The Divvun project is a project under the Norwegian Sámi Parliament to make proofing tools for Sámi, which means spell checkers and automatic hyphenators for North, Lule and South Sámi. The Divvun tools work on Linux, MacOS X and Windows in the most common office applications.

The Divvun project is cooperating closely with the Sámi language technology group Giellateko at the University of Tromsø. We use the same source files, like two-level rule files for morpho-phonology and lexicon files, and the same infrastructure for development and testing.

**Compounding**

Sámi has dynamic noun + noun compounding. We utilize both two-level rules and combinatorial restriction rules to get a correct compounding grammar. Within this compounding grammar, compounds are dynamically accepted and suggested by the spellers.

Here are some issues relating to compounding:

**The case of the first part**:
- **loddemoahti** (nom., 'flock of birds') vs. **lottibeassi** (gen., 'birds nest'). The case can be one or more of NomSg, GenSg, or GenPl.
- **Vowel reduction or not**:
  - **lottečivga** ('young bird') vs. **lottibeassi** ('birds nest'). Vowel reduction is either prohibited, obligatory, or facultative.

**Part of generated paradigm for *loddi* ('bird')**

<table>
<thead>
<tr>
<th>Case</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>+SgNomCmp</td>
<td>loddemoaduhty</td>
</tr>
<tr>
<td>+SgGenCmp</td>
<td>lottibesai</td>
</tr>
<tr>
<td>+SgAcc</td>
<td>lottit</td>
</tr>
<tr>
<td>+SgIll</td>
<td>loddidai</td>
</tr>
<tr>
<td>+SgLoc</td>
<td>lottis</td>
</tr>
<tr>
<td>+SgCom</td>
<td>lottina</td>
</tr>
<tr>
<td>+SgEss</td>
<td>loddin</td>
</tr>
</tbody>
</table>

**The case of the first part of a compound**

The compounding case is mostly lexically specified, although the default is not:

- **loddi** ('bird'); +SgNomCmp +SgGenCmp
- **sátni** ('word'); (unspecified, default: +SgNomCmp)

This will give us:

- **loddemoahti** ('flock of birds') nom. first part OK
- **lottečivga** ('young bird') gen. first part OK
- **sátnévásas** ('proverb/saying') nom. first part OK
- *sátnévásas** ('proverb/saying') gen. first part NOT OK

**Stem vowel reduction**

A. **Obligatory reduction**:
- **loddi AIGI**;
  - loddemoahti vs *loddimoahti (nom. 'flock of birds')

B. **No reduction**:
- **johtu ALBMILONG** ('circulation')
  - johtučálus vs *johtočálus (nom. 'circular')

The two words are inflected using two different lexica: AIGI and ALBMILONG. The inflection lexicon AIGI has triggers that via two-level rules regulate the vowel reduction.