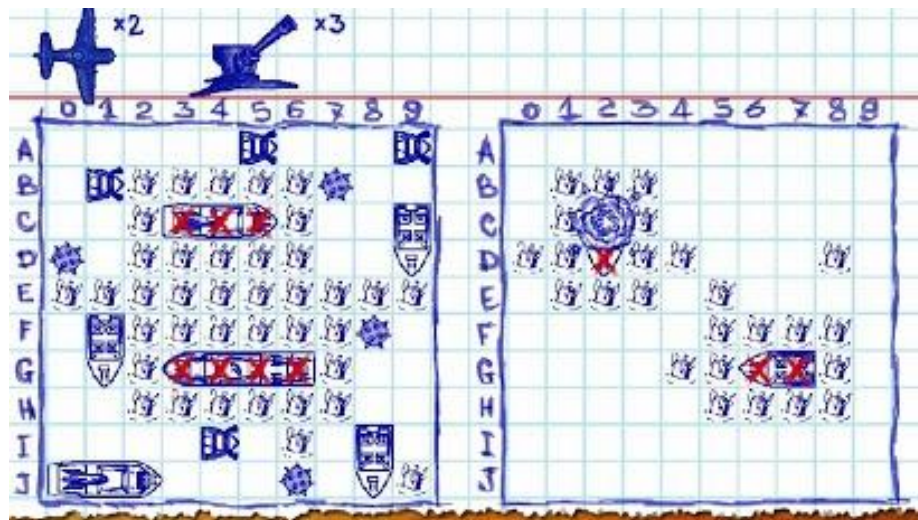# SOFTWAREPROJEKT BATTLESHIP APP
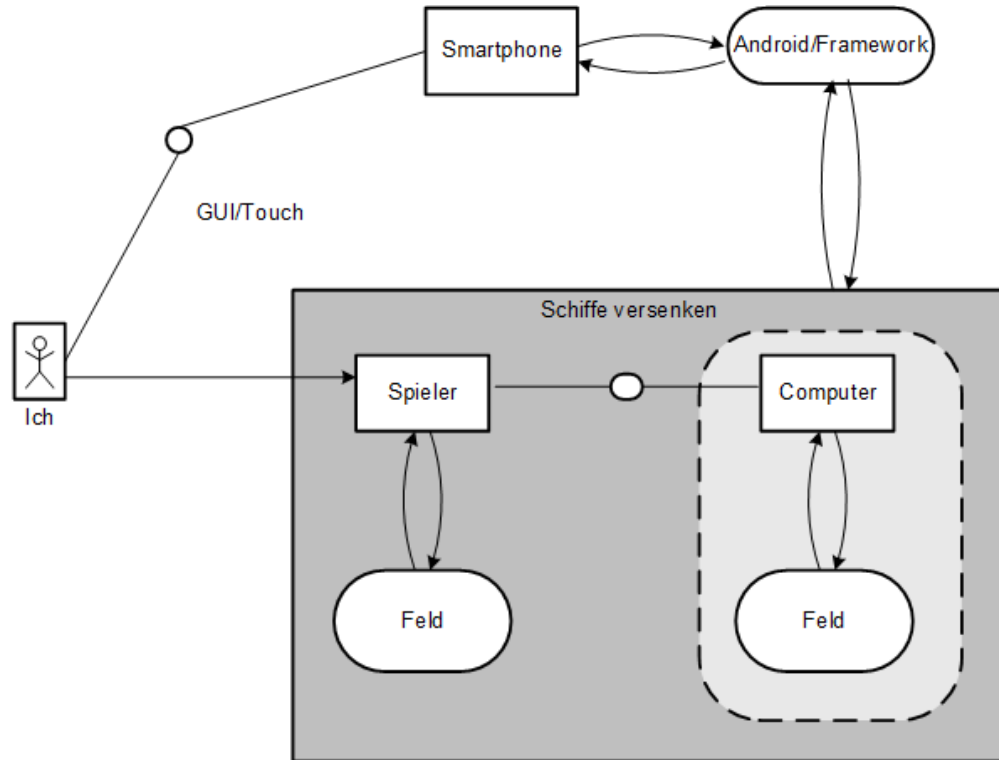
Thomas Mundt und Josephine Lange

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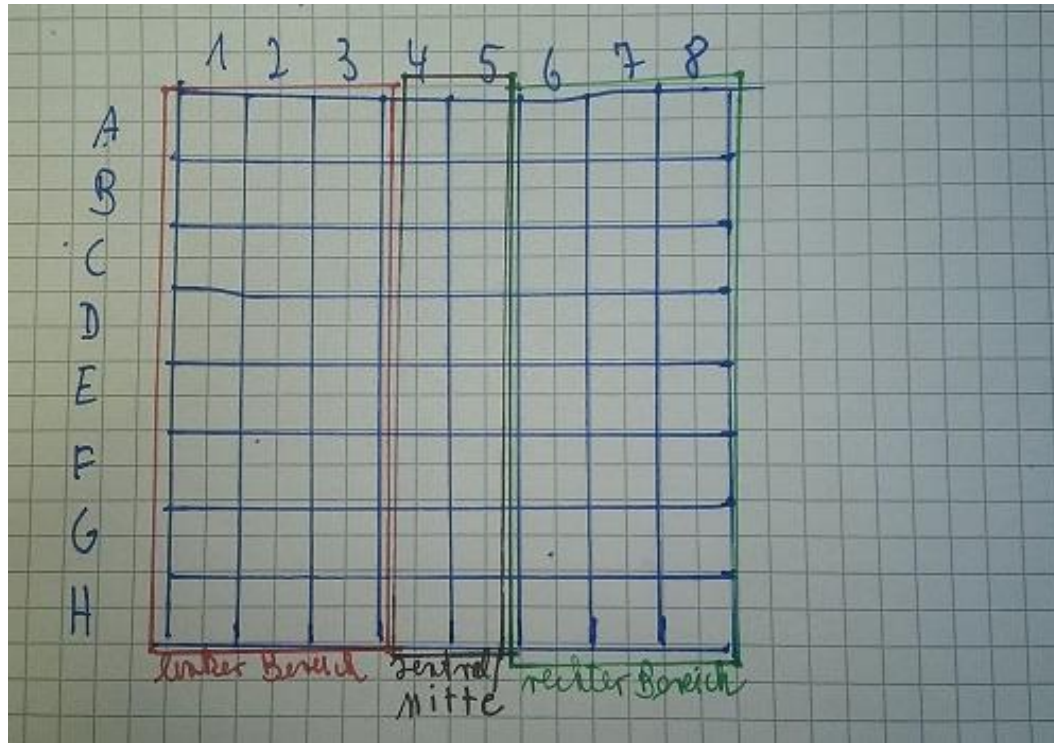
# Idee

# FMC-Systemmodell - Battleship

# Grammatik/DSL-Metamodell



```
Der Computer schiesst zufaellig
linkslastig.
Der Computer schiesst zentral.
Der Computer schiesst zentral.
Der Computer schiesst zufaellig.
Der Computer schiesst.
```

# Grammatik – Code

```
/**
 *
 * Grammar PlayerAIShots
 * describes behavior of an AI player in the game Battleship
 */

grammar PlayerAIShots;
file : row row row row row row row row row row row row row row row row row row row row row row row row row row row r
row : START (SPACE RANDOM)? (SPACE direction)? Dot (LineBreak | EOF);


SPACE : ' ' ;
randomshot: RANDOM ;
direction : DIRECTION ;

RANDOM : 'zufaellig' ;
DIRECTION : ('linkslastig'|'rechtslastig'|'zentral') ;
START : 'Der Computer schiesst' ;

Dot : '.' ;

// line break
LineBreak : '\r'?'\n' | '\r';

WS : [\t\r\n]+ -> skip ; // skip tabs, newlines
```

# Verwendete Software



- IntelliJ IDEA Ultimate = Entwicklungsumgebung des Softwareunternehmens JetBrains für Java

- -u. a. Erstellung von Applikationen

# Codebeispiel – Java

## Startscreen

```java
public class MainActivity extends Activity {
    /**
     * Called when the activity is first created.
     */

    private ImageView startImage;
    private ImageButton startButton;

    @Override
    public void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.main);
        startImage = (ImageView) findViewById(R.id.startImage);
        startButton = (ImageButton) findViewById(R.id.buttonSpielStarten);

        startButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent setupPlayerField = new Intent(v.getContext(), SetupPlayerFieldActivity.class);
                startActivity(setupPlayerField);
            }
        });
    }
```

## Schiffe setzen

```java
class MyDragListener implements View.OnDragListener {

    protected boolean isCollided;
    @Override
    public boolean onDrag(View v, DragEvent event) {
        int action = event.getAction();
        String viewTag = (String) v.getTag();
        float x = event.getX();
        float y = event.getY();
        boolean collide;

        switch (action) {
            case DragEvent.ACTION_DRAG_STARTED:
                Log.i("ACTION_DRAG_STARTED","target view is: " +v.getTag());
                Log.i("ACTION_DRAG_STARTED","x ist: " +x+", y: "+ y);
                break;
            case DragEvent.ACTION_DRAG_ENTERED:
                Log.d("ACTION_DRAG_ENTERED","entered:" + v.getTag());
                Log.i("ACTION_DRAG_STARTED", "x ist: " + x + ", y: " + y);
                break;
            case DragEvent.ACTION_DRAG_EXITED:

                break;
            case DragEvent.ACTION_DROP:
                //String viewTag = (String) v.getTag();
                Log.i("ACTION_DROP","target view is: " +v.getTag());
                Log.i("ACTION_DROP","view v is: " + v);
                if (v != imagePlayfield) {
                    if (viewTag.equals("imagePlayfield")== false) {
                        Log.e("ACTION_DROP","wrong drop! Dropped into: "+viewTag);
```

# Codebeispiel - XML

Schiffe setzen

```xml
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
                android:id="@+id/layoutSetupActivity"
                android:orientation="vertical"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:weightSum="1"
                android:background="@drawable/background_blue"
                android:layout_gravity="top|center_horizontal" >
        <ImageView
                android:id="@+id/imageSetzeSchiffe"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_gravity="center_horizontal|top"
                android:src="@drawable/image_schiffe_setzen"
                android:contentDescription="startscreen"
                android:layout_alignParentTop="true"
                android:layout_centerHorizontal="true">
        </ImageView>
        <ImageView
                android:id="@+id/imagePlayfield"
                android:layout_width="300dp"
```
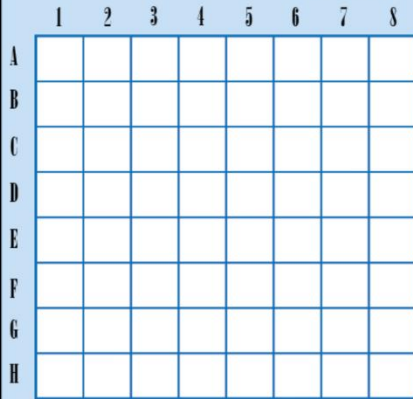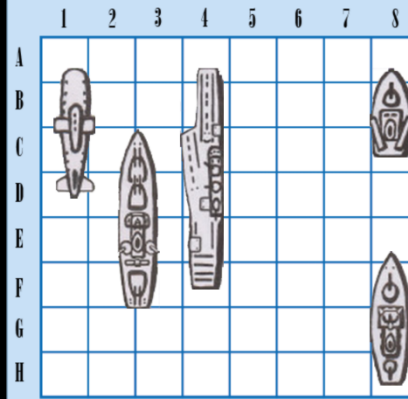
# Bilder der App

Icon

# Bilder der App

# Vorführung

# Ausblick Dokumentation

- App Entwicklung mit dem Android Framework

- Speziell Drag and Drop

- Historie und Versionsvergleich