Nanospace Link Budget Calculation UI

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Link Budget & Context

Link Budget ?

$$P_{received}(dB) = P_{transmitted}(dB) + G_{dB} - L_{dB}$$

Losses : FSL, antenna depointing, polarization, edge of coverage, technological, rain attenuation, ...

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Losses : FSL, antenna depointing, polarization, edge of coverage, technological, rain attenuation, ...

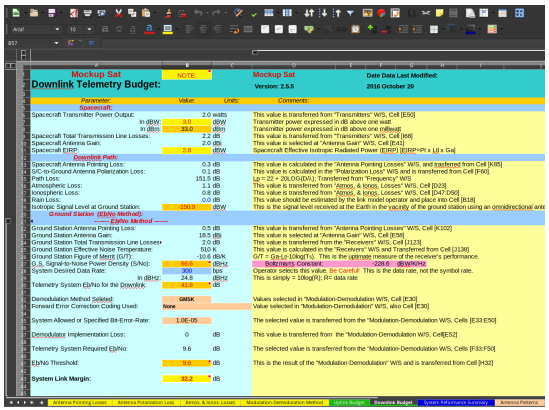


Figure: AMSAT.xls

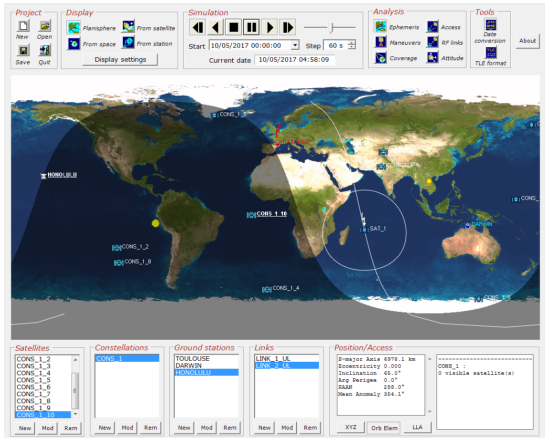


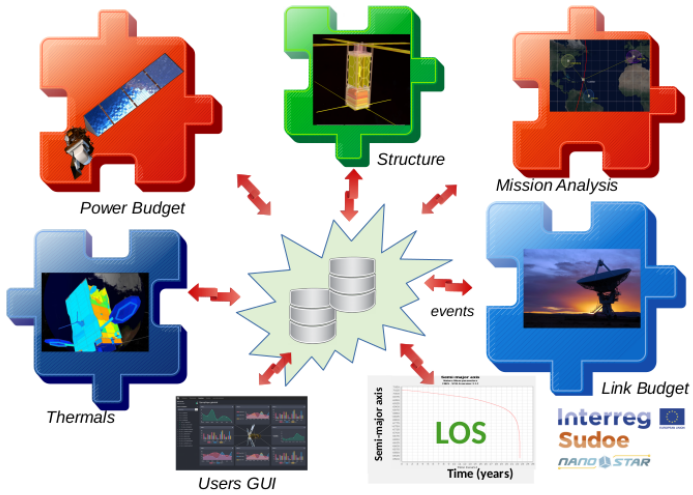
Figure: SatOrb

Python libraries :

- linkpredict
- luplink
- ...

Project

Open-source tool interfacing with NSS (inside JSatOrb)



Requirements :

- Usable inside NSS
- Suitable for teaching
- Modular & easily extendable
- Unit-tested

Figure: Nanospace Software Suite (NSS)

Current advancement

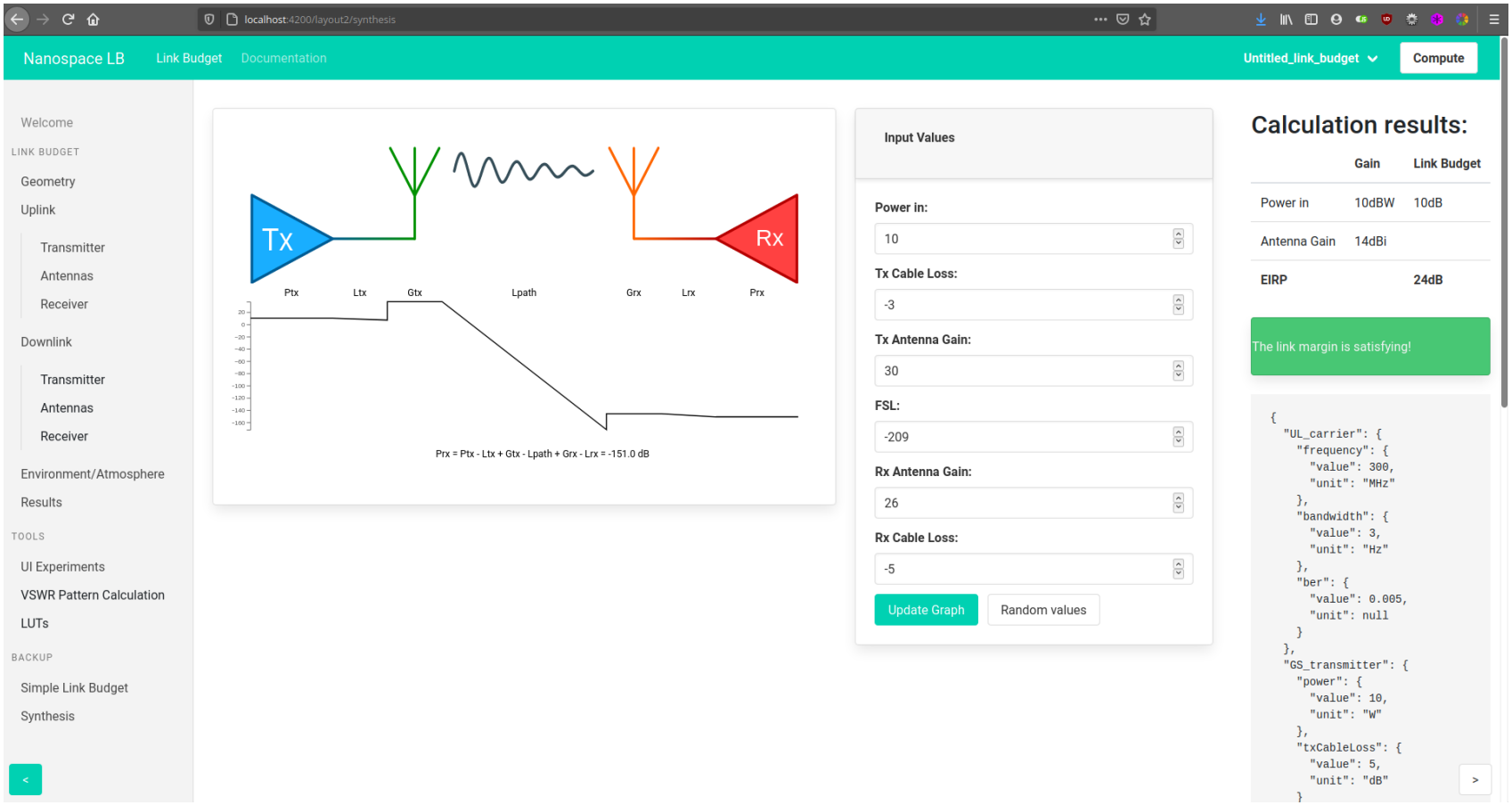


Figure: What it currently looks like

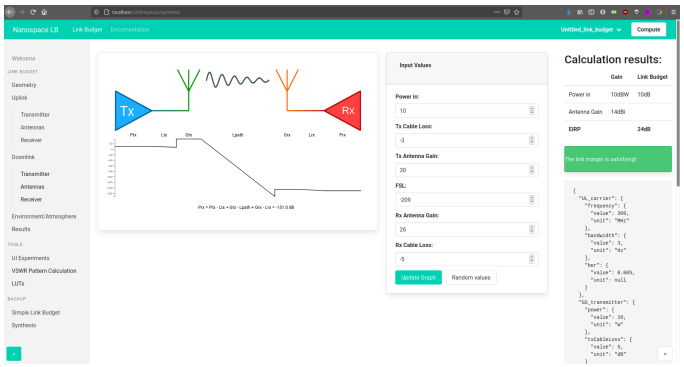


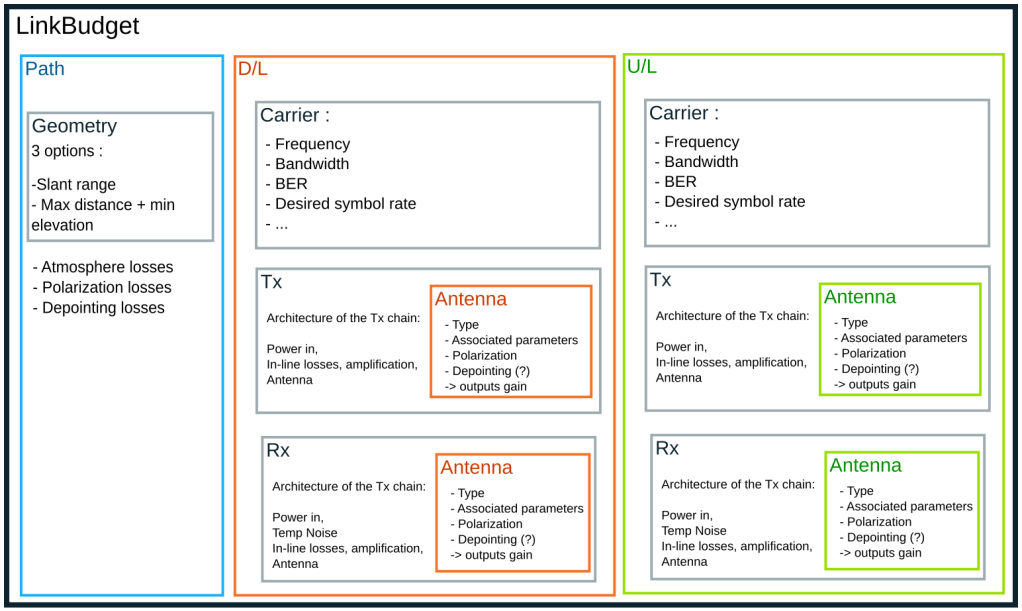
Figure: Current UI

Angular framework :

- Components,
- Typescript,
- Good testing capabilities

Some challenges

- Lots of inputs
- Fit most use cases



Hierarchy of Inputs

Currently

- Form Logic
- D3.js graph
- Angular & CSS capabilities

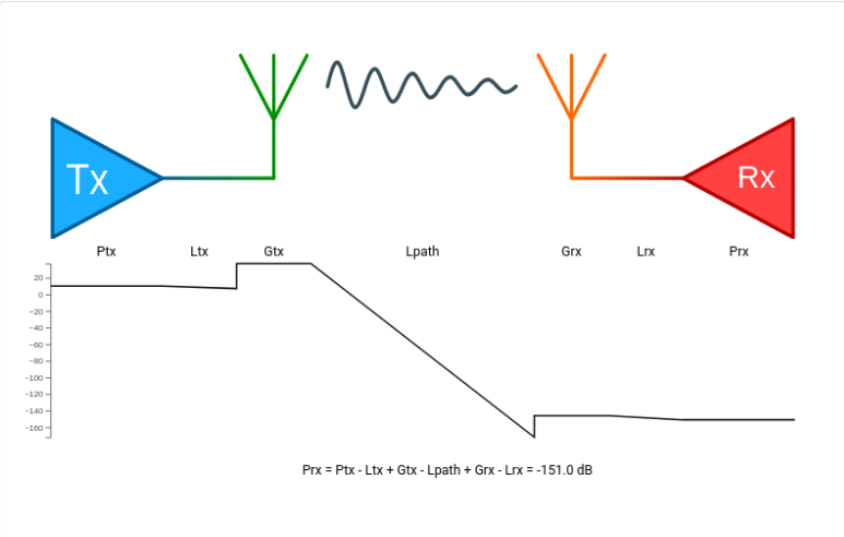


Figure: Form Architecture

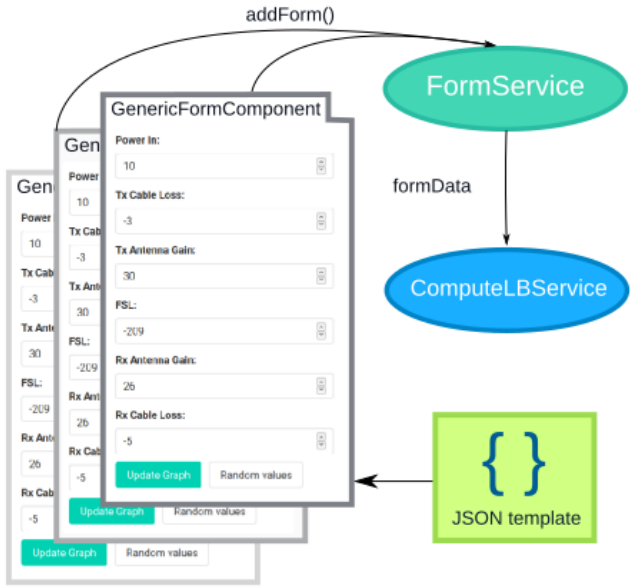


Figure: Form Architecture