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# **Android Components Documentation**

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Documentation for android components

Fig. 1: Latest version of components

To be able to use any of this components.

- Add the JitPack repository to your build file.

```
allprojects {
    repositories {
        ...
        maven { url 'https://jitpack.io' }
    }
}
```

- Add the dependency you would like

```
dependencies {
    compile 'com.github.eddmash.androidcomponents:activerescord:2.0.1'
    compile 'com.github.eddmash.androidcomponents:grid:2.0.1'
    compile 'com.github.eddmash:androidcomponents:form:2.0.1'
    compile 'com.github.eddmash:androidcomponents:validation:2.0.1'
    compile 'com.github.eddmash:androidcomponents:pagination:2.0.1'
    compile 'com.github.eddmash:androidcomponents:adapter:2.0.1'
    compile 'com.github.eddmash:androidcomponents:views:2.0.1'
}
```



# CHAPTER 1

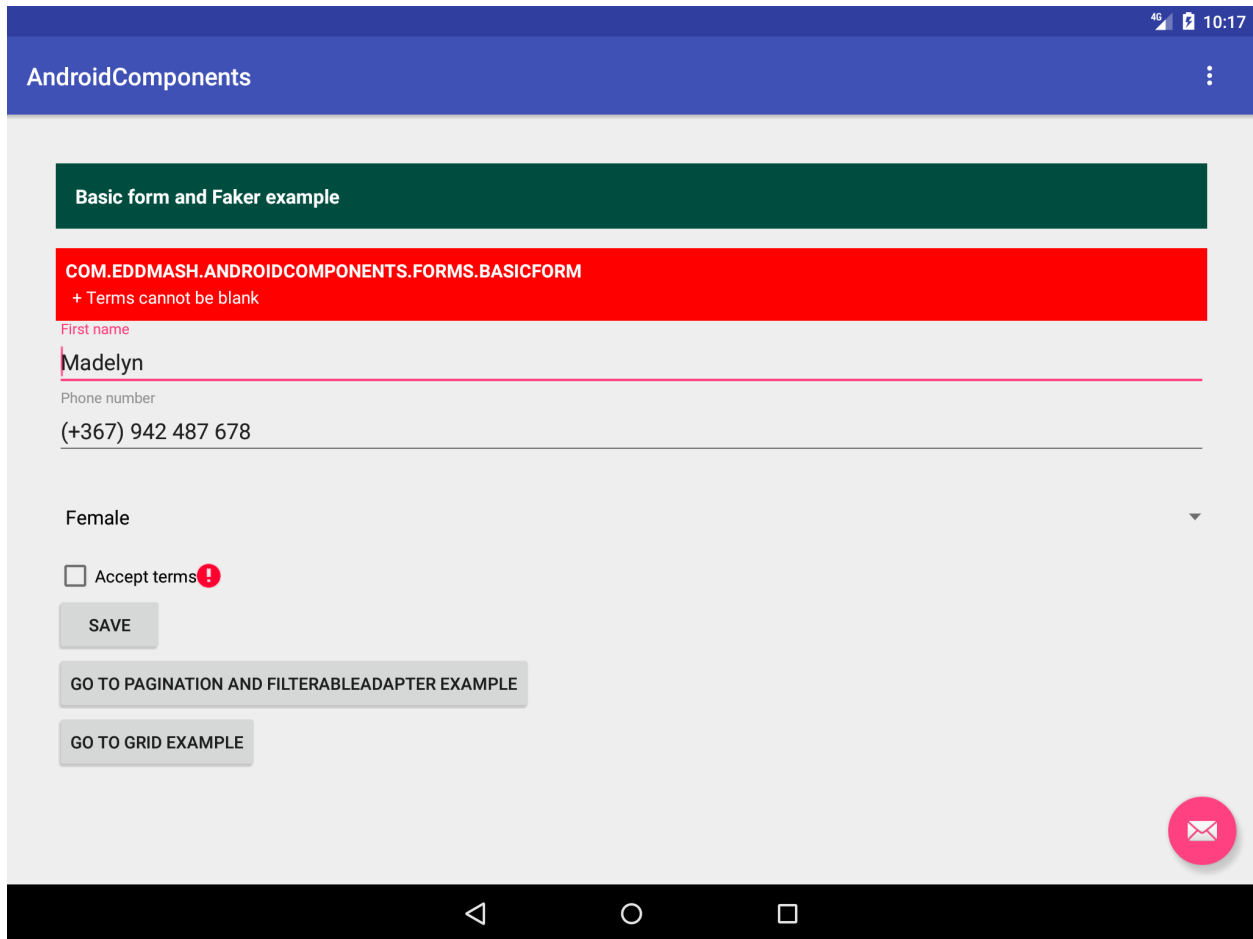
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## Android validation library documentation!

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A lightweight and extensible android validation library.

It uses simple, straightforward validation methods with a focus on readable and concise syntax.



## 1.1 Usage

Using this library boils down to this steps

- Create a validator object

```
Validator validator = new Validator();
```

- Add validation checks to the validator

```
// the editText objects to validate
EditText nameEditText = (EditText) editText.findViewById(R.id.name);
Spinner ageSpinner = (Spinner) editText.findViewById(R.id.spinner);

// ... using check objects
validator.addCheck(new NotEmptyCheck(nameEditText, "name cannot be blank"));
validator.addCheck(new NotEmptyCheck(ageSpinner, "age cannot be blank");
```

*Learn more about available checks*

- Validate

To run the validations involve the validators `validate()` method.



```
validator.validate()
```

This method returns `true` if the validation passed or `false` if the validations failed.

## 1.2 Handle the errors

Incase of validation failure, the validation errors can be accessed via the `getErrors()` method.

This library comes with a convenience class `ErrorRenderer`, which can be used to easily display the validation errors.

- Displaying errors.

```
// the layout where we display any validation errors
LinearLayout errorSpace = (LinearLayout) findViewById(R.id.error_base);
errorSpace.removeAllViews();// clear space first

if (validator.validate()) {
    // .. code to perform if validation passes
} else {

    // show the errors if validation failed
    // we use the renderer class to handle the display
    ErrorRenderer errorRenderer = new ErrorRenderer(this, validator);
    errorRenderer.render(errorSpace);
}
```

- Using `ValidationListener` to handle errors.

This version of `validate()` accepts a `ValidationListener` which has `onValidationSuccess` invoked when validation is a success. `onValidationFailed` invoked when validation fails methods.

```
// the layout where we display any validation errors
LinearLayout errorSpace = (LinearLayout) findViewById(R.id.error_base);
errorSpace.removeAllViews();// clear space first

validator.validate(new ValidationListener() {
    @Override
    public void onValidationSuccess(ValidatorInterface validatorInterface) {
        // on success code
    }

    @Override
    public void onValidationFailed(ValidatorInterface validatorInterface) {
        // show the errors if validation failed
        // we use the renderer class to handle the display
        ErrorRenderer errorRenderer = new ErrorRenderer(MainActivity.this,
            validatorInterface);
        errorRenderer.render(errorSpace);
    }
});
```

## 1.3 Checks

### Contents

- *Checks*
  - *Introduction*
  - *Creating custom validations*
  - *Built-in Checks*

### 1.3.1 Introduction

A `Check` is a class that implements the `CheckInterface`. The interface defines a few methods.

- `run()` This is where all the logic of validation is placed. This method should return `true` if validation succeeds or `false` on failure.
- `getErrorMsg()` this should be the error message to be used in case validation fails.
- `setError()` This method is invoked with the error message above as an argument. This method should be used to set the error message on the `EditText`.
- `clearError()` This method is invoked just before validation is run. It should be used to clear any previous error displayed on the validator.

### 1.3.2 Creating custom validations

You can create custom checks by implementing `CheckInterface`, or by extending one of the *built-in checks*.

As an example we create a simple check that checks if a string contains only alphanumeric characters.

```
class ContainsAlphaNumericCheck implements CheckInterface {
    private EditText editText;

    public ContainsAlphaNumericCheck(EditText editText) {
        this.editText = editText;
    }

    @Override
    public boolean run() {
        String value = editText.getText().toString();
        return Pattern.compile("[a-zA-Z0-9]+$").matcher(value).matches();
    }

    @Override
    public String getErrorMsg() {
        return "String contains an illegal character: it can only contain letters or ↵
↳ numbers.";
    }

    @Override
    public void setError(String error) {
        editText.setError(error);
    }
}
```

```
@Override
public void clearError() {
    editText.setError(null);
}
}
```

### 1.3.3 Built-in Checks

#### com.eddmash.validation.checks

##### AllCheck

public class **AllCheck** extends *CheckCompound*

This is an implementation of *CheckCompound*.

Ensures all are validation checks are valid.

If the no checks are provided i.e. checkList is empty, validation will always pass for this check.

##### Constructors

##### AllCheck

public **AllCheck** (*String errorMessage*)

##### Methods

##### run

public boolean **run** ()

##### AnyCheck

public class **AnyCheck** extends *CheckCompound*

This is an implementation of *CheckCompound*.

Checks if at least one of the checks passed validation.

If the no checks are provided i.e. checkList is empty, validation will always fail.

##### Constructors

##### AnyCheck

public **AnyCheck** (*String errorMessage*)

### Methods

#### run

```
public boolean run ()
```

### CheckCompound

```
public abstract class CheckCompound extends CheckSingle
```

This Implementation of this class gets the ability to run multiple checks as a unit.

The *AllCheck* implementation ensures that all the checks added to it pass the validation if any one of the fails the whole check fails.

The *AnyCheck* implementation ensures that atleast one passed the check meaning this check will pass validation if one of the checks within passed.

### Fields

#### checkList

```
protected List<CheckInterface> checkList
```

### Constructors

#### CheckCompound

```
public CheckCompound (String errorMessage)
```

### Methods

#### addCheck

```
public void addCheck (CheckInterface checkInterface)
```

#### addChecks

```
public void addChecks (List<CheckInterface> validationChecks)
```

#### clearError

```
public void clearError ()
```

#### disableCheck

```
public void disableCheck (CheckInterface checkInterface)
```

## disableChecks

```
public void disableChecks (List<CheckInterface> validationChecks)
```

## getErrorMsg

```
public String getErrorMsg ()
```

## setError

```
public void setError (String error)
```

## CheckInterface

```
public interface CheckInterface
```

Classes that implement this interface can be used for validation checks.

## Methods

### clearError

```
void clearError ()
```

This method is invoked before validation is run, this is to allow clearing any validation indicators on the View.

### getErrorMsg

```
String getErrorMsg ()
```

The error message to use for the failed validations.

**Returns** the error message

### run

```
boolean run ()
```

This is where all the validation logic is placed.

**Returns** true if validation was a success else return false.

### setError

```
void setError (String error)
```

Set the error message on the View being validated.

This will invoked when the validation starts, To clear out any previous errors displayed on the View. This is done by passing null as the error message

Its again invoked incase validation fails and error message need to be added to the View.

**Parameters**

- **error** – the error message that needs to be set on the View being validated

### CheckSingle

public abstract class **CheckSingle** implements *CheckInterface*

This is the base class most of the validation Checks that relate to a single view.

*CheckCompound* if you like to validate multiple checks as one unit.

### Methods

#### clearError

public void **clearError** ()

#### getValue

protected String **getValue** ()

Gets the value to be validated.

**Returns** value of the view

#### getView

protected TextView **getView** ()

Gets the view we are working on. This can be anything that is a child of TextView e.g. EditText, CompoundButton like Checkboxes

Incase of a spinner you return the selected view like so.

(TextView) spinner.getSelectedView();

**Returns** the View from which to get value to isValid and also on which to set error by invoking **view.setError()**

#### setError

public void **setError** (String error)

### EqualCheck

public class **EqualCheck** extends *NotEmptyCheck*

Checks if the provided values is matches to what view has.

### Constructors

#### EqualCheck

public **EqualCheck** (EditText view, String errorMessage, int valToEquate)

### EqualCheck

```
public EqualCheck (EditText view, String errorMessage, double valToEquate)
```

### EqualCheck

```
public EqualCheck (EditText view, String errorMessage, String valToEquate)
```

### Methods

#### run

```
public boolean run ()
```

### GTCheck

```
public class GTCheck extends NotEmptyCheck  
    Check if the value on the view is greater than the provided value.
```

### Constructors

#### GTCheck

```
public GTCheck (EditText view, String errorMessage, int max)
```

#### GTCheck

```
public GTCheck (Spinner view, String errorMessage, int max)
```

#### GTCheck

```
public GTCheck (EditText view, String errorMessage, double max)
```

#### GTCheck

```
public GTCheck (Spinner view, String errorMessage, double max)
```

### Methods

#### run

```
public boolean run ()
```

### GTECheck

public class **GTECheck** extends *NotEmptyCheck*  
Check if the value on the view is greater than or equal the provided value.

### Constructors

#### GTECheck

public **GTECheck** (EditText *view*, String *errorMessage*, int *max*)

#### GTECheck

public **GTECheck** (Spinner *view*, String *errorMessage*, int *max*)

#### GTECheck

public **GTECheck** (EditText *view*, String *errorMessage*, double *max*)

#### GTECheck

public **GTECheck** (Spinner *view*, String *errorMessage*, double *max*)

### Methods

#### run

public boolean **run** ()

### IsCheckedCheck

public class **IsCheckedCheck** implements *CheckInterface*  
Checks if the provided compound button is checked.  
Compound buttons include checkbox, radios etc

### Constructors

#### IsCheckedCheck

public **IsCheckedCheck** (CompoundButton *compoundButton*, String *errorMessage*)

#### IsCheckedCheck

public **IsCheckedCheck** (CompoundButton *compoundButton*)



## Methods

### clearError

```
public void clearError ()
```

### getErrorMsg

```
public String getErrorMsg ()
```

### run

```
public boolean run ()
```

### setError

```
public void setError (String error)
```

## IsFloatCheck

```
public class IsFloatCheck extends NotEmptyCheck  
    Checks if the value is a float value
```

## Constructors

### IsFloatCheck

```
public IsFloatCheck (EditText view, String errorMessage)
```

### IsFloatCheck

```
public IsFloatCheck (Spinner spinner, String errorMessage)
```

## Methods

### run

```
public boolean run ()
```

## IsIntegerCheck

```
public class IsIntegerCheck extends NotEmptyCheck  
    Check if value is an integer.
```

## Constructors

### IsIntegerCheck

```
public IsIntegerCheck (EditText view, String errorMessage)
```

### IsIntegerCheck

```
public IsIntegerCheck (Spinner spinner, String errorMessage)
```

## Methods

### getErrorMsg

```
public String getErrorMsg ()
```

### run

```
public boolean run ()
```

## LTCheck

```
public class LTCheck extends NotEmptyCheck  
    Check if the value on the view is less than the provided value.
```

## Constructors

### LTCheck

```
public LTCheck (EditText view, String errorMessage, int min)
```

### LTCheck

```
public LTCheck (Spinner view, String errorMessage, int min)
```

### LTCheck

```
public LTCheck (EditText view, String errorMessage, double min)
```

### LTCheck

```
public LTCheck (Spinner view, String errorMessage, double min)
```

## Methods

### run

```
public boolean run ()
```

## LTECheck

```
public class LTECheck extends NotEmptyCheck
```

Check if the value on the view is less than or equal the provided value.

## Constructors

### LTECheck

```
public LTECheck (EditText view, String errorMessage, int min)
```

### LTECheck

```
public LTECheck (Spinner view, String errorMessage, int min)
```

### LTECheck

```
public LTECheck (EditText view, String errorMessage, double min)
```

### LTECheck

```
public LTECheck (Spinner view, String errorMessage, double min)
```

## Methods

### run

```
public boolean run ()
```

## NotEmptyCheck

```
public class NotEmptyCheck extends CheckSingle
```

Ensure the view if not blank.

## Fields

### errorMessage

```
protected String errorMessage
```

## Constructors

### NotEmptyCheck

```
public NotEmptyCheck (EditText editText, String errorMessage)
```

### NotEmptyCheck

```
public NotEmptyCheck (Spinner spinner, String errorMessage)
```

### NotEmptyCheck

```
public NotEmptyCheck (CompoundButton compoundButton, String errorMessage)
```

## Methods

### getErrorMsg

```
public String getErrorMsg ()
```

### getValue

```
public String getValue ()
```

### getView

```
protected TextView getView ()  
    Gets the editText we are working on.
```

### run

```
public boolean run ()
```

## RegexCheck

```
public class RegexCheck extends CheckSingle  
    Validate a view against the provided rule or pattern
```

## Constructors

### RegexCheck

```
public RegexCheck (EditText view, String errorMessage, String rule)
```

## RegexCheck

```
public RegexCheck (EditText view, String errorMessage, Pattern pattern)
```

## RegexCheck

```
public RegexCheck (Spinner spinner, String errorMessage, String rule)
```

## RegexCheck

```
public RegexCheck (Spinner spinner, String errorMessage, Pattern pattern)
```

## Methods

### getErrorMsg

```
public String getErrorMsg ()
```

### getValue

```
public String getValue ()
```

### getView

```
public TextView getView ()
```

### run

```
public boolean run ()
```

## 1.4 Renderer

Whilst the error message on individual fields might be enough for most cases. There are time you want to display the errors at convenient location that the user can editText them all at ones in at a centralised location.

A good example is when validating fields that *span multiple fragments*. You may want the use to be able to see all errors from each fragment at the very top.



A renderer is a class that implements *RendererInterface* it defines a method :

- `render(ViewGroup viewGroup)` which takes in a `ViewGroup` where the errors will be rendered.

A convenience class `ErrorRenderer`. It takes in the context and the validator object on its constructor.

```
// the layout where we display any validation errors
LinearLayout errorSpace = (LinearLayout) findViewById(R.id.error_base);
errorSpace.removeAllViews(); // clear space first

ErrorRenderer errorRenderer = new ErrorRenderer(this, validator);
errorRenderer.render(errorSpace);
```

View Example use of `ErrorRenderer`.

### 1.4.1 com.eddmash.validation.renderer

#### ErrorRenderer

public class **ErrorRenderer** implements *RendererInterface*  
Renders all errors found in the validator

#### Constructors

#### ErrorRenderer

public **ErrorRenderer** (Activity activity, *ValidatorInterface* validatorInterface)

#### Methods

#### render

public void **render** (ViewGroup errorSpace)

#### RendererInterface

interface **RendererInterface**

Class that implement this interface make it easy to render validation errors *ErrorRenderer*

#### Methods

#### render

void **render** (ViewGroup errorSpace)

## 1.5 Validating across fragments Example

Define an interface to be used to communicate between the activity and its fragments

```

public interface FormSaveListener {

    /**
     * Save the data saved by the user. this values are cleared once a save to the_
    ↪database is made
     * otherwise this are saved for use on restore.
     */
    void save();

    /**
     * Return a validator object that will be shared to the fragments
     */
    ValidationListener getValidator();
}

```

The activity that contains fragments should implement the *FormSaveListener* interface above.

The activity defines a validator object that this activity will use for validation.

```

public class DetailsActivity extends Activity implements FormSaveListener{
    ValidationListener mainValidator;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);

        if (getResources().getConfiguration().orientation
            == Configuration.ORIENTATION_LANDSCAPE) {
            // If the screen is now in landscape mode, we can show the
            // dialog in-line with the list so we don't need this activity.
            finish();
            return;
        }

        if (savedInstanceState == null) {
            FragmentA fragmentA = new FragmentA();
            fragmentA.setArguments(getIntent().getExtras());
            getFragmentManager().beginTransaction().add(R.id.fragment_location, ↪
    ↪fragmentA).commit();
        }

        mainValidator = new Validator(this);
    }

    public ValidationListener getValidator(){
        return mainValidator;
    }

    public void save(){
        if (mainValidator.validate()) {
            // .. code to perform if validation passes
        } else {

            // show the errors if validation failed
            // we use the renderer class to handle the display
            ErrorRenderer errorRenderer = new ErrorRenderer(this, validator);
            errorRenderer.render(errorSpace);
        }
    }
}

```

```

    }
}

```

On each fragement we create a validation object and give it a tag id, so that the errors for each fragment be grouped together.

On each fragement, onAttach ensure to cast the context to form FormSaveListener,

Add the fragments validation object to the activities validation object, This makes it to be validated at the time when the activity validation is done.

We run the activities validation when the submit button is clicked.

```

public class FragmentA extends ListFragment {
    FormSaveListener formSaveListener;
    ValidationListener validator;

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
        Bundle savedInstanceState) {
        View editText = inflater.inflate(R.layout.fragment_a, container, false);

        validator = new Validator("Fragment_A", getActivity());
        formSaveListener.getValidator().addValidator(validator);

        setUpValidations()
        return editText;
    }

    @Override
    public void onResume() {
        super.onResume();
        Button submitBtn = (Button) editText.findViewById(R.id.form_submit_button);

        submitBtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                formSaveListener.save();
            }
        });
    }

    @Override
    public void onAttach(Context context) {
        super.onAttach(context);
        try {
            formSaveListener = (FormSaveListener) context;
        } catch (ClassCastException e) {
            throw new ClassCastException(context.toString() + " must implement_
↪FormSaveListener");
        }
    }

    public void setUpValidations(){
        EditText nameEditText = (EditText) editText.findViewById(R.id.name);
        validator.setValidation(nameEditText, RegexTemplate.NOT_EMPTY, "name cannot_
↪be empty");
    }
}

```



```
}
```



---

### Welcome to Android Forms documentation!

---

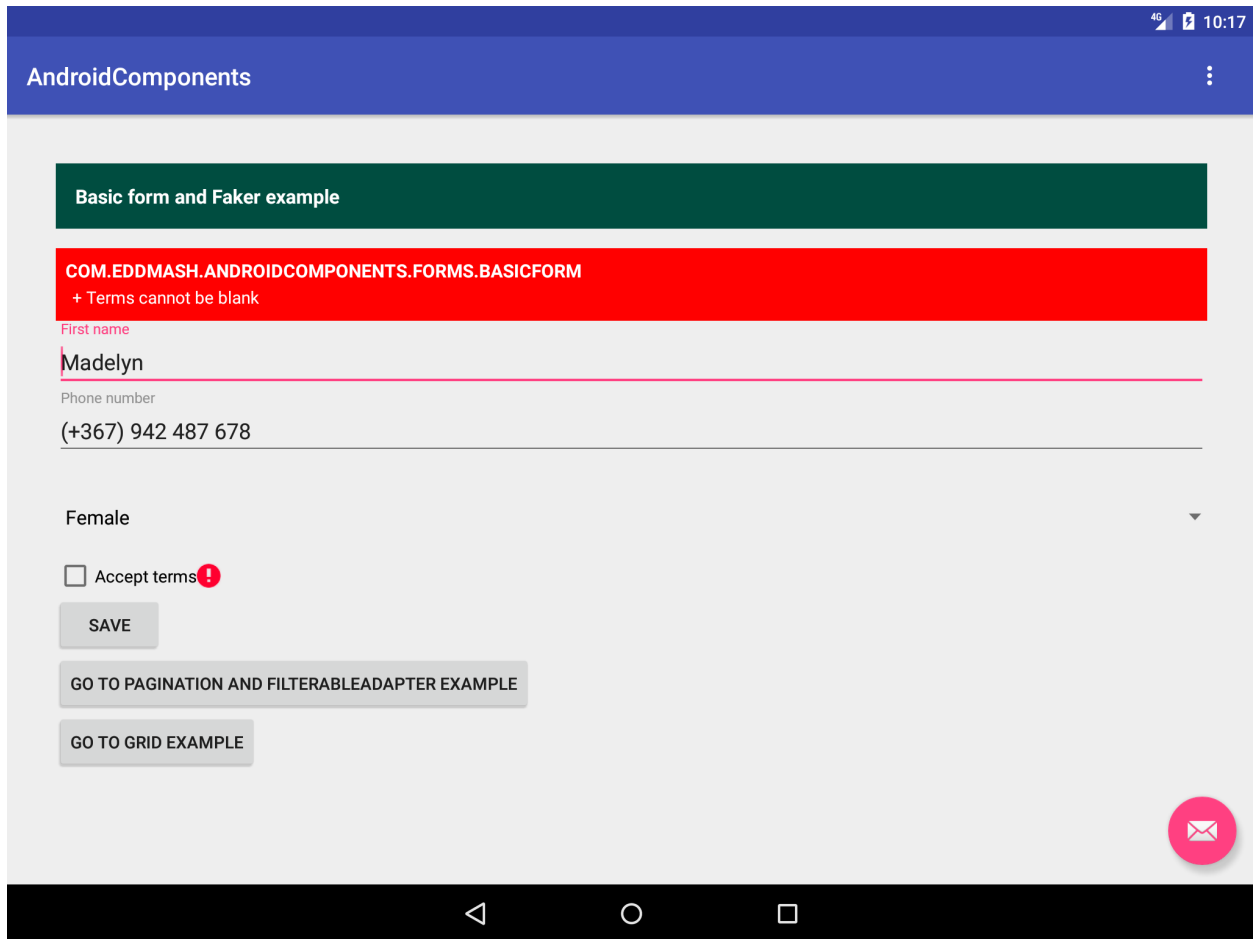
This library makes it easy to deal with views, especially if dealing with a large amount of views.

It provide a consistent and fluent way of setting, validating, retrieving and saving values from views.

With this library you not have to change or alter you layout in anyway, but you will be able to work with multiple forms on multiple fragments via *FormCollection*.

The library also comes an inbuilt *Data populator* to use when developing. This comes in handy when you want to prepopulate you form with sample data.

For validation the *Validation* is used.



## 2.1 Usage

To use this library is very easy

- Create *Form* class

```
private class BasicForm extends Form {
    public BasicForm() {
        super();
    }

    public BasicForm(ValidatorInterface validator) {
        super(validator);
    }

    @Override
    public void save() throws FormException {
        // implement the saving logic, you have access to
        // getValues() returns a map of where key is the name of the field and_
        ↪ the values
    }
}
```

- Create form object

```
BasicForm form = new BasicForm();
```

- Add *Field* to *FormInterface*

```
// get the views from the layout
Spinner genderSpinner = (Spinner) editText.findViewById(R.id.gender);
EditText fName = (EditText) editText.findViewById(R.id.firstname);
EditText phone_number = (EditText) editText.findViewById(R.id.phone_number);

// add views to the form
form.addField("gender", genderSpinner);
form.addField("firstname", fName);
form.addField("phone_number", fName);

// add validation check
form.addCheck(new NotEmptyCheck(gender, "Gender cannot be blank"));
form.addCheck(new NotEmptyCheck(fName, "Firstname cannot be blank"));
```

- Run *validation* and get the *values*.

```
if(form.isValid()){
    form.getValues()// returns a map of where key is the name of the field and the_
    ↪ values
}else{

    LinearLayout errorSpace = (LinearLayout) findViewById(R.id.error_base);
    errorSpace.removeAllViews();// clear space first

    ErrorRenderer errorRenderer = new ErrorRenderer(this, form.getValidator());
    errorRenderer.render(errorSpace);
}
```

- Save form values

```
if(form.isValid()){
    try{
        form.save() // save
    } catch (FormException e) {
        e.printStackTrace();
    }
}else{

    LinearLayout errorSpace = (LinearLayout) findViewById(R.id.error_base);
    errorSpace.removeAllViews();// clear space first

    ErrorRenderer errorRenderer = new ErrorRenderer(this, form.getValidator());
    errorRenderer.render(errorSpace);
}
```

## 2.2 Form Collection

This library also supports dealing with multiple forms at once.

A *FormCollection* class accepts *InnerForm*

This makes it possible:

- **for forms to depend on each other**
  - that is a form A cannot be validated before form B is validated.
  - that is a form A cannot be saved before form B is saved.
- multiple forms get validated together.
- multiple forms get saved together.

### 2.2.1 Usage

To use this library is very easy

- Create `InnerForm` class

In this example, the `DependOnBasicForm` requires the `BasicForm` to have been validated on the validation stage and be saved on saving stage.

```
private class BasicForm extends InnerForm {
    public BasicForm() {
        super();
    }

    public BasicForm(ValidatorInterface validator) {
        super(validator);
    }

    @Override
    public String getIdentifier() {
        return "basic_form_id";
    }

    @Override
    public void save() throws FormException {
        // implement the saving logic, you have access to
        // getValues() returns a map of where key is the name of the field and
        ↪the values
    }
}

private class DependOnBasicForm extends InnerForm {
    public DependOnBasicForm() {
        super();
    }

    public DependOnBasicForm(ValidatorInterface validator) {
        super(validator);
    }

    @Override
    public void save() throws FormException {
        // implement the saving logic, you have access to
        // getValues() returns a map of where key is the name of the field and
        ↪the values
    }
}
```

```

    @Override
    public String getIdentifier() {
        return "depend_on_basic_form_id";
    }

    @Override
    public String[] requires() {
        return new String[]{"basic_form_id"}; // make this form depend on the_
↪basicform
    }
}

```

- Create *FormCollectionInterface* object

```
FormCollection formCollection = new FormCollection();
```

- Add *InnerForm* to *FormCollection*.

```

// create instance of inner form
BasicForm basicform = new BasicForm();
DependOnBasicForm dependOnBasicForm = new DependOnBasicForm();

// add inner form to collection
formCollection.addForm(basicform);
formCollection.addForm(dependOnBasicForm);

```

- Run *validation* and get the *values*.

```

if(formCollection.isValid()){
    formCollection.getValues()// returns a map of where key is the name of the field_
↪and the values
}else{

    LinearLayout errorSpace = (LinearLayout) findViewById(R.id.error_base);
    errorSpace.removeAllViews();// clear space first

    ErrorRenderer errorRenderer = new ErrorRenderer(this, formCollection.
↪getValidator());
    errorRenderer.render(errorSpace);
}

```

- Save form values

```

if(formCollection.isValid()){
    try{
        formCollection.save() // save
    } catch (FormException e) {
        e.printStackTrace();
    }
}else{

    LinearLayout errorSpace = (LinearLayout) findViewById(R.id.error_base);
    errorSpace.removeAllViews();// clear space first

    ErrorRenderer errorRenderer = new ErrorRenderer(this, formCollection.
↪getValidator());
}

```

```
errorRenderer.render(errorSpace);  
}
```

## 2.3 Data Population

When developing, especially when working with form we need to prepopulate the form with sample data to ease up our development.

This is inspired by [Php Faker](#) which is also inspired by [Ruby Faker](#). A whole lot of inspiring going on there.

The *faker* is meant to take care of this for us.

Lets populate our *basic form* from earlier with sample data.

```
form // the basicform from earlier example  
  
// create a populator object  
DummyDataPopulator populator = new DummyDataPopulator();  
  
// format how the data should look  
// this will generate data with the format a mobile number of we use here in kenya  
// +254 722 472 447  
populator.setFieldPopulator("phone_number", new Telephone().setFormat("(+###) ### ##  
↪###"));  
  
// tell populator to populate the form.  
// it will use the provider we set above for the phone number instead of the default,  
↪one which  
// would be a random set of numbers  
populator.populate(form);  
  
// you could also populate single field on its own  
populator.populate(form.getField("gender"));
```

The kind of data that is generated depends on the type of editText and the name of the field. e.g. if a editText is editText of with inputtype of number then the populator will generated numbers for that particular editText. All this is made possible by *Providers*

### 2.3.1 Faker Provider

A Provers is a class the implements the *ProviderInterface*.



## Pagination Documentation

This pagination library makes it easy to deal with paginating large set of data in a consistent way.

The screenshot shows a mobile application interface. At the top, there is a blue header bar with the text "GridExampleActivity" and a dark green bar below it with "Data Grid Example". The main content is a table with the following columns: "#", "Commission\_rate", "Id", "First\_name", "Last\_name", and "Actions". The table contains six rows of data. Each row has "EDIT" and "DELETE" buttons. Below the table is a button labeled "SHOW MORE ( PAGE 2 OF 3)". In the bottom right corner, there is a pink circular button with a white envelope icon. The bottom of the screen shows the Android navigation bar.

#	Commission_rate	Id	First_name	Last_name	Actions
1	10	1	Fred	Flinstone	EDIT DELETE
2	87	2	Barney	Rubble	EDIT DELETE
3	50	3	Jake	Glenn	EDIT DELETE
4	20	4	Joan	Ben	EDIT DELETE
5	10	5	Leslie	Downey	EDIT DELETE
6	36	6	Ann	Hills	EDIT DELETE

SHOW MORE ( PAGE 2 OF 3)

The paginators use *DataListener* to notify you of any changes that happen e.g

If data for first page is ready for use the *DataListener*

### 3.1 Paginate data from a List

To paginate a list of records we need to use *ListPaginator*.

```
List data = "...";
MyDataListener datalistener = new MyDataListener();

ListPaginator pager = new ListPaginator(datalistener);
pager.setData(data);
// set Page size
pager.setPageSize(20);

// invoke this method to trigger fetching of next page of data
pager.fetchNextPageData();
```

### 3.2 Paginate data from database

To fetch data from the database we need to use *SqlPaginator*.

```
// get and instance SQLiteDatabase
SQLiteDatabase db = "...";

MyDataListener datalistener = new MyDataListener();

SqlPaginator pager = new SqlPaginator(datalistener, db);
// set Page size
pager.setPageSize(20);

// pass in the sql the paginator will use to fetch data
String sql = "select * from employee where paid_date = ?";
String[] = new String[]{"1-12-2018"};
pager.query(sql, params);

// invoke this method to trigger fetching of next page of data
pager.fetchNextPageData();
```

### 3.3 Create a DataListener

A *Paginator* requires a *DataListener*

Create a *DataListener* this by implementing the *DataListener* interface.

```
public class MyDataListener implements DataListener {

    @Override
    public void onLastPageDataLoaded() {
        // we dont need the load more button if we an on the last page of out data
        loadMoreBtn.setVisibility(View.GONE);
    }
}
```

```
        adapter.notifyDataSetChanged();
    }

    @Override
    public void onFirstPageDataLoaded(boolean hasMorePages) {
        // update the load more button
        nextBtn(hasMorePages);
        adapter.notifyDataSetChanged();
    }

    @Override
    public void onNextPageDataLoaded() {
        adapter.notifyDataSetChanged();
    }

    void nextBtn(boolean hasMorePages) {
        String msg = getString(R.string.nextPageBtn) + " " + paginator.
↪getCurrentPageString();
        loadMoreBtn.setText(msg);
        if (hasMorePages) {
            loadMoreBtn.setVisibility(View.VISIBLE);
        } else {
            loadMoreBtn.setVisibility(View.GONE);
        }
    }

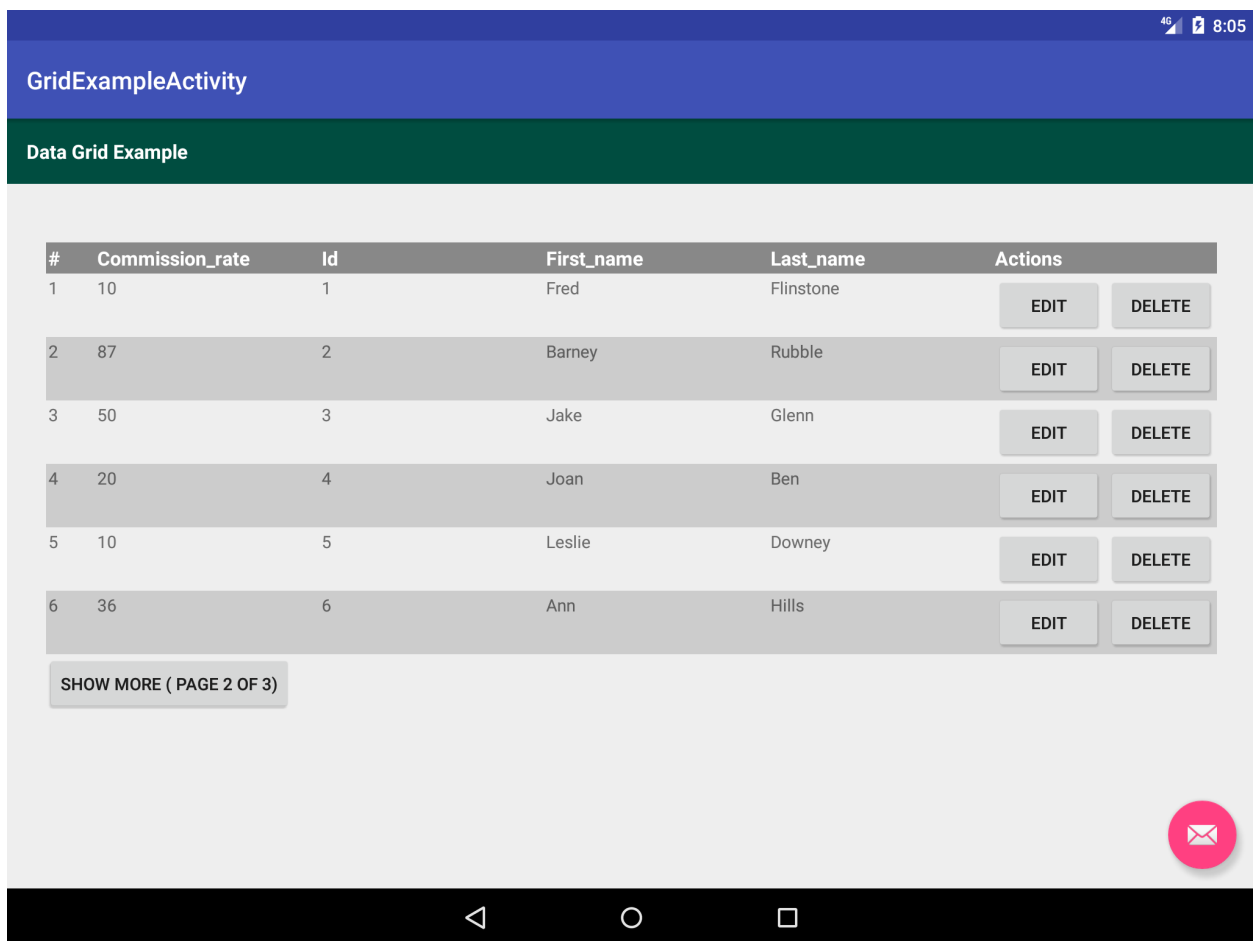
    @Override
    public void dataUpdate(List<Map> records) {
        // update the adapter with more data as we get them.
        adapter.update(records);
    }

    @Override
    public void preDataLoad(boolean hasMorePages) {
        nextBtn(hasMorePages);
    }
}
```



## DataGridView Documentation

DataGridView can be used to display a list or table of data records providing features like pagination.



The screenshot displays an Android application interface. At the top, there is a blue header bar with the text "GridExampleActivity" and a dark green bar below it with the text "Data Grid Example". The main content area features a table with the following columns: "#", "Commission\_rate", "Id", "First\_name", "Last\_name", and "Actions". The table contains six rows of data. Below the table, there is a button labeled "SHOW MORE ( PAGE 2 OF 3)". In the bottom right corner, there is a red circular icon with a white envelope symbol. The bottom of the screen shows the standard Android navigation bar with back, home, and recent apps buttons.

#	Commission_rate	Id	First_name	Last_name	Actions
1	10	1	Fred	Flinstone	EDIT DELETE
2	87	2	Barney	Rubble	EDIT DELETE
3	50	3	Jake	Glenn	EDIT DELETE
4	20	4	Joan	Ben	EDIT DELETE
5	10	5	Leslie	Downey	EDIT DELETE
6	36	6	Ann	Hills	EDIT DELETE

SHOW MORE ( PAGE 2 OF 3)

It takes a List of Maps that contains data and renders each row using a set of *ColumnInterface* presenting data in the form of a table.

### 4.1 Usage

The minimal code needed to use *DataGridView* is as follows

```
dataGridView = (DataGridView) findViewById(R.id.data_view);
dataGridView.setPageSize(3);
List<Map> data = "...";
dataGridView.setData(data);
```

Its also possible to override which columns are used in the grid and customize those columns as one wishes.

Assuming in the data provided to the *DataGridView* looks like this

```
[{"first_name":"jake", "age":"4"}, {"first_name":"joan", "age":"6"}, ]
```

### 4.2 Show specific columns

The earlier example will render both the firstname and age column on the grid we can tell the *DataGridView* to only render the firstname by *setColumns(Map)* <*DataGridView.setColumns(Map)* as shown below:

```
Map cols = new HashMap();
cols.put("first_name", new Column(this, "first_name", "First Name"));
dataGridView.setColumns(cols);
```

### 4.3 Add columns

On top of columns that relate to the data provided, with *DataGridView* you have the ability to *addColumn(BaseColumn, boolean)* e.g. action columns, serial columns or your own custom columns.

```
dataGridView.addColumn(new SerialColumn(this, "#"), DataGridView.LEFT);
dataGridView.addColumn(new EditActionColumn(this, "Edit"), DataGridView.RIGHT);
dataGridView.addColumn(new DeleteActionColumn(this, "Delete"), DataGridView.RIGHT);
```

### 4.4 Setting Data

The *datagrid view* supports two forms of setting data.

- set a list of map data like we have been doing above using the *setData()* method.
- set a list of map data like we have been doing above using the *setQuery()* method.

### 4.5 Columns

Learn more about columns *Columns*

## 4.5.1 Grid Columns

A column is a class that implements the *Columns*

The library comes with *Columns* but you can create custom columns to suit your needs.

In this example we create an *EditActionColumn* which basically displays an edit button which if a user clicks the edit activity is launched.

This example uses the *ActionColumn*.

```
public class EditActionColumn extends ActionColumn {
    public EditActionColumn(Context context, String name) {
        super(context, name);
    }

    @Override
    protected void onItemClick(View v, Map datum) {
        Intent intent = new Intent(getContext(), MainActivity.class);
        intent.putExtra("record_id", String.valueOf(datum.get("id")));
        startActivity(intent);
    }
}
```

### com.eddmash.grids.columns

#### ActionColumn

public abstract class **ActionColumn** extends *Column*

*ActionColumn* displays action buttons such as update or delete for each row. find more at *ColumnInterface*

#### Constructors

##### ActionColumn

public **ActionColumn** (Context *context*, String *name*)

#### Methods

##### getDataView

public View **getDataView** (int *position*, Map *datum*)

##### getSearchView

public View **getSearchView** ()

### onItemClick

protected abstract void **onItemClick** (View *v*, Map *datum*)

Action that will be taken when a *ColumnInterface.getDataView(int, Map)* is clicked.

#### Parameters

- *v* –
- *datum* –

### BaseColumn

public abstract class **BaseColumn** implements *ColumnInterface*

The base class for all column definition.

Learn more about *Columns*

### Fields

#### dataGridView

protected *DataGridView* **dataGridView**

### Constructors

#### BaseColumn

public **BaseColumn** (Context *context*)

### Methods

#### getContext

public Context **getContext** ()

#### prepareDataView

protected TextView **prepareDataView** (TextView *view*, float *weight*)

#### prepareHeaderView

protected TextView **prepareHeaderView** (TextView *view*, float *weight*)

#### setDisplayView

public void **setDisplayView** (*DataGridView* *dataGridView*)



## CheckColumn

public class **CheckColumn** extends *BaseColumn*

This renders a column of checkable columns which can be used to perform a check all or check some required fields.

learn more about *Columns*

## Constructors

### CheckColumn

public **CheckColumn** (Context *context*)

### CheckColumn

public **CheckColumn** (Context *context*, String *name*)

## Methods

### getCheckedCheckboxes

public List<CheckBox> **getCheckedCheckboxes** ()

### getCheckedData

public List<Map> **getCheckedData** ()

### getDataView

public View **getDataView** (int *index*, Map *datum*)

### getLabelView

public View **getLabelView** ()

## Column

public class **Column** extends *BaseColumn* implements *SearchableColumnInterface*

A column that displays data on the grid. this is an implementation of *ColumnInterface*

## Fields

### header

protected final Object **header**

### name

protected final String **name**

## Constructors

### Column

public **Column** (Context *context*, String *valueKey*, Object *labelText*)

## Methods

### getDataView

public View **getDataView** (int *index*, Map *datum*)

### getLabelView

public View **getLabelView** ()

### getSearchView

public View **getSearchView** ()

## ColumnInterface

public interface **ColumnInterface**

A column provides a view that will be displayed as a `ColumnInterface.getLabelView()` that will be rendered on the header row and `ColumnInterface.getDataView(int, Map)` that will be rendered on each of the data rows.

A simple column definition refers to an key/value in the data map of the `com.eddmash.grids.DataGridView` data list.

## Methods

### getContext

Context **getContext** ()

Context on which `com.eddmash.grids.DataGridView` is being rendered on .

### getDataView

View **getDataView** (int *index*, Map *datum*)

This is the view that will be used to create to show the for this column on each of its data rows.

#### Parameters

- **index** – the id of the row being populated.
- **datum** – data to be render of the row being populated.

**Returns** view to render for column on the row being populated.

### getHeaderView

View **getHeaderView** ()

Creates a view that will be used on the header row.

### setDisplayView

void **setDisplayView** (*DataGridView dataGridView*)

The *com.eddmash.grids.DataGridView* that will be used to render this column.

#### Parameters

- **dataGridView** – *com.eddmash.grids.DataGridView*

### DataColumnInterface

public interface **DataColumnInterface** extends *ColumnInterface*

Created by edd on 2/10/18.

### SearchableColumnInterface

public interface **SearchableColumnInterface**

#### Methods

### getSearchView

public View **getSearchView** ()

### SerialColumn

public class **SerialColumn** extends *Column*

## Constructors

### SerialColumn

public **SerialColumn** (Context *context*, String *name*)

## Methods

### getDataView

public View **getDataView** (int *index*, Map *datum*)

### getLabelView

public View **getLabelView** ()

### getSearchView

public View **getSearchView** ()

## 5.1 com.eddmash.db

### 5.1.1 ActiveRecord

public class **ActiveRecord**

A simple set of helper methods to query for data on android sqlite database.

To get the instance of this Active record use the `getInstance` method, this method takes just one parameter. an instance of `SQLiteDatabase`.

this class is implemented as a singleton meaning only one instance of `ActiveRecord` ever exists in your application life time.

NB:: the instance of `SQLiteDatabase` passed in `getInstance` method is destroyed once the garbage collector destroys the instance of the `ActiveRecord`.

#### Methods

##### all

public `List<Map>` **all** (`String` *tableName*, `String[]` *queryCols*)

Returns an list of maps, where the map represents each record in the database.

with keys of the map as the column name and values of the map as the values of the respective columns.

something like this:

```
[[{id:1, username:ken, age:50}, {id:2, username:matt, age:70}]
```

##### Parameters

- `tableName` –
- `queryCols` –

### all

public List<Map> **all** (String *tableName*)

Returns an list of maps, where the map represents each record in the database.

with keys of the map as the column name and values of the map as the values of the respective columns.

something like this:

```
[[{id:1, username:ken, age:50}, {id:2, username:matt, age:70}]]
```

#### Parameters

- **tableName** –

### exists

public boolean **exists** (String *tableName*, String *field*, String *value*)

Returns value of the single column requested.

### exists

public boolean **exists** (String *sql*, String[] *params*)

Returns value of the single column requested.

### finalize

protected void **finalize** ()

### find

public List<Map> **find** (String *sql*, String[] *args*)

Returns an list of maps, where the map represents each record in the database.

with keys of the map as the column name and values of the map as the values of the respective columns.

something like this:

```
[[{id:1, username:ken, age:50}, {id:2, username:matt, age:70}]]
```

#### Parameters

- **sql** –
- **args** –

### get

public HashMap **get** (String *sql*, String[] *params*)

Returns a Map representing a single record based on the query.

#### Parameters

- **sql** –
- **params** – parameters to bind to the query

### getDb

```
public SQLiteDatabase getDb ()  
    Return instance of SQLiteDatabase that the activerecord instance is using.
```

### getInstance

```
public static ActiveRecord getInstance (SQLiteDatabase database)  
    Returns an instance of the the activerecord class
```

#### Parameters

- **database** –

### getScalarInt

```
public int getScalarInt (String sql, String[] params)
```

## 5.2 com.eddmash.dialogs

### 5.2.1 AlertDialog

```
public class AlertDialog extends GenericDialog
```

#### Constructors

##### AlertDialog

```
public AlertDialog ()
```

#### Methods

##### getContentView

```
protected int getContentView ()
```

##### onViewReady

```
public void onViewReady (View view, Bundle savedInstanceState)
```

##### setMessage

```
public void setMessage (String s)
```

## 5.2.2 GenericDialog

public abstract class **GenericDialog** extends DialogFragment

A generic class that makes it easy to customize dialog boxes. example usage of an implementation *AlertboxDialog*

```
AlertboxDialog alertboxDialog = new AlertboxDialog();
alertboxDialog.disableButtons(true);
alertboxDialog.setTitle("NETWORK ERROR");
alertboxDialog.setIcon(R.drawable.fail);
alertboxDialog.setMessage(activity.getString(R.string.network_error));
alertboxDialog.show(activity.getSupportFragmentManager(), "network_error");
```

### Fields

#### layout

protected View **layout**

#### leftButton

protected Button **leftButton**

#### rightButton

protected Button **rightButton**

### Constructors

#### GenericDialog

public **GenericDialog** ()

### Methods

#### disableButtons

public void **disableButtons** (boolean *b*)

#### getContentView

protected int **getContentView** ()

#### onCreateView

public View **onCreateView** (LayoutInflater *inflater*, ViewGroup *container*, Bundle *savedInstanceState*)



### onViewCreated

```
public void onViewCreated (View view, Bundle savedInstanceState)
```

### onViewReady

```
protected abstract void onViewReady (View view, Bundle savedInstanceState)
```

Add your logic to this method since at this point most of the work is done for you and the base layout has been populated with your content layout

### setContentLayout

```
public void setContentLayout (int layoutID)
```

### setIcon

```
public void setIcon (int drawable)
```

### setLeftButton

```
public void setLeftButton (String label, ButtonClickedListener clickListener)
```

Set the listener to be invoked when the left button is clicked

#### Parameters

- **label** –
- **clickListener** –

### setRightButton

```
public void setRightButton (String label, ButtonClickedListener clickListener)
```

set listener to be invoked when the right button is clicked.

#### Parameters

- **label** –
- **clickListener** –

### setTitle

```
public void setTitle (String title)
```

### setTitleBackground

```
public void setTitleBackground (int titleBgColor)
```

## setTitleTextColor

```
public void setTitleTextColor (int titleBgColor)
```

### 5.2.3 GenericDialog.ButtonClickedListener

```
public interface ButtonClickedListener
```

#### Methods

##### onClick

```
abstract void onClick (View view, DialogFragment dialog)
```

### 5.2.4 GenericDialog.Dismiss

```
public static class Dismiss implements ButtonClickedListener
```

#### Methods

##### onClick

```
public void onClick (View view, DialogFragment dialog)
```

## 5.3 com.eddmash.form

### 5.3.1 Form

```
public abstract class Form implements FormInterface
```

#### Constructors

##### Form

```
public Form ()
```

##### Form

```
public Form (ValidatorInterface validator)
```

#### Methods

##### addCheck

```
public void addCheck (CheckInterface check)
```

**addField**

```
public void addField (String colName, View view)
```

**addField**

```
public void addField (FieldInterface field)
```

**disableCheck**

```
public void disableCheck (CheckInterface check)
```

**getErrors**

```
public Map<String, List> getErrors ()
```

**getField**

```
public FieldInterface getField (String fieldName)
```

**getFields**

```
public Map<String, FieldInterface> getFields ()
```

**getIdentifier**

```
public String getIdentifier ()
```

**getValidator**

```
public ValidatorInterface getValidator ()
```

**getValue**

```
public Object getValue (String fieldName)
```

**getValues**

```
public Map<String, Object> getValues ()
```

**isValid**

```
public boolean isValid ()
```

### removeField

```
public void removeField(String colName)
```

### removeField

```
public void removeField(FieldInterface field)
```

### setData

```
public void setData(Map data)
```

### setValue

```
public void setValue(String fieldName, Object value)
```

### validate

```
public void validate()
```

## 5.3.2 FormAwareInterface

public interface **FormAwareInterface**

Any class the implements this interface gets the form passed to it via the `setForm(FormInterface)`.

This class come in handy when creating validation checks that need to be away of the form, especially when performing form wide validations like on the `FormInterface.validate()` method.

A good examples is the `Field` which implements this interface.

The following examples how this interface can be used to create form wide check.

```
public class BasicForm extends Form {

    @Override
    public void validate() {
        try {
            addCheck(new PasswordCheck(password1EditText, password2EditText,
                "Password should match"));
        } catch (FormException e) {
            e.printStackTrace();
        }
    }

    @Override
    public void save() throws FormException {

    }

}
```

A sample check that uses the FormAwareInterface interface

```

class PasswordCheck extends CheckSingle implements FormAwareInterface {
    private final EditText view;
    private final String errorMsg;
    private FormInterface form;

    public PasswordCheck(EditText view, String errorMsg) {
        this.view = view;
        this.errorMsg = errorMsg;
    }

    @Override
    public boolean run() {
        try {
            Map val = form.getValues();
            Object pass1 = val.get("password_1");
            Object pass2 = val.get("password_2");
            if (pass1.equals(pass2)) {
                return true;
            }
        } catch (FormException e) {
            e.printStackTrace();
        }
        return false;
    }

    @Override
    public String getErrorMsg() {
        return errorMsg;
    }

    @Override
    protected TextView getView() {
        return view;
    }

    @Override
    public void setForm(FormInterface form) {
        this.form = form;
    }
}

```

## Methods

### setForm

void **setForm** (*FormInterface form*)

The form that will hold this class is passed in.

#### Parameters

- **form** –

## 5.3.3 FormException

public class **FormException** extends [Exception](#)

## Constructors

### FormException

public **FormException** (*String message*)

## 5.3.4 FormInterface

public interface **FormInterface**

### Methods

#### addCheck

void **addCheck** (*CheckInterface check*)  
Add a validation check.

##### Parameters

- **check** –

#### addField

void **addField** (*FieldInterface field*)

#### addField

void **addField** (*String colName*, *View view*)

#### disableCheck

void **disableCheck** (*CheckInterface check*)  
Disable a validation check

##### Parameters

- **check** –

#### getErrors

Map<String, List> **getErrors** ()  
Returns all the errors on the form after validation.

**Returns** the key is the form identifier and the values is a list of all the validation errors related with the form.

#### getField

*FieldInterface* **getField** (*String fieldName*)

## getFields

Map<String, *FieldInterface*> **getFields** ()

## getIdentifier

String **getIdentifier** ()

A unique identifier for this form.

## getValidator

*ValidatorInterface* **getValidator** ()

The validator this form will be using to validate the inner forms.

## getValue

Object **getValue** (String *fieldName*)

Returns the value a particular field.

The returned values depends on the *field* some fields the values is a string whilst others its a list of string.

Consult the specific *field* to get the returned value.

### Parameters

- **fieldName** –

### Throws

- *FormException* –

## getValues

Map<String, Object> **getValues** ()

Return the values of each field on the form.

The returned values depends on the *field* some fields the values is a string whilst others its a list of string.

Consult the specific *field* to get the returned value.

### Throws

- *FormException* –

**Returns** a map, where keys a field identifier used when adding field to form and values are the fields respective values.

## isValid

boolean **isValid** ()

This is the entry point for form validations.

It firstly invokes the *validate()* to get the form wide validation .

It then tells the validator to run the validation check.

**Returns** true only if the validation checks passed.

### removeField

void **removeField**(String *replace*)

### removeField

void **removeField**(*FieldInterface* *field*)

### save

void **save**()

This is where you should put you saving logic.

throw `FormException` if validation fails.

#### Throws

- *FormException* –

### setData

void **setData**(*Map* *data*)

### setValue

void **setValue**(String *fieldName*, *Object* *value*)

Set value for a specific.

#### Parameters

- **fieldName** – the identifier to use to locate the field being set.
- **value** – the value being set, this depends on specific *field*.consult specific *field* to find expected value.

### validate

void **validate**()

This is the right place to perform form wide validations. That is validating fields against each other, also validate against parent form fields.

At this point you have access to the `getValues()` of both parent form and current form you can use this values to compare against.

The recommend approach is to a create check that implements `FormAwareInterface` and add it to the validator.

This method is invoked before the field specific validations have been run.



## 5.4 com.eddmash.form.collection

### 5.4.1 FormCollection

public class **FormCollection** implements *FormCollectionInterface*  
Use this class when you want to deal on multiple forms all at once.

#### Constructors

##### FormCollection

```
public FormCollection ()
```

##### FormCollection

```
public FormCollection (ValidatorInterface validator)
```

#### Methods

##### addForm

```
public void addForm (InnerFormInterface form)
```

##### getForm

```
public InnerFormInterface getForm (String identifier)
```

##### getValidator

```
public ValidatorInterface getValidator ()
```

##### isValid

```
public boolean isValid ()
```

##### removeForm

```
public void removeForm (InnerFormInterface form)
```

##### save

```
public boolean save ()
```

## 5.4.2 FormCollectionInterface

public interface **FormCollectionInterface**

Use this class when you want to deal on multiple forms all at once.

### Methods

#### addForm

void **addForm** (*InnerFormInterface form*)

Add a form into the collection.

##### Parameters

- **form** –

##### Throws

- *FormException* –

#### getForm

*InnerFormInterface* **getForm** (*String identifier*)

Get a form in the collection by its identifier.

##### Parameters

- **identifier** –

##### Throws

- *FormException* –

#### getValidator

*ValidatorInterface* **getValidator** ()

The validator this collection will be using to validate the inner forms.

This is basically a parent validator which calls the individual validators bound to each of the inner forms.

#### isValid

boolean **isValid** ()

Entry point for validation of all the innerforms on this collection.

Runs validation for each of the inner forms.

#### removeForm

void **removeForm** (*InnerFormInterface form*)

REmove a from the collection.

##### Parameters

- **form** –

**save**

boolean **save** ()

The entry point of form saving.

This method calls the save() of each innerform attached to this collection

Wrap this method in a transaction to ensure if any of the inner form fails to save, All the other innerforms arent saved. for consistency sake.

**Throws**

- *FormException* –

**5.4.3 InnerForm**

public abstract class **InnerForm** extends *Form* implements *InnerFormInterface*

This is basically *form* that has the capability of being used with a form collection.

**Fields****form**

protected *FormCollectionInterface* **form**

**Constructors****InnerForm**

public **InnerForm** ()

**InnerForm**

public **InnerForm** (*ValidatorInterface* validator)

**Methods****getParent**

public *FormCollectionInterface* **getParent** ()

**setParent**

public void **setParent** (*FormCollectionInterface* form)

## 5.4.4 InnerFormInterface

public interface **InnerFormInterface** extends *FormInterface*

This is basically *form* that has the capability of being used with a form collection.

This form also has the added capability of depending on another form that's in the same collection as the one it belongs to.

### Methods

#### getParent

*FormCollectionInterface* **getParent** ()

The collection form in which this form belongs to.

#### requires

*String*[] **requires** ()

An string array of other inner forms that this form should depend on i.e. those forms should be validated before this during the validation stage and should be saved before this is saved.

## 5.5 com.eddmash.form.faker

### 5.5.1 Callback

public abstract class **Callback**

#### Methods

##### invoke

public abstract *String* **invoke** ()

### 5.5.2 DummyDataPopulator

public class **DummyDataPopulator** implements *PopulatorInterface*

This is a minimalistic go at data faker.

This intention is to populate the *FormInterface* and *FieldInterfaces*.

#### Constructors

##### DummyDataPopulator

public **DummyDataPopulator** ()

## Methods

### populate

public void **populate** (*FormInterface form*)

### populate

public void **populate** (*FieldInterface field*)

### setFieldProvider

public void **setFieldProvider** (*String name, ProviderInterface provider*)

## 5.5.3 FakerException

public class **FakerException** extends *Exception*

### Constructors

#### FakerException

public **FakerException** ()

#### FakerException

public **FakerException** (*String message*)

## 5.5.4 Guess

class **Guess**

### Constructors

#### Guess

**Guess** (*PopulatorInterface populator*)

### Methods

#### guess

public *String* **guess** (*String name, View view*)

## 5.5.5 PopulatorInterface

public interface **PopulatorInterface**

Its responsible for populating the *FormInterface* or *FieldInterface* provided.

The populator uses *providers* to populate each field presented to the populator.

### Methods

#### populate

void **populate** (*FormInterface form*)

Tell the populator to start the population on the specified form.

#### Parameters

- **form** –

#### Throws

- *FormException* –

#### populate

void **populate** (*FieldInterface field*)

Tell the populator to start the population on the specified field.

#### Parameters

- **field** –

#### Throws

- *FormException* –

#### setFieldProvider

void **setFieldProvider** (*String name, ProviderInterface provider*)

Set the provider to use the populator a specific field.

#### Parameters

- **name** – the name of the field that will use the provider given.
- **provider** – the provider to use instead of the default ones.

## 5.6 com.eddmash.form.faker.provider

### 5.6.1 Company

public class **Company** extends *Provider*

Generate data that relates to companies.

## Constructors

### Company

public **Company** (*PopulatorInterface* populator)

### Company

public **Company** (*PopulatorInterface* populator, *String* format)

## Methods

### generate

public *String* **generate** ()

### getCompany

public *Company* **getCompany** ()

### getCompanySuffix

public *Company* **getCompanySuffix** ()

### getJobTitles

public *Company* **getJobTitles** ()

## 5.6.2 CoordinatesProvider

public class **CoordinatesProvider** extends *Provider*

## Fields

### LATITUDE

*String* **LATITUDE**

### LONGITUDE

*String* **LONGITUDE**

## Constructors

### CoordinatesProvider

```
public CoordinatesProvider (PopulatorInterface populator)
```

### CoordinatesProvider

```
public CoordinatesProvider (PopulatorInterface populator, String format)
```

## Methods

### generate

```
public String generate ()
```

### getLatitude

```
public ProviderInterface getLatitude ()
```

### getLongitude

```
public ProviderInterface getLongitude ()
```

## 5.6.3 DateProvider

```
public class DateProvider extends Provider
```

### Fields

#### TIME\_NOW

```
public static final String TIME_NOW
```

#### TODAY

```
public static final String TODAY
```

#### dateFormat

```
protected String dateFormat
```

#### timeFormat

```
protected String timeFormat
```



## Constructors

### DateProvider

```
public DateProvider (PopulatorInterface populator)
```

### DateProvider

```
public DateProvider (PopulatorInterface populator, String format)
```

## Methods

### generate

```
public String generate ()
```

### getDate

```
public DateProvider getDate ()
```

### getDate

```
public DateProvider getDate (String timeFormat)
```

### getTime

```
public DateProvider getTime ()
```

### getTime

```
public DateProvider getTime (String timeFormat)
```

## 5.6.4 InternetProvider

```
public class InternetProvider extends Provider
```

## Constructors

### InternetProvider

```
public InternetProvider (PopulatorInterface populator)
```

### InternetProvider

```
public InternetProvider (PopulatorInterface populator, String format)
```

## Methods

### generate

```
public String generate ()
```

### getDomain

```
public InternetProvider getDomain ()
```

### getEmail

```
public InternetProvider getEmail ()
```

### getTld

```
public InternetProvider getTld ()
```

## 5.6.5 LocationsProvider

```
public class LocationsProvider extends Provider
```

## Fields

### ADDRESS

```
public static final String ADDRESS
```

### CITY

```
public static final String CITY
```

### COUNTRY

```
public static final String COUNTRY
```

## Constructors

### LocationsProvider

```
public LocationsProvider (PopulatorInterface populator)
```

### LocationsProvider

```
public LocationsProvider (PopulatorInterface populator, String format)
```

## Methods

### generate

```
public String generate ()
```

### getCity

```
public LocationsProvider getCity ()
```

## 5.6.6 LoremProvider

```
public class LoremProvider extends Provider
```

## Constructors

### LoremProvider

```
public LoremProvider (PopulatorInterface populator)
```

### LoremProvider

```
public LoremProvider (PopulatorInterface populator, String format)
```

## Methods

### generate

```
public String generate ()
```

### getWord

```
public ProviderInterface getWord ()
```

### getWords

```
public LoremProvider getWords ()
```

### getWords

```
public LoremProvider getWords (int noOfWords)
```

## 5.6.7 PersonProvider

```
public class PersonProvider extends Provider
```

## Fields

### EMAIL

public static final String **EMAIL**

### FEMALE

public static final String **FEMALE**

### FIRSTNAME

public static final String **FIRSTNAME**

### LASTNAME

public static final String **LASTNAME**

### MALE

public static final String **MALE**

### NAME

public static final String **NAME**

### PROVIDER\_NAME

public static final String **PROVIDER\_NAME**

## Constructors

### PersonProvider

public **PersonProvider** (*PopulatorInterface* populator)

### PersonProvider

public **PersonProvider** (*PopulatorInterface* populator, String format)

## Methods

### generate

public String **generate** ()

**getFirstName**

```
public ProviderInterface getFirstName ()
```

**getFirstName**

```
public ProviderInterface getFirstName (String gender)
```

**getFullName**

```
public ProviderInterface getFullName ()
```

**getFullName**

```
public ProviderInterface getFullName (String gender)
```

**getLastName**

```
public ProviderInterface getLastName ()
```

**getLastName**

```
public ProviderInterface getLastName (String gender)
```

**setGender**

```
public PersonProvider setGender (String gender)
```

**setType**

```
public PersonProvider setType (String type)
```

## 5.6.8 Provider

```
public abstract class Provider implements ProviderInterface
```

An implimentation of *ProviderInterface*.

Go to *ProviderInterface* to learn more.

### Fields

**PATTERN**

```
public static final String PATTERN
```

## RANDOM\_INT

public static final String **RANDOM\_INT**

## SEPARATOR

public static final String **SEPARATOR**

## format

protected String **format**

## populator

protected *PopulatorInterface* **populator**

## Constructors

### Provider

public **Provider** (*PopulatorInterface* *populator*)

### Provider

public **Provider** (*PopulatorInterface* *populator*, String *format*)

## Methods

### getData

public String **getData** ()

### getPersonName

public String **getPersonName** ()

### getPopulator

public *PopulatorInterface* **getPopulator** ()

### mergeArrays

protected String[] **mergeArrays** (String[] *first*, String[] *second*)

**parseFormat**

protected `String` **parseFormat** (`String` *format*, `Callback` *callback*)

**randomDouble**

protected `Double` **randomDouble** ()

**randomDouble**

protected `Double` **randomDouble** (int *minNumber*, int *maxNumber*)

**randomElement**

protected `String` **randomElement** (`String[]` *strings*)

**randomElement**

protected `String` **randomElement** (`String[]` *strings*, int *count*)

**randomElements**

protected `String[]` **randomElements** (`String[]` *strings*)

**randomElements**

protected `String[]` **randomElements** (`String[]` *strings*, int *count*)

**randomInt**

protected `Integer` **randomInt** ()

**randomInt**

protected `Integer` **randomInt** (int *minNumber*, int *maxNumber*)

**toString**

public `String` **toString** ()

## 5.6.9 ProviderInterface

public interface **ProviderInterface**

This class is responsible for generating data.

The default implementation *Provider* uses the *ProviderInterface.generate()* to generate the actual data and then use *ProviderInterface.getData()* to format the data.

That is each method on the default providers is used a setter of the type of data to generate.

### Methods

#### generate

String **generate** ()

This should return the default values the populator will use.

#### getData

String **getData** ()

Returns the generated value by the provider.

## 5.6.10 RandomNumberProvider

public class **RandomNumberProvider** extends *Provider*

### Fields

#### DECIMAL

public static final String **DECIMAL**

#### INTEGER

public static final String **INTEGER**

### Constructors

#### RandomNumberProvider

public **RandomNumberProvider** (*PopulatorInterface* populator)

#### RandomNumberProvider

public **RandomNumberProvider** (*PopulatorInterface* populator, String format)



## Methods

### generate

```
public String generate ()
```

### getDecimal

```
public ProviderInterface getDecimal ()
```

### setMax

```
public RandomNumberProvider setMax (int min)
```

### setMin

```
public RandomNumberProvider setMin (int max)
```

## 5.6.11 TelephoneProvider

```
public class TelephoneProvider extends Provider
```

## Constructors

### TelephoneProvider

```
public TelephoneProvider (PopulatorInterface populator)
```

### TelephoneProvider

```
public TelephoneProvider (PopulatorInterface populator, String format)
```

## Methods

### generate

```
public String generate ()
```

## 5.7 com.eddmash.form.fields

### 5.7.1 BaseField

```
public abstract class BaseField<V, E> implements FieldInterface<V, E>
```

## Fields

### form

protected *FormInterface* **form**

### isEditable

protected boolean **isEditable**

## Constructors

### BaseField

**BaseField** (boolean *isEditable*)

## Methods

### getForm

public *FormInterface* **getForm** ()

### getValue

public abstract E **getValue** ()

### getView

public abstract V **getView** ()

### isEditable

public boolean **isEditable** ()

### setForm

public void **setForm** (*FormInterface* *form*)

### setValue

public abstract void **setValue** (E *o*)

## 5.7.2 CollectionField

public class **CollectionField** extends *BaseField*<List<View>, Object> implements *CollectionFieldInterface*<List<View>, Object>  
Field that manipulates multiple individual views together.

Its important to note that the specific fields don't loose there individuality and the values return will be values for each single view.

Setting will be attempted on each single view if its value is found in the map of values passed in.

### Constructors

#### CollectionField

```
public CollectionField (String tag)
```

#### CollectionField

```
public CollectionField (String name, boolean isEditable)
```

### Methods

#### addField

```
public void addField (String name, View view)
```

#### addField

```
public void addField (FieldInterface field)
```

#### addField

```
public void addField (String name, View view, boolean editable)
```

#### getFields

```
public Map<String, FieldInterface> getFields ()
```

#### getName

```
public String getName ()
```

#### getValue

```
public Map<String, Object> getValue ()
```

## getView

```
public List<View> getView ()
```

## setValue

```
public void setValue (Object o)
```

## 5.7.3 CollectionFieldInterface

```
public interface CollectionFieldInterface<T, E> extends FieldInterface<T, E>  
    Field that manipulates multiple views together.
```

Its important to note that the specific fields don't loose there individuality and the values return will be values for each single view.

Setting will be attempted on each single view if its value is found in the map of values passed in.

### Methods

#### addField

```
void addField (String name, View view)  
    Add view to the collection.
```

##### Parameters

- **name** – identify the view uniquely
- **view** – the view instance

#### addField

```
void addField (String name, View view, boolean editable)  
    Add view to the collection.
```

##### Parameters

- **name** – identify the view uniquely
- **view** – the view instance
- **editable** – indicate if view allows having its values being set, true if view is editable, else false.

#### addField

```
void addField (FieldInterface field)  
    Add field to the collection.
```

##### Parameters

- **field** – field to be added to the collection

## getFields

Map<String, *FieldInterface*> **getFields** ()

The fields that make up the collection

**Returns** map of fields. that are the in the collection field.

## getValue

E **getValue** ()

## getView

T **getView** ()

## setValue

void **setValue** (E o)

## 5.7.4 FieldInterface

public interface **FieldInterface**<T, E> extends *FormAwareInterface*

This provides a consistent way of dealing with the different views provided by android.

### Methods

#### getForm

*FormInterface* **getForm** ()

The form instance this field is attached to.

**Returns** form

#### getName

String **getName** ()

A name that uniquely identify the view. this is use when you need to pull a specific field from the form instance.

**Returns** name

#### getValue

E **getValue** ()

Returns the value of the view

**Throws**

- *FormException* -

**Returns** Object

## getView

T **getView** ()

The actual view object(s) we are operating on.

Note this may return a list of view objects in case of `CollectionField`

### Throws

- *FormException* – in case it not possible to retrieve the view object

**Returns** a view instance

## isEditable

boolean **isEditable** ()

Is the view editable, this tells the form not to set values for the view and also tells the populator not to populate it.

**Returns** true if editable, false otherwise

## setValue

void **setValue** (E o)

Set view value.

### Parameters

- o –

### Throws

- *FormException* –

## 5.7.5 MultiField

public class **MultiField** extends *BaseField*<List<View>, Map> implements *MultiFieldInterface*

This fields deals with multi fields but they are each treated as one.

This mean the values return are for those fields that have values, the setting also happens to those fields who data is provided.

## Constructors

### MultiField

public **MultiField** (String name, boolean isEditable)

### MultiField

public **MultiField** (String name)

## Methods

### **addView**

```
public void addView (String id, View view)
```

### **getChildCount**

```
public int getChildCount ()
```

### **getField**

```
public FieldInterface getField (String id)
```

### **getFields**

```
public List<FieldInterface> getFields ()
```

### **getName**

```
public String getName ()
```

### **getValue**

```
public Map getValue ()
```

### **getView**

```
public List<View> getView ()
```

### **removeView**

```
public void removeView (String id)
```

### **setValue**

```
public void setValue (Map o)
```

## 5.7.6 MultiFieldInterface

```
public interface MultiFieldInterface
```

## Methods

### addView

void **addView** (*String id*, *View view*)

### getChildCount

int **getChildCount** ()  
Get the number of views the multifield contains.

### getField

*FieldInterface* **getField** (*String id*)

### getFields

List<*FieldInterface*> **getFields** ()

### removeView

void **removeView** (*String id*)

## 5.7.7 SimpleField

public class **SimpleField** extends *BaseField*<Object, Object>

### Constructors

#### SimpleField

public **SimpleField** (*String name*, *Object value*)

#### SimpleField

public **SimpleField** (*String name*, *Object value*, boolean *isEditable*)

### Methods

#### getName

public *String* **getName** ()



**getValue**

```
public Object getValue ()
```

**getView**

```
public Object getView ()
```

**setValue**

```
public void setValue (Object o)
```

### 5.7.8 ViewField

```
public class ViewField extends BaseField<View, String>
```

**Constructors****ViewField**

```
public ViewField (String name, View view)
```

**ViewField**

```
public ViewField (String name, View view, boolean isEditable)
```

**Methods****getName**

```
public String getName ()
```

**getSpinnerValuePosition**

```
public int getSpinnerValuePosition (Spinner spinner, Object val)
```

**getValue**

```
public String getValue ()
```

**getView**

```
public View getView ()
```

### setIsEditable

public void **setIsEditable** (boolean *isEditable*)

### setValue

public void **setValue** (String *val*)

## 5.8 com.eddmash.form.values

### 5.8.1 MapValue

public class **MapValue** implements *ValueInterface*<Map>  
*ValueInterface*

Use this if you need to be able to access the map that the value and label were pulled from latter.

#### Constructors

##### MapValue

public **MapValue** (Map *item*, String *labelCol*, String *valueCol*)

#### Methods

##### fromCollection

public static List<*ValueInterface*> **fromCollection** (List<Map> *data*, String *colKey*, String *valueKey*)

Take list of maps and prepares them for use as values on a spinner.

##### Parameters

- **data** –

##### getItem

public Map **getItem** ()

##### getLabel

public String **getLabel** ()

##### getValue

public String **getValue** ()

## toString

```
public String toString ()
```

## 5.8.2 SimpleValue

```
public class SimpleValue implements ValueInterface<String>  
    ValueInterface
```

This basically deals with simple string values.

### Constructors

#### SimpleValue

```
public SimpleValue (String value, String label)
```

### Methods

#### getItem

```
public String getItem ()
```

#### getLabel

```
public String getLabel ()
```

#### getValue

```
public String getValue ()
```

#### toString

```
public String toString ()
```

## 5.8.3 ValueInterface

```
public interface ValueInterface<T>
```

This class make it easy to deal with data passed into views like spinner.

e.g. if you have a user records [{"gender": "male", "id": "1"}, {"gender": "Female", "id": "2"}] and you would like to display the 'gender' on the spinner and whilst making it easy to get the id assigned to the gender when its selected.

```
List genders = new ArrayList<>();
genders.add(new SimpleValue(" ", " "));
genders.add(new SimpleValue("1", "Male"));
genders.add(new SimpleValue("2", "Female"));

Spinner genderSpinner = findViewById(R.id.gender);

ArrayAdapter adapter = new ArrayAdapter<>(this,
                                         android.R.layout.simple_list_item_1,
                                         genders);
genderSpinner.setAdapter(adapter);
```

With this setup you can retrieve the id of the selected gender as follows

```
genderSpinner.setOnItemClickListener(new AdapterView.OnItemClickListener()
→{
    @Override
    public void onItemClick(AdapterView> adapterView, View view, int i, long l)
    {
        if (adapterView.getSelectedItem() instanceof ValueInterface) {
            ValueInterface val = (ValueInterface) adapterView.getSelectedItem();
            val.getItem(); // get the data structure backing this value item
            val.getLabel(); // the the label
            val.getValue(); // get the actual value
        }
    }
});
```

### Parameters

- `<T>` –

### Methods

#### getItem

##### T getItem()

This should return the actual datastructure backing the ValueInterface instance. `MapValue.getItem()` } which returns a map from which the value and label were retrieved.

#### getLabel

##### String getLabel()

This is displayed to the use, e.g. in the examples above Male and Female will be displayed.

#### getValue

##### String getValue()

The actual value that we need regardless of what is displayed to the user.

## 5.9 com.eddmash.grids

### 5.9.1 DataGridView

public class **DataGridView** extends `LinearLayout`

`DataGridView` can be used to display a list or table of data records providing features like pagination.

It takes a List of Maps that contains data and renders each row using a set of `ColumnInterface` presenting data in the form of a table.

The minimal code needed to use `DataGridView` is as follows:

```
dataGridView = (DataGridView) findViewById(R.id.data_view);
dataGridView.setPageSize(3);
List data = "...";
dataGridView.setData(data);
```

It's also possible to override which columns are used in the grid and customize those columns as one wishes.

Assuming in the data provided to the gridview looks like this

```
[{"first_name":"jake", "age":"4"}, {"first_name":"joan", "age":"6"}, ]
```

The earlier example will render both the first name and age column on the grid we can tell the gridview to only render the first name by `DataGridView.setColumns(Map)` as shown below:

```
Map cols = new HashMap();
cols.put("first_name", new Column(this, "first_name", "First Name"));
dataGridView.setColumns(cols);
```

#### Fields

##### LEFT

public static final boolean **LEFT**

##### RIGHT

public static final boolean **RIGHT**

##### data

protected `List<Map>` **data**

#### Constructors

##### `DataGridView`

public **DataGridView** (Context *context*)

## DataGridView

public **DataGridView** (Context *context*, AttributeSet *attrs*)

## DataGridView

public **DataGridView** (Context *context*, AttributeSet *attrs*, int *defStyleAttr*)

## Methods

### addColumn

public void **addColumn** (*BaseColumn col*, boolean *position*)  
Add extra columns to the dataview

#### Parameters

- **col** –
- **position** – true to add column at the beginning, false to add to the right

### addToolBarView

public void **addToolBarView** (View *view*)

### getColumns

public Map<String, *ColumnInterface*> **getColumns** ()  
Returns of columns to use on this grid.

**Returns** grid columns.

### getContentLayout

public LinearLayout **getContentLayout** ()

### getCurrentPageString

protected String **getCurrentPageString** ()

### getDataListener

protected *DataListener* **getDataListener** ()

### getFooterLayout

protected LinearLayout **getFooterLayout** ()

### getNextPageBtn

protected Button **getNextPageBtn** ()

### isStripped

public void **isStripped** (boolean *isStripped*)

### makeDataRows

protected void **makeDataRows** ()

### makeFooterRow

protected void **makeFooterRow** ()

### makeHeaderRow

protected void **makeHeaderRow** ()

### makeToolBarRow

protected void **makeToolBarRow** ()

### setColumns

public void **setColumns** (*Map attributesLabel*)

Determine how and which columns of your data will be displayed by passing them here.

This overrides the default implementation of using all the columns in you data.

this method accepts a map in the following form {"gender"

#### Parameters

- **attributesLabel** – a map

### setData

public void **setData** (*List<Map> data*)

You can populate the datagrid using list of map data. This data will be paginated based on the page size set

#### Parameters

- **data** – data to display.

### setHeaderColor

public void **setHeaderColor** (int *headerColor*)

### setPageSize

```
public void setPageSize (int pageSize)
```

### setPaginator

```
public void setPaginator (PaginatorInterface paginator, LazyResolver lazyResolver)
```

### setQuery

```
public void setQuery (SQLiteDatabase database, String sql, String[] params)
```

You can populate the datagrid using a query. The data grid will fetch data in a paginated manner base on the page size set.

```
dataGridView = (DataGridView) findViewById(R.id.content_dsp);
dataGridView.setPageSize(3);
dataGridView.setQuery(SqlHelper.getInstance(this).getReadableDatabase(),
    "select * from coffees", new String[]{});
```

#### Parameters

- **database** – a SQLiteDatabase to use
- **sql** – queries to fetch data
- **params** – binding params to the query

### setStripColor

```
public void setStripColor (int stripColor)
```

## 5.9.2 DataGridView.DataViewListener

```
public class DataViewListener implements DataListener
```

#### Methods

##### dataUpdate

```
public void dataUpdate (List<Map> records)
```

##### onFirstPageDataLoaded

```
public void onFirstPageDataLoaded (boolean hasMorePages)
```

##### onLastPageDataLoaded

```
public void onLastPageDataLoaded ()
```



### onNextPageDataLoaded

```
public void onNextPageDataLoaded ()
```

### preDataLoad

```
public void preDataLoad (boolean hasMorePages)
```

## 5.10 com.eddmash.pagination

### 5.10.1 DataListener

```
public interface DataListener
```

Implementation of this class will be notified each time there is a change in the *SqlPaginator*.

#### Methods

##### dataUpdate

```
void dataUpdate (List<Map> records)
```

Use this method to update whichever data structure you using to hold the data.

This is invoked when new data is received. it asynchronously on the doBackground method of an AsyncTask.

Please note this method is never run on the main UI thread.

##### Parameters

- **records** – list of data for the current page.

##### onFirstPageDataLoaded

```
void onFirstPageDataLoaded (boolean hasMorePages)
```

Triggered when data for the first page has been loaded and is ready for use.

The data can be accessed on *DataListener.dataUpdate(List)* method.

##### Parameters

- **hasMorePages** – true if there are more pages to load.

##### onLastPageDataLoaded

```
void onLastPageDataLoaded ()
```

Triggered when data for the last page has been loaded and is ready for use.

The data can be accessed on *DataListener.dataUpdate(List)* method.

### onNextPageDataLoaded

void **onNextPageDataLoaded** ()

Invoked when a new list of records has been added to the current records. this is called after `fetchNextPageData()`;

This method should be run on the main ui thread. on AsyncTask this should be invoked on `onPostExecute()`

### preDataLoad

void **preDataLoad** (boolean *hasMorePages*)

Invoked before the next page is loaded.

#### Parameters

- **hasMorePages** – true if there are more pages to load.

## 5.10.2 ListPaginator

public class **ListPaginator** extends *Paginator*  
An implimentation of *PaginatorInterface*

### Constructors

#### ListPaginator

public **ListPaginator** (*DataListener* *dataListener*)

### Methods

#### getNextPageRecords

protected List<Map> **getNextPageRecords** (int *startPoint*, int *endPoint*)

#### setData

public void **setData** (List<Map> *results*)

## 5.10.3 Paginator

public abstract class **Paginator** implements *PaginatorInterface*

### Fields

#### \_currentRecordsCounter

protected int **\_currentRecordsCounter**

**\_pageCount**

protected int **\_pageCount**

**\_totalRecords**

protected int **\_totalRecords**

**currentPage**

protected int **currentPage**

**dataListener**

protected *DataListener* **dataListener**

**isLastPage**

protected boolean **isLastPage**

**logTag**

protected *String* **logTag**

**newPageStartPoint**

public int **newPageStartPoint**

**pageSize**

protected int **pageSize**

**populating**

protected boolean **populating**  
Monitor if we are currently populating.

**Constructors****Paginator**

public **Paginator** (*DataListener* *dataListener*)

## Methods

### fetchNextPageData

public void **fetchNextPageData** ()

### getCurrentPage

protected int **getCurrentPage** ()

### getCurrentPageString

public [String](#) **getCurrentPageString** ()

### getNextPageRecords

protected abstract [List<Map>](#) **getNextPageRecords** (int *startPoint*, int *endPoint*)

### getPageCount

public int **getPageCount** ()

### getTotalRecords

public int **getTotalRecords** ()

### setPageSize

public void **setPageSize** (int *pageSize*)

## 5.10.4 Paginator.LoadDataTask

protected static class **LoadDataTask** extends [AsyncTask<Integer, Void, Void>](#)

## Constructors

### LoadDataTask

**LoadDataTask** (*Paginator paginator*)

## Methods

### doInBackground

protected [Void](#) **doInBackground** ([Integer...](#) *params*)

## onPostExecute

protected void **onPostExecute** (*Void done*)

## 5.10.5 PaginatorInterface

public interface **PaginatorInterface**

Class that implement this interface help you manage paginated data can data that's split across several pages.

*ListPaginator* this is used to resolve data that is not alot, i.e. data that can be held inthe memory with little to no cost on the app, this is usually data held in a List.

With large data that is usally stored in the database the *SqlPaginator* comes in handy, this paginator does not hold any data within it.

It only fetches the data and provides this data to you, its upto you to know how to store or display this data in an efficient manner.

### Methods

#### fetchNextPageData

void **fetchNextPageData** ()

This does the actual loading of data. The loading should be done asynchronously.

#### getPageCount

int **getPageCount** ()

The total number of pages.

#### getTotalRecords

int **getTotalRecords** ()

The total number of records.

#### setPageSize

void **setPageSize** (int *pageSize*)

The number of records to display per page.

##### Parameters

- **pageSize** –

## 5.10.6 SqlPaginator

public class **SqlPaginator** extends *Paginator*

An implimentation of *PaginatorInterface*

## Constructors

### SqlPaginator

```
public SqlPaginator (DataListener dataListener, SQLiteDatabase database)
```

## Methods

### getNextPageRecords

```
protected List<Map> getNextPageRecords (int startPoint, int endPoint)
```

### query

```
public void query (String sql, String[] params)
```

## 5.11 com.eddmash.validation

### 5.11.1 ValidationListener

```
public interface ValidationListener
```

Interface definition of callbacks to be invoked when the validation state has changed.

## Methods

### onValidationFailed

```
void onValidationFailed (ValidatorInterface validatorInterface)
```

Invoked when validation failed

### onValidationSuccess

```
void onValidationSuccess (ValidatorInterface validatorInterface)
```

Invoked when the validation passed successfully.

### 5.11.2 Validator

```
public class Validator implements ValidatorInterface
```

## Constructors

### Validator

```
public Validator ()
```

## Validator

public **Validator** (*String tag*)

### Methods

#### addCheck

public void **addCheck** (*CheckInterface checkInterface*)

#### addValidator

public void **addValidator** (*ValidatorInterface validator*)

#### clearErrors

public void **clearErrors** ()

#### disableCheck

public void **disableCheck** (*CheckInterface checkInterface*)  
*see*

#### disableValidator

public void **disableValidator** (*ValidatorInterface validatorInterface*)

#### getErrors

public Map<String, List> **getErrors** ()

#### getErrorsByTag

public List **getErrorsByTag** (*String tag*)

#### toString

public String **toString** ()

#### validate

public boolean **validate** ()

## validate

public void **validate** (*ValidationListener validationListener*)

### 5.11.3 ValidatorInterface

public interface **ValidatorInterface**  
Validators should implement this interface

*Validator*

#### Methods

##### addCheck

void **addCheck** (*CheckInterface checkInterface*)  
Adds validation checks to be enforced by a validator

##### Parameters

- **checkInterface** –

##### addValidator

void **addValidator** (*ValidatorInterface validatorInterface*)  
Add another validator to validated at the time this one is being validated.

##### Parameters

- **validatorInterface** – the validatorInterface object

##### clearErrors

void **clearErrors** ()  
Clear all the errors from the validator.

maybe use when you have already run the validation onces and want to run the validation again using the same ValidatorInterface instance

##### disableCheck

void **disableCheck** (*CheckInterface checkInterface*)  
disable validation check

##### Parameters

- **checkInterface** – the validation check to disable.



## disableValidator

void **disableValidator** (*ValidatorInterface* validatorInterface)

Disable the validator from being validated any more.

### Parameters

- **validatorInterface** – validatorInterface object

## getErrors

Map<String, List> **getErrors** ()

Returns all error that the validator found as a HashMap. with the key being tags if your passed in any when creating the validator otherwise all errors are returned under the tag NON\_SPECIFIC

the value of the HashMap consists an ArrayList of errors that relate to each tag

**Returns** Map

## getErrorsByTag

List **getErrorsByTag** (String tag)

Gets a list of errors for a specific tag.

### Parameters

- **tag** –

## validate

boolean **validate** ()

Does the actual validation.

**Returns** boolean true of valid

## validate

void **validate** (*ValidationListener* validationListener)

Does the actual validation.

### Parameters

- **validationListener** – listener that is



## CHAPTER 6

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### Indices and tables

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- `genindex`
- `modindex`
- `search`



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