Leafactor: Improving Energy Efficiency of Android Apps via Automatic Refactoring
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Writing energy efficient code is challenging

Leafactor

Refactor Android projects automatically to improve energy efficiency
Validation

- **140 apps**, collected from F-Droid
- **15308 Java files and 15103 XML files**
Results

• 222 refactorings in total

• 59 Pull Requests (15 merged)

Table 1: Summary of refactoring results

<table>
<thead>
<tr>
<th>Optimization Rule</th>
<th>W</th>
<th>R</th>
<th>DA</th>
<th>VH</th>
<th>OLP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Refactors</td>
<td>1</td>
<td>58</td>
<td>0</td>
<td>7</td>
<td>156</td>
</tr>
<tr>
<td>Affected Projects</td>
<td>1</td>
<td>23</td>
<td>0</td>
<td>5</td>
<td>30</td>
</tr>
<tr>
<td>Affected Projects (%)</td>
<td>1</td>
<td>16</td>
<td>0</td>
<td>4</td>
<td>21</td>
</tr>
</tbody>
</table>

Wakelock (W), Recycle (R), DrawAllocation (DA), ViewHolder (VH), ObsoleteLayoutParams (OLP)

https://goo.gl/wf0hs0
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