTableTeacherEntity.teacherEntity.fio);  
}

***Рисунок 2.2 – Результат после***

***Рисунок 2.1 – Результат до***

# **3 Задание**

Задача: По аналогии с HseRepository#getTimeTableTeacherByDate() сделать метод получения данных из БД по дате и по ИД группы. Переписать места в коде отмеченные “// TODO move to DB query“.

***Рисунок 3.2 – Результат***

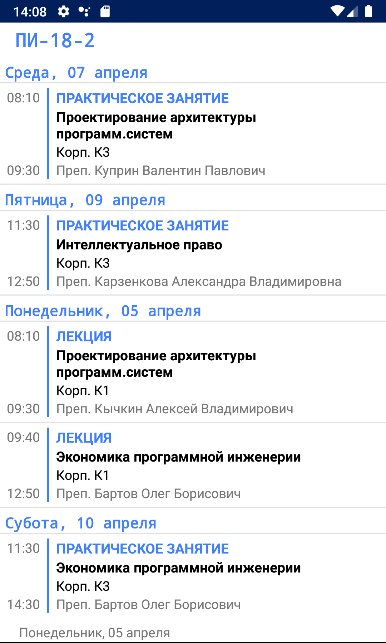
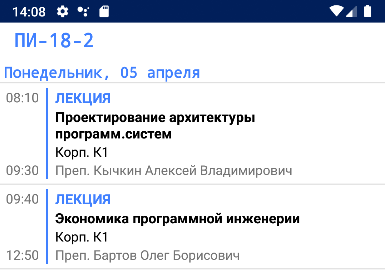
***Рисунок 3.1 – Результат***

# **4 Задание**

Задача: Доработать функцию ScheduleActivity#filterItem(). Сделать фильтрацию данных на день и на неделю на основе текущего типа расписания (день или неделя). Данные фильтровать так: если тип на день - выводим расписание на этот день недели из БД, если на неделю - выводим раписание от текущего дня недели до последнего дня текущей недели.

private void initData(){  
 Observer observer = (Observer<List<TimeTableWithTeacherEntity>>) timeTableWithTeacherEntities -> {  
 scheduleList = getScheduleItems(timeTableWithTeacherEntities);  
 adapter.setDataList(scheduleList);  
 recyclerView.setAdapter(adapter);  
 };  
 applyFunctionForTimeTable(observer);  
}

private void applyFunctionForTimeTable(Observer observer) {  
 switch (type){  
 case *DAY*:  
 switch (mode){  
 case *STUDENT*:  
 mainViewModel.getTimeTableForStudentDay(BaseActivity.*time\_export*, *id*).observe(this, observer);  
 break;  
 case *TEACHER*:  
 mainViewModel.getTimeTableForTeacherDay(BaseActivity.*time\_export*, *id*).observe(this, observer);  
 break;  
 }  
 break;  
 case *WEEK*:  
 switch (mode){  
 case *STUDENT*:  
 mainViewModel.getTimeTableForStudentWeek(BaseActivity.*time\_export*, *id*).observe(this, observer);  
 break;  
 case *TEACHER*:  
 mainViewModel.getTimeTableForTeacherWeek(BaseActivity.*time\_export*, *id*).observe(this, observer);  
 break;  
 }  
 break;  
 }  
}



***Рисунок 4.2 – Расписание на неделю***

***Рисунок 4.1 – Расписание на день***

# **5 Задание**

Задача: Переписать функцию getTime() (получение текущего времени от сервера) на LiveData.

protected void showNewTime(){  
 mainViewModel.currentTime.observe(this, new Observer<Date>() {  
 @Override  
 public void onChanged(Date dateTime) {  
 if(dateTime == null)  
 return;  
 currentTime = dateTime;  
 SimpleDateFormat simpleDateFormat = new SimpleDateFormat("HH:mm EEEE", new Locale("ru"));  
 time.setText(simpleDateFormat.format(currentTime));  
 }  
 });  
}

# **6 Задание**

Задача: Вынести все строковые константы в ресурсы.

<resources>  
 <string name="app\_name">Timetable for HSE FE</string>  
 <string name="about\_main">Программа созданная в рамках курса "Мобильная разработка" НИУ ВШЭ</string>  
 <string name="about\_stud\_list">Timetable for HSE FE</string>  
 <string name="about\_teach\_list">Timetable for HSE FE</string>  
  
 <string name="teacher\_button\_ru">РАСПИСАНИЕ ДЛЯ ПРЕПОДОВАТЕЛЯ</string>  
 <string name="student\_button\_ru">РАСПИСАНИЕ ДЛЯ СТУДЕНТОВ</string>  
 <string name="settings\_ru">НАСТРОЙКИ</string>  
 <string name="take\_photo\_button\_ru">Сделать фото</string>  
 <string name="save\_button\_ru">Сохранить</string>  
 <string name="logo\_of\_hse">Logo of HSE</string>  
  
 <string name="first\_label\_s\_ru">Выберите группу:</string>  
 <string name="first\_label\_t\_ru">Выберите преподователя:</string>  
 <string name="now\_label">Сейчас:</string>  
 <string name="time">00:00</string>  
 <string name="status\_ru">Идет пара / Нет пар</string>  
  
 <string name="photo\_textView">Укажите фото</string>  
 <string name="name\_editView">Укажите ваше имя</string>  
 <string name="light\_textView">Текущая освещаемость:</string>  
 <string name="user\_avatar">User\_avatar</string>  
 <string name="sensors\_list\_label">Список доступных датчиков:</string>  
  
 <string name="schedule\_type">Тип</string>  
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 <string name="schedule\_place">Кабинет</string>  
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