

| Method: <i>TRIZ Laws</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|--------------------------|---|------------------------------------|---|--|---|------------------|
| Case: <i>3D printer</i> | | | | | | |
| number of concepts | 10+ | 7-9 | 5-6 | 3-4 | 0-2 | 5 |
| time to execute | 60mins+ | 30-59mins | 10-30mins | 5-10mins | less than 5mins | 4 |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | minimal insight | none | 1 |
| feasibility | ready for next phase | minor adjustments | limited by typical resources | needs currently unavailable technology | only works in fantasy | 3 |
| ease of use | in mind | simple medium for some information | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | 4 |
| Innovation | | | number of fundamentally new concepts: - | | number of relevant new combinations: 2 | 2 |
| | | | | | Applicability multiplier | x0.5 / x1.0 |
| | | | | | | 9.5 |
| | | | | | Total: | 9.5 |

Comments: The TRIZ Laws do not seem very applicable to the chassis aspect but do apply well to the system level.

So the applicability goes to 0.5x in most cases.

Also, often the solutions per section don't ~~recess~~ necessarily combine well, giving the technically new solution but not relevant ones.

ACCORD

| Method: 20-30mins | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|------------------------------|---|------------------------------------|---------------------------------------|--|---|------------------|
| Case: Case 1 | | | | | | |
| number of concepts | 10+ | 7-9 | 5-6 | 3-4 | 0-2 | 5 |
| time to execute | 60mins+ | 30-59mins | 10-30mins | 5-10mins | less than 5mins | 3 |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | minimal insight | none | 3 |
| feasibility | ready for next phase | minor adjustments | limited by typical resources | needs currently unavailable technology | only works in fantasy | 3 |
| ease of use | in mind | simple medium for some information | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | 3 |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: | - |
| | | | | | Applicability multiplier | x0.5 / x1.0 |
| | | | | | | |
| | | | | | Total: | 17 |

Comments:

In this case it was difficult to arrive at new concepts but still relevant (and new) concepts were generated

| Method: <i>Brainstorming</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|------------------------------|---|---|---------------------------------------|--|---|--------------------|
| Case: <i>Luna Zeta</i> | | | | | | |
| number of concepts | 10+ | 7-9 | <u>5-6</u> | 3-4 | 0-2 | <i>3</i> |
| time to execute | 60mins+ | 30-59mins | 10-30mins | <u>5-10mins</u> | less than 5mins | <i>4</i> |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | <u>minimal insight</u> | none | <i>2</i> |
| feasibility | ready for next phase | minor adjustments | <u>limited by typical resources</u> | needs currently unavailable technology | only works in fantasy | <i>3</i> |
| ease of use | in mind | <u>simple medium for some information</u> | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | <i>4</i> |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: | <i>0</i> |
| | | | | | Applicability multiplier | <u>x0.5</u> / x1.0 |
| | | | | | | |
| | | | | | Total: | <i>8</i> |

Comments: *Problem is too complex to create ad structured concepts through brainstorming alone*

| Method: <i>MA</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|-----------------------------|---|---|---------------------------------------|--|---|--------------------|
| Case: <i>Autonomous Car</i> | | | | | | |
| number of concepts | <u>10+</u> | 7-9 | 5-6 | 3-4 | 0-2 | <i>5</i> |
| time to execute | 60mins+ | 30-59mins | <u>10-30mins</u> | 5-10mins | less than 5mins | <i>3</i> |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | <u>minimal insight</u> | none | <i>2</i> |
| feasibility | ready for next phase | minor adjustments | <u>limited by typical resources</u> | needs currently unavailable technology | only works in fantasy | <i>3</i> |
| ease of use | in mind | <u>simple medium for some information</u> | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | <i>4</i> |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: <i>3</i> | <i>3</i> |
| | | | | | Applicability multiplier | <i>x0.5 / x1.0</i> |
| | | | | | | |
| | | | | | Total: | <i>20</i> |

Comments: *Solich.*

| Method: <i>Brainstorming</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|------------------------------|---|---|---------------------------------------|--|---|--------------------|
| Case: <i>Autonomous Car</i> | | | | | | |
| number of concepts | 10+ | 7-9 | 5-6 | <i>3-4</i> | 0-2 | <i>2</i> |
| time to execute | 60mins+ | 30-59mins | 10-30mins | <i>5-10mins</i> | less than 5mins | <i>4</i> |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | minimal insight | <i>none</i> | <i>1</i> |
| feasibility | ready for next phase | minor adjustments | <i>limited by typical resources</i> | needs currently unavailable technology | only works in fantasy | <i>3</i> |
| ease of use | in mind | <i>simple medium for some information</i> | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | <i>4</i> |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: <i>2</i> | <i>2</i> |
| | | | | | Applicability multiplier | <i>x0.5 / x1.0</i> |
| | | | | | | |
| | | | | | Total: | <i>16</i> |

Comments:

Open design - No steering wheel - social setting
Better ergonomics - Shell chassis - 3 or 5 wheels maybe possible - more complex steering and manoeuvres possible
Perhaps environment suited for work or leisure - training possible for efficiency
Longer life may use high grade materials -

| Method: <i>Design Principles</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|----------------------------------|---|------------------------------------|---------------------------------------|--|---|------------------|
| Case: <i>Autonomous Car</i> | | | | | | |
| number of concepts | 10+ | 7-9 | 5-6 | 3-4 | 0-2 | 1 |
| time to execute | 60mins+ | 30-59mins | 10-30mins | 5-10mins | less than 5mins | 4 |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | minimal insight | none | 2 |
| feasibility | ready for next phase | minor adjustments | limited by typical resources | needs currently unavailable technology | only works in fantasy | 2 |
| ease of use | in mind | simple medium for some information | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | 4 |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: | 1 |
| | | | | | Applicability multiplier | x0.5 / x1.0 |
| | | | | | | |
| | | | | | Total: | 14 |

Comments:

Decent performance of the method. It is a bit of a hit ~~and~~ or miss per case.

| Method: <i>ACRRE</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|--------------------------|---|------------------------------------|--|--|---|--------------------|
| Case: <i>Garbage Bin</i> | | | | | | <i>5</i> |
| number of concepts | <i>10+</i> | 7-9 | 5-6 | 3-4 | 0-2 | <i>3</i> |
| time to execute | 60mins+ | 30-59mins | <i>10-30mins</i> | 5-10mins | less than 5mins | <i>3</i> |
| insight gained | substantial and directly applicable insight | substantial insight | <i>moderate insight</i> | minimal insight | none | <i>3</i> |
| feasibility | ready for next phase | <i>minor adjustments</i> | limited by typical resources | needs currently unavailable technology | only works in fantasy | <i>4</i> |
| ease of use | in mind | simple medium for some information | <i>simple medium for lots of information</i> | multiple media or people | multiple media or people and meticulous bookkeeping | <i>3</i> |
| Innovation | | | number of fundamentally new concepts: <i>2</i> | | number of relevant new combinations: <i>-</i> | <i>3</i> |
| | | | | | Applicability multiplier | <i>x0.5 / x1.0</i> |
| | | | | | | |
| | | | | | Total: | <i>23 24</i> |

Comments:



| Method: <i>Concept Mapping</i> Case: <i>Roboleague</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|---|---|------------------------------------|---------------------------------------|--|---|------------------|
| number of concepts | 10+ | 7-9 | 5-6 | 3-4 | 0-2 | 1 |
| time to execute | 60mins+ | 30-59mins | 10-30mins | 5-10mins | less than 5mins | 3 |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | minimal insight | none | 3 |
| feasibility | ready for next phase | minor adjustments | limited by typical resources | needs currently unavailable technology | only works in fantasy | 3 |
| ease of use | in mind | simple medium for some information | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | 3 |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: | 0 |
| | | | | | Applicability multiplier | x0.5 / x1.0 |
| | | | | | | |
| | | | | | Total: | 6.5 |

Comments: Unfortunately, this method does not work for concept generation. It is clearly more helpful for management, organization and preparation.

| Method: <i>Brainstorming</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|------------------------------|---|---|---------------------------------------|--|---|--------------------|
| Case: <i>Garbage Bin</i> | | | | | | |
| number of concepts | <u>10+</u> | 7-9 | 5-6 | 3-4 | 0-2 | 5 |
| time to execute | 60mins+ | 30-59mins | 10-30mins | <u>5-10mins</u> | less than 5mins | 4 |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | <u>minimal insight</u> | none | 2 |
| feasibility | ready for next phase | minor adjustments | <u>limited by typical resources</u> | needs currently unavailable technology | only works in fantasy | 3 |
| ease of use | in mind | <u>simple medium for some information</u> | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | 4 |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: <i>20</i> | <i>20</i> |
| | | | | | Applicability multiplier | x0.5 / <u>x1.0</u> |
| | | | | | | |
| | | | | | Total: | 18 |

Comments: *Naturally it does generate feasible ideas, but hardly structured and well-argued.*

| Method: 40 Principles Case: Autonomous Car | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|---|---|------------------------------------|---------------------------------------|--|---|------------------|
| number of concepts | 10+ | 7-9 | 5-6 | 3-4 | 0-2 | 2 |
| time to execute | 60mins+ | 30-59mins | 10-30mins | 5-10mins | less than 5mins | 4 |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | minimal insight | none | 1 |
| feasibility | ready for next phase | minor adjustments | limited by typical resources | needs currently unavailable technology | only works in fantasy | 2 |
| ease of use | in mind | simple medium for some information | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | 4 |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: 1 | 1 |
| | | | | | Applicability multiplier | x0.5 / x1.0 |
| | | | | | | |
| | | | | | Total: | 7 |

Comments: Gives ideas for features on very global design solutions but not for the initial design problem

| Method: <i>O.P.I</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|------------------------|--|------------------------------------|--|--|---|---------------------------|
| Case: <i>3D poster</i> | | | | | | |
| number of concepts | 10+ | 7-9 | 5-6 | 3-4 | | |
| time to execute | 60mins+ | 30-59mins | <i>10-30mins</i> | 5-10mins | <i>0-2</i> | <i>1</i> |
| insight gained | <i>substantial and directly applicable insight</i> | substantial insight | moderate insight | minimal insight | less than 5mins | <i>3</i> |
| feasibility | ready for next phase | minor adjustments | <i>limited by typical resources</i> | needs currently unavailable technology | only works in fantasy | <i>5</i> |
| ease of use | in mind | simple medium for some information | <i>simple medium for lots of information</i> | multiple media or people | multiple media or people and meticulous bookkeeping | <i>3</i> |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: | |
| | | | | | | |
| | | | | | Applicability multiplier | x0.5 / <i>x1.0</i> |
| | | | | | | |
| | | | | | Total: | <i>15</i> |

Comments:

Again, this method does not generate real concepts but does provide considerable insight into the problem

Perhaps this method is more helpful when someone is stuck rather than starting a design

Handwritten scribbles and symbols in the bottom left corner.

| Method: <i>Tosight Combined</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|---------------------------------|---|------------------------------------|---|--|---|------------------|
| Case: <i>Larson Zebra</i> | | | | | | |
| number of concepts | 10+ | 7-9 | 5-6 | 3-4 | 0-2 | 2 |
| time to execute | 60mins+ | 30-59mins | 10-30mins | 5-10mins | less than 5mins | 1 |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | minimal insight | none | 5 |
| feasibility | ready for next phase | minor adjustments | limited by typical resources | needs currently unavailable technology | only works in fantasy | 3 |
| ease of use | in mind | simple medium for some information | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | 1 |
| Innovation | | | number of fundamentally new concepts: 0 | | number of relevant new combinations: 0 | 0 |
| | | | | | Applicability multiplier | x0.5 / x1.0 |
| | | | | | | |
| | | | | | Total: | 12 |

Comments: I.C. takes a lot of time and is basically a structured way of exploring the existing solution space. I think this method could best be done in a group context.

Also, this method would rarely devise new concepts but will likely guide you to a great, yet already existing, design.

| Method: <i>Reframing</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|--------------------------|---|------------------------------------|--|---|---|--|
| Case: <i>Autonomous</i> | | | | | | |
| number of concepts | 10+ | 7-9 | 5-6 | <u>3-4</u> | 0-2 | 2 |
| time to execute | 60mins+ | 30-59mins | <u>10-30mins</u> | 5-10mins | less than 5mins | 3 |
| insight gained | substantial and directly applicable insight | substantial insight | <u>moderate insight</u> | minimal insight | none | 3 |
| feasibility | ready for next phase | minor adjustments | limited by typical resources | <u>needs currently unavailable technology</u> | only works in fantasy | 2 |
| ease of use | in mind | simple medium for some information | <u>simple medium for lots of information</u> | multiple media or people | multiple media or people and meticulous bookkeeping | 3 |
| Innovation | | | number of fundamentally new concepts: <i>1</i> | | number of relevant new combinations: <i>21</i> | <i>4</i> |
| | | | | | Applicability multiplier | x0.5 x1.0 <i>0.5</i> |
| | | | | | | |
| | | | | | Total: | <i>14 3 14</i> |

Comments: *Not really clear concept generation, but more a general direction.*

| Method: M.A. | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|--------------------|---|------------------------------------|---|--|---|------------------|
| Case: Garbage Bin | | | | | | |
| number of concepts | 10+ | 7-9 | 5-6 | 3-4 | 0-2 | 5 |
| time to execute | 60mins+ | 30-59mins | 10-30mins | 5-10mins | less than 5mins | 4 |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | minimal insight | none | 2 |
| feasibility | ready for next phase | minor adjustments | limited by typical resources | needs currently unavailable technology | only works in fantasy | 4 |
| ease of use | in mind | simple medium for some information | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | 4 |
| Innovation | | | number of fundamentally new concepts: 1 | | number of relevant new combinations: | 3 |
| | | | | | Applicability multiplier | x0.5 / x1.0 |
| | | | | | | |
| | | | | | Total: | 22 |

Comments: Applies well and enough concepts generated, even some new ones

| Method: <i>Rehearing</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|--------------------------|---|---|---------------------------------------|--|---|--------------------|
| Case: <i>3D printer</i> | | | | | | <i>2</i> |
| number of concepts | 10+ | 7-9 | 5-6 | <i>3-4</i> | 0-2 | <i>3</i> |
| time to execute | 60mins+ | 30-59mins | <i>10-30mins</i> | 5-10mins | less than 5mins | <i>3</i> |
| insight gained | substantial and directly applicable insight | substantial insight | <i>moderate insight</i> | minimal insight | none | <i>3</i> |
| feasibility | ready for next phase | minor adjustments | <i>limited by typical resources</i> | needs currently unavailable technology | only works in fantasy | <i>3</i> |
| ease of use | in mind | <i>simple medium for some information</i> | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | <i>4</i> |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: | <i>-</i> |
| | | | | | Applicability multiplier | <i>x0.5 / x1.0</i> |
| | | | | | | |
| | | | | | Total: | <i>15</i> |

Comments: *Does not necessarily generate concepts, shows what the focus should be. Applies well because the 3D printer case is at system-level.*

| Method: <i>Insight Card</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|-----------------------------|---|------------------------------------|---|--|---|------------------|
| Case: <i>Garbage Bin</i> | | | | | | |
| number of concepts | 10+ | 7-9 | 5-6 | 3-4 | 0-2 | 1 |
| time to execute | 60mins+ | 30-59mins | 10-30mins | 5-10mins | less than 5mins | 3 |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | minimal insight | none | 3 |
| feasibility | ready for next phase | minor adjustments | limited by typical resources | needs currently unavailable technology | only works in fantasy | 3 |
| ease of use | in mind | simple medium for some information | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | 3 |
| Innovation | | | number of fundamentally new concepts: 1 | | number of relevant new combinations: | 4 |
| | | | | | Applicability multiplier | x0.5 / x1.0 |
| | | | | | | |
| | | | | | Total: | 8.5 |

Comments: No real new concepts for the system, but more for the supersystem. Also, it generates ideas rather than concepts.

| Method: <i>ACRRER</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|------------------------|---|------------------------------------|--|--|---|--------------------|
| Case: <i>30 points</i> | | | | | | |
| number of concepts | <i>10+</i> | 7-9 | 5-6 | 3-4 | 0-2 | <i>5</i> |
| time to execute | 60mins+ | <i>30-59mins</i> | 10-30mins | 5-10mins | less than 5mins | <i>2</i> |
| insight gained | substantial and directly applicable insight | substantial insight | <i>moderate insight</i> | minimal insight | none | <i>3</i> |
| feasibility | ready for next phase | <i>minor adjustments</i> | limited by typical resources | needs currently unavailable technology | only works in fantasy | <i>4</i> |
| ease of use | in mind | simple medium for some information | <i>simple medium for lots of information</i> | multiple media or people | multiple media or people and meticulous bookkeeping | <i>3</i> |
| Innovation | | | number of fundamentally new concepts: <i>2</i> | | number of relevant new combinations: <i>3</i> | <i>9</i> |
| | | | | | Applicability multiplier | <i>x0.5 / x1.0</i> |
| | | | | | | |
| | | | | | Total: | <i>26</i> |

Comments: Obviously, ACRRER is more suited for systems but also at subsystem level it can be easy to divide it into "subsubsystems". Those can then also be provided with solutions.

| Method: <i>MA</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|-------------------------|---|------------------------------------|---------------------------------------|--|---|------------------|
| Case: <i>Roboleague</i> | | | | | | |
| number of concepts | 10+ | 7-9 | 5-6 | 3-4 | 0-2 | 5 |
| time to execute | 60mins+ | 30-59mins | 10-30mins | 5-10mins | less than 5mins | 3 |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | minimal insight | none | 2 |
| feasibility | ready for next phase | minor adjustments | limited by typical resources | needs currently unavailable technology | only works in fantasy | 4 |
| ease of use | in mind | simple medium for some information | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | 4 |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: 4 | 4 |
| | | | | | Applicability multiplier | x0.5 / x1.0 |
| | | | | | | |
| | | | | | Total: | 10 |

Comments: Yet again, the MA applies well to four combinations of subsystem, but does not induce any innovation on the subsystem level itself

| Method: <i>Design Recipe</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|------------------------------|---|---|--|--|---|--------------------|
| Case: <i>Garbage Bin</i> | | | | | | 2 |
| number of concepts | 10+ | 7-9 | 5-6 | <i>3-4</i> | 0-2 | 4 |
| time to execute | 60mins+ | 30-59mins | 10-30mins | <i>5-10mins</i> | less than 5mins | |
| insight gained | substantial and directly applicable insight | substantial insight | <i>moderate insight</i> | minimal insight | none | 3 |
| feasibility | ready for next phase | <i>minor adjustments</i> | limited by typical resources | needs currently unavailable technology | only works in fantasy | 4 |
| ease of use | in mind | <i>simple medium for some information</i> | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | 4 |
| Innovation | | | number of fundamentally new concepts: <i>2</i> | | number of relevant new combinations: | 6 |
| | | | | | Applicability multiplier | x0.5 / <i>x1.0</i> |
| | | | | | | |
| | | | | | Total: | 23 |

Comments:

Surprisingly applicable and generated two real new ~~idea~~ concepts. Unexpected!

| Method: <i>Brainstorming</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|------------------------------|---|---|---------------------------------------|--|---|--------------------|
| Case: <i>Roboleague</i> | | | | | | |
| number of concepts | 10+ | 7-9 | <u>5-6</u> | <u>3-4</u> | 0-2 | <i>2 3</i> |
| time to execute | 60mins+ | 30-59mins | 10-30mins | <u>5-10mins</u> | less than 5mins | <i>4</i> |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | minimal insight | <u>none</u> | <i>1</i> |
| feasibility | ready for next phase | minor adjustments | <u>limited by typical resources</u> | needs currently unavailable technology | only works in fantasy | <i>3</i> |
| ease of use | in mind | <u>simple medium for some information</u> | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | <i>4</i> |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: | <i>0</i> |
| | | | | | Applicability multiplier | <i>x0.5 / x1.0</i> |
| | | | | | | |
| | | | | | Total: | <i>15</i> |

Comments:

Mono chassis - Laycard Chassis - integrate pads in structure - wheels - steering (omni-wheels) - multiple wheels for each direction - hovercraft-like - shoot ball - catapult - sclerosit-spring mechanism - blanks - shape could be anything - multiple roles -

Some things core up, but a lot of experience is needed to come to something feasible.

| Method: <i>Design Principles</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|----------------------------------|---|------------------------------------|---|--|---|------------------|
| Case: <i>3D printer</i> | | | | | | |
| number of concepts | 10+ | 7-9 | 5-6 | 3-4 | 0-2 | 1 |
| time to execute | 60mins+ | 30-59mins | 10-30mins | 5-10mins | less than 5mins | 4 |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | minimal insight | none | 3 |
| feasibility | ready for next phase | minor adjustments | limited by typical resources | needs currently unavailable technology | only works in fantasy | 4 |
| ease of use | in mind | simple medium for some information | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | 4 |
| Innovation | | | number of fundamentally new concepts: 0 | | number of relevant new combinations: 0 | 0 |
| | | | | | Applicability multiplier | x0.5 / x1.0 |
| | | | | | | |
| | | | | | Total: | 16 |

Comments: The design principles lend themselves very well for the 3D printer case because of the dynamics involved. I do not expect scores this high when applied to other design cases.

| Method: <i>Insight Combination</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|------------------------------------|--|------------------------------------|---|--|---|---------------------------|
| Case: <i>3D printer</i> | | | | | | |
| number of concepts | 10+ | 7-9 | 5-6 | 3-4 | <u>0-2</u> | 1 |
| time to execute | 60mins+ | 30-59mins | <u>10-30mins</u> | 5-10mins | less than 5mins | 3 |
| insight gained | <u>substantial and directly applicable insight</u> | substantial insight | moderate insight | minimal insight | none | 5 |
| feasibility | ready for next phase | minor adjustments | <u>limited by typical resources</u> | needs currently unavailable technology | only works in fantasy | 3 |
| ease of use | in mind | simple medium for some information | simple medium for lots of information | <u>multiple media or people</u> | multiple media or people and meticulous bookkeeping | 2 |
| Innovation | | | number of fundamentally new concepts: 1 | | number of relevant new combinations: | 3 |
| | | | | | Applicability multiplier | <u>x0.5</u> / <u>x1.0</u> |
| | | | | | | |
| | | | | | Total: | 8.5 |

Comments: It is hard to arrive at "insights" and couple them to solution patterns. Even harder still to combine solution patterns with other insights. Also, rating separate insights on individual papers does not make for a structured overview of the problem.

| Method: <i>ACCRES</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|--------------------------|---|------------------------------------|--|---|---|--------------------|
| Case: <i>Lunar Zebes</i> | | | | | | |
| number of concepts | 10+ | 7-9 | <u>5-6</u> | 3-4 | 0-2 | 3 |
| time to execute | 60mins+ | 30-59mins | <u>10-30mins</u> | 5-10mins | less than 5mins | 3 |
| insight gained | substantial and directly applicable insight | substantial insight | <u>moderate insight</u> | minimal insight | none | 3 |
| feasibility | ready for next phase | minor adjustments | limited by typical resources | <u>needs currently unavailable technology</u> | only works in fantasy | 2 |
| ease of use | in mind | simple medium for some information | <u>simple medium for lots of information</u> | multiple media or people | multiple media or people and meticulous bookkeeping | 3 |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: | 0 |
| | | | | | Applicability multiplier | x0.5 / <u>x1.0</u> |
| | | | | | Total: | 14 |

Comments: Problem is very complex and building an accres tree then becomes increasingly difficult.

| Method: <i>OPI</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|-------------------------|---|------------------------------------|--|--|---|--------------------|
| Case: <i>Roboleague</i> | | | | | | |
| number of concepts | 10+ | 7-9 | 5-6 | 3-4 | <u>0-2</u> | |
| time to execute | 60mins+ | 30-59mins | <u>10-30mins</u> | 5-10mins | less than 5mins | 4 3 |
| insight gained | substantial and directly applicable insight | <u>substantial insight</u> | moderate insight | minimal insight | none | 4 |
| feasibility | ready for next phase | minor adjustments | <u>limited by typical resources</u> | needs currently unavailable technology | only works in fantasy | 3 |
| ease of use | in mind | simple medium for some information | <u>simple medium for lots of information</u> | multiple media or people | multiple media or people and meticulous bookkeeping | 3 |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: | |
| | | | | | Applicability multiplier | x0.5 / <u>x1.0</u> |
| | | | | | | |
| | | | | | Total: | 14 |

Comments: *Especially the priorities and problems become clear*

| Method: <i>OPI</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|--------------------------|---|------------------------------------|--|--|---|--------------------|
| Case: <i>Garbage Bin</i> | | | | | | |
| number of concepts | 10+ | 7-9 | <i>5-6</i> | 3-4 | 0-2 | <i>3</i> |
| time to execute | 60mins+ | 30-59mins | <i>10-30mins</i> | 5-10mins | less than 5mins | <i>3</i> |
| insight gained | substantial and directly applicable insight | <i>substantial insight</i> | moderate insight | minimal insight | none | <i>4</i> |
| feasibility | ready for next phase | minor adjustments | <i>limited by typical resources</i> | needs currently unavailable technology | only works in fantasy | <i>3</i> |
| ease of use | in mind | simple medium for some information | <i>simple medium for lots of information</i> | multiple media or people | multiple media or people and meticulous bookkeeping | <i>3</i> |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: | |
| | | | | | Applicability multiplier | <i>x0.5 / x1.0</i> |
| | | | | | | |
| | | | | | Total: | <i>17</i> |

Comments: *Applies well, gives insight and indirectly also concepts, nothing too innovative though*

| Method: <i>Reframing</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|--------------------------|---|------------------------------------|---------------------------------------|--|---|------------------|
| Case: <i>Garbage Bin</i> | | | | | | |
| number of concepts | 10+ | 7-9 | 5-6 | 3-4 | 0-2 | 2 |
| time to execute | 60mins+ | 30-59mins | 10-30mins | 5-10mins | less than 5mins | 3 |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | minimal insight | none | 3 |
| feasibility | ready for next phase | minor adjustments | limited by typical resources | needs currently unavailable technology | only works in fantasy | 3 |
| ease of use | in mind | simple medium for some information | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | 3 |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: 2 | 2 |
| | | | | | Applicability multiplier | x0.5 / (x1.0) |
| | | | | | | |
| | | | | | Total: | 16 |

Comments: *The creative input needed shifts to the framing.*

| Method: <i>ACRREx</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|-------------------------|---|---|---------------------------------------|--|---|---------------------------|
| Case: <i>Roboleague</i> | | | | | | |
| number of concepts | <i>10+</i> | 7-9 | 5-6 | 3-4 | 0-2 | <i>5</i> |
| time to execute | 60mins+ | 30-59mins | <i>10-30mins</i> | 5-10mins | less than 5mins | <i>3</i> |
| insight gained | substantial and directly applicable insight | substantial insight | <i>moderate insight</i> | minimal insight | none | <i>3</i> |
| feasibility | ready for next phase | minor adjustments | <i>limited by typical resources</i> | needs currently unavailable technology | only works in fantasy | <i>3</i> |
| ease of use | in mind | <i>simple medium for some information</i> | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | <i>4</i> |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: | <i>0</i> |
| | | | | | Applicability multiplier | x0.5 / <i>x1.0</i> |
| | | | | | | |
| | | | | | Total: | <i>18</i> |

Comments:

| Method: <i>Brainstorming</i> Case: <i>3D print</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|---|---|---|---------------------------------------|--|---|--------------------|
| number of concepts | 10+ | 7-9 | <u>5-6</u> | 3-4 | 0-2 | 3 |
| time to execute | 60mins+ | 30-59mins | 10-30mins | <u>5-10mins</u> | less than 5mins | 4 |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | minimal insight | <u>none</u> | 1 |
| feasibility | ready for next phase | minor adjustments | <u>limited by typical resources</u> | needs currently unavailable technology | only works in fantasy | 3 |
| ease of use | in mind | <u>simple medium for some information</u> | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | 4 |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: | 0 |
| | | | | | Applicability multiplier | x0.5 / <u>x1.0</u> |
| | | | | | | |
| | | | | | Total: | 15 |

Comments: *Doesn't give any new solutions. Only puts on paper what I already know*

| Method: 40 Principles Case: 3D Printer | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|---|---|------------------------------------|---------------------------------------|--|---|------------------|
| number of concepts | 10+ | 7-9 | 5-6 | 3-4 | 0-2 | 4 |
| time to execute | 60mins+ | 30-59mins | 10-30mins | 5-10mins | less than 5mins | 3 |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | minimal insight | none | 1 |
| feasibility | ready for next phase | minor adjustments | limited by typical resources | needs currently unavailable technology | only works in fantasy | 3 |
| ease of use | in mind | simple medium for some information | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | 4 |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: 2 | 2 |
| | | | | | Applicability multiplier | x0.5 / x1.0 |
| | | | | | | |
| | | | | | Total: | 17 |

Comments: No insight gained.

| Method: <i>Concept Mapping</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|--------------------------------|---|------------------------------------|--|--|---|--------------------|
| Case: <i>Garbage bin</i> | | | | | | |
| number of concepts | 10+ | 7-9 | 5-6 | 3-4 | <i>0-2</i> | <i>1</i> |
| time to execute | 60mins+ | 30-59mins | <i>10-30mins</i> | 5-10mins | less than 5mins | <i>3</i> |
| insight gained | substantial and directly applicable insight | <i>substantial insight</i> | moderate insight | minimal insight | none | <i>4</i> |
| feasibility | ready for next phase | minor adjustments | <i>limited by typical resources</i> | needs currently unavailable technology | only works in fantasy | <i>3</i> |
| ease of use | in mind | simple medium for some information | <i>simple medium for lots of information</i> | <i>multiple media or people</i> | multiple media or people and meticulous bookkeeping | <i>2</i> |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: | |
| | | | | | Applicability multiplier | <i>x0.5 / x1.0</i> |
| | | | | | | |
| | | | | | Total: | <i>6.5</i> |

Comments: *Gives insight into supersystem*

| Method: <i>Design + Principles</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|------------------------------------|---|---|---|--|---|--------------------|
| Case: <i>Robokagan</i> | | | | | | |
| number of concepts | 10+ | 7-9 | 5-6 | <u>3-4</u> | 0-2 | 2 |
| time to execute | 60mins+ | 30-59mins | 10-30mins | <u>5-10mins</u> | less than 5mins | 4 |
| insight gained | substantial and directly applicable insight | substantial insight | <u>moderate insight</u> | minimal insight | none | 3 |
| feasibility | ready for next phase | minor adjustments | <u>limited by typical resources</u> | needs currently unavailable technology | only works in fantasy | 3 |
| ease of use | in mind | <u>simple medium for some information</u> | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | 4 |
| Innovation | | | number of fundamentally new concepts:) | | number of relevant new combinations: 1 | 4 |
| | | | | | Applicability multiplier | x0.5 / <u>x1.0</u> |
| | | | | | | |
| | | | | | Total: | 20 |

Comments: *Again, Surprisingly Applicable*

| Method: OPI Case: Autonomous Car | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|-------------------------------------|---|------------------------------------|---|--|---|------------------|
| number of concepts | 10+ | 7-9 | 5-6 | 3-4 | 0-2 | 2 |
| time to execute | 60mins+ | 30-59mins | 10-30mins | 5-10mins | less than 5mins | 3 |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | minimal insight | none | 3 |
| feasibility | ready for next phase | minor adjustments | limited by typical resources | needs currently unavailable technology | only works in fantasy | 3 |
| ease of use | in mind | simple medium for some information | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | 3 |
| Innovation | | | number of fundamentally new concepts: 1 | | number of relevant new combinations: 1 | 4 |
| | | | | | Applicability multiplier | x0.5 / x1.0 |
| | | | | | | |
| | | | | | Total: | 10 |

Comments:

Solid performance, not much concept generation but definitely a few.

| Method: <i>Concept Mapping</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|--------------------------------|---|------------------------------------|--|--|---|--------------------|
| Case: <i>3D parks</i> | | | | | | |
| number of concepts | 10+ | 7-9 | 5-6 | 3-4 | <i>0-2</i> | <i>1</i> |
| time to execute | 60mins+ | 30-59mins | <i>10-30mins</i> | 5-10mins | less than 5mins | <i>3</i> |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | minimal insight | <i>none</i> | <i>1</i> |
| feasibility | ready for next phase | minor adjustments | <i>limited by typical resources</i> | needs currently unavailable technology | only works in fantasy | <i>3</i> |
| ease of use | in mind | simple medium for some information | <i>simple medium for lots of information</i> | multiple media or people | multiple media or people and meticulous bookkeeping | <i>3</i> |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: | <i>0</i> |
| | | | | | Applicability multiplier | <i>x0.5 / x1.0</i> |
| | | | | | | |
| | | | | | Total: | <i>5,5</i> |

Comments: *No new insight or concepts.*

| Method: <i>40 Principles</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|------------------------------|---|---|---------------------------------------|---|---|--------------------|
| Case: <i>Lunar Zero</i> | | | | | | |
| number of concepts | 10+ | 7-9 | <i>5-6</i> | 3-4 | 0-2 | <i>3</i> |
| time to execute | 60mins+ | 30-59mins | 10-30mins | <i>5-10mins</i> | less than 5mins | <i>4</i> |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | minimal insight | <i>none</i> | <i>1</i> |
| feasibility | ready for next phase | minor adjustments | limited by typical resources | <i>needs currently unavailable technology</i> | only works in fantasy | <i>2</i> |
| ease of use | in mind | <i>simple medium for some information</i> | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | <i>4</i> |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: | |
| | | | | | Applicability multiplier | <i>x0.5 / x1.0</i> |
| | | | | | Total: | <i>14</i> |

Comments:

Not particularly generative

| Method: <i>Insight Combos</i> Case: <i>RoboKey</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|---|---|------------------------------------|---------------------------------------|--|---|--------------------|
| number of concepts | 10+ | 7-9 | 5-6 | <u>3-4</u> | 0-2 | 2 |
| time to execute | 60mins+ | 30-59mins | <u>10-30mins</u> | 5-10mins | less than 5mins | 3 |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | <u>minimal insight</u> | none | 2 |
| feasibility | ready for next phase | minor adjustments | <u>limited by typical resources</u> | needs currently unavailable technology | only works in fantasy | 3 |
| ease of use | in mind | simple medium for some information | simple medium for lots of information | <u>multiple media or people</u> | multiple media or people and meticulous bookkeeping | 2 |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: | 0 |
| | | | | | Applicability multiplier | <u>x0.5 / x1.0</u> |
| | | | | | | |
| | | | | | Total: | 6 |

Comments: *Just does not work well*

| Method: <i>Reframing</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|--------------------------|---|---|---------------------------------------|--|---|--------------------|
| Case: <i>Luxon Zebro</i> | | | | | | |
| number of concepts | 10+ | 7-9 | 5-6 | 3-4 | <i>0-2</i> | <i>1</i> |
| time to execute | 60mins+ | 30-59mins | 10-30mins | <i>5-10mins</i> | less than 5mins | <i>4</i> |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | <i>minimal insight</i> | none | <i>2</i> |
| feasibility | ready for next phase | minor adjustments | <i>limited by typical resources</i> | needs currently unavailable technology | only works in fantasy | <i>3</i> |
| ease of use | in mind | <i>simple medium for some information</i> | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | <i>4</i> |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: | |
| | | | | | Applicability multiplier | <i>x0.5 / x1.0</i> |
| | | | | | | |
| | | | | | Total: | <i>7</i> |

Comments: *This method does not work with design cases that are very rigid with their goal and demands.*

| Method: <i>TRIZ Laws</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|--------------------------|---|---|---------------------------------------|--|---|--------------------|
| Case: <i>Lunar Zebra</i> | | | | | | <i>4</i> |
| number of concepts | <i>10+</i> | <i>7-9</i> | 5-6 | 3-4 | 0-2 | <i>4</i> |
| time to execute | 60mins+ | 30-59mins | 10-30mins | <i>5-10mins</i> | less than 5mins | <i>2</i> |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | <i>minimal insight</i> | none | <i>2</i> |
| feasibility | ready for next phase | minor adjustments | <i>limited by typical resources</i> | needs currently unavailable technology | only works in fantasy | <i>3</i> |
| ease of use | in mind | <i>simple medium for some information</i> | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | <i>4</i> |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: | |
| | | | | | Applicability multiplier | <i>x0.5 / x1.0</i> |
| | | | | | | |
| | | | | | Total: | <i>15</i> |

Comments: *As it's a vehicle, it's easy to generate concepts*

| Method: <i>Insight Combination</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|------------------------------------|---|------------------------------------|---------------------------------------|--|---|------------------|
| Case: <i>Autonomous car</i> | | | | | | |
| number of concepts | 10+ | 7-9 | 5-6 | 3-4 | 0-2 | 1 |
| time to execute | 60mins+ | 30-59mins | 10-30mins | 5-10mins | less than 5mins | 3 |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | minimal insight | none | 2 |
| feasibility | ready for next phase | minor adjustments | limited by typical resources | needs currently unavailable technology | only works in fantasy | 3 |
| ease of use | in mind | simple medium for some information | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | 2 |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: | |
| | | | | | Applicability multiplier | x0.5 / x1.0 |
| | | | | | | |
| | | | | | Total: | 55 |

Comments:

| Method: <i>Concept Mapping</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|--------------------------------|---|------------------------------------|---------------------------------------|--|---|------------------|
| Case: <i>Lunar Zebra</i> | | | | | 0-2 | 1 |
| number of concepts | 10+ | 7-9 | 5-6 | 3-4 | less than 5mins | 2 |
| time to execute | 60mins+ | 30-59mins | 10-30mins | 5-10mins | none | |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | minimal insight | | 3 |
| feasibility | ready for next phase | minor adjustments | limited by typical resources | needs currently unavailable technology | only works in fantasy | 2 |
| ease of use | in mind | simple medium for some information | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | 3 |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: | |
| | | | | | Applicability multiplier | x0.5 / x1.0 |
| | | | | | | |
| | | | | | Total: | 5.5 |

Comments:

| Method: <i>Concept Mapping</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|--------------------------------|---|------------------------------------|---------------------------------------|--|---|------------------|
| Case: <i>Autonomous Car</i> | | | | | | |
| number of concepts | 10+ | 7-9 | 5-6 | 3-4 | 0-2 | 1 |
| time to execute | 60mins+ | 30-59mins | 10-30mins | 5-10mins | less than 5mins | 3 |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | minimal insight | none | 3 |
| feasibility | ready for next phase | minor adjustments | limited by typical resources | needs currently unavailable technology | only works in fantasy | 3 |
| ease of use | in mind | simple medium for some information | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | 3 |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: | 0 |
| | | | | | Applicability multiplier | x0.5 / x1.0 |
| | | | | | | |
| | | | | | Total: | 65 |

Comments:

| Method: <i>TORR Lewis</i> Case: <i>Autonomous Car</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|--|---|---|---------------------------------------|--|---|---------------------------|
| number of concepts | <i>10+</i> | 7-9 | 5-6 | 3-4 | 0-2 | <i>5</i> |
| time to execute | 60mins+ | 30-59mins | 10-30mins | <i>5-10mins</i> | less than 5mins | <i>2</i> |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | <i>minimal insight</i> | none | <i>2</i> |
| feasibility | ready for next phase | minor adjustments | <i>limited by typical resources</i> | needs currently unavailable technology | only works in fantasy | <i>3</i> |
| ease of use | in mind | <i>simple medium for some information</i> | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | <i>4</i> |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: | |
| | | | | | Applicability multiplier | x0.5 / <i>x1.0</i> |
| | | | | | | |
| | | | | | Total: | <i>6</i> |

Comments:

| Method: <i>TRIZ Laws</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|-----------------------------|---|---|---------------------------------------|--|---|--------------------|
| Case: <i>Autonomous Car</i> | | | | | | |
| number of concepts | <i>10+</i> | 7-9 | 5-6 | 3-4 | 0-2 | <i>5</i> |
| time to execute | 60mins+ | 30-59mins | 10-30mins | <i>5-10mins</i> | less than 5mins | <i>2</i> |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | <i>minimal insight</i> | none | <i>2</i> |
| feasibility | ready for next phase | minor adjustments | <i>limited by typical resources</i> | needs currently unavailable technology | only works in fantasy | <i>3</i> |
| ease of use | in mind | <i>simple medium for some information</i> | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | <i>4</i> |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: | |
| | | | | | | |
| | | | | | Applicability multiplier | <i>x0.5 / x1.0</i> |
| | | | | | | |
| | | | | | Total: | <i>6</i> |

Comments:

| Method: <i>TRIZ Laws</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|--------------------------|---|------------------------------------|---------------------------------------|--|---|------------------|
| Case: <i>Robo league</i> | | | | | | |
| number of concepts | 10+ | 7-9 | 5-6 | 3-4 | 0-2 | 5 |
| time to execute | 60mins+ | 30-59mins | 10-30mins | 5-10mins | less than 5mins | 4 |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | minimal insight | none | 2 |
| feasibility | ready for next phase | minor adjustments | limited by typical resources | needs currently unavailable technology | only works in fantasy | 3 |
| ease of use | in mind | simple medium for some information | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | 4 |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: | 1 |
| | | | | | Applicability multiplier | x0.5 / x1.0 |
| | | | | | | |
| | | | | | Total: | 9.5 |

Comments:

Again, TRIZ Laws only works well at system level (robot) and not at subsystem level (chassis)

| Method: <i>Reframing</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|---------------------------|---|------------------------------------|---|--|---|------------------|
| Case: <i>Robot League</i> | | | | | | |
| number of concepts | 10+ | 7-9 | 5-6 | 3-4 | 0-2 | 2 |
| time to execute | 60mins+ | 30-59mins | 10-30mins | 5-10mins | less than 5mins | 3 |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | minimal insight | none | 3 |
| feasibility | ready for next phase | minor adjustments | limited by typical resources | needs currently unavailable technology | only works in fantasy | 3 |
| ease of use | in mind | simple medium for some information | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | 4 |
| Innovation | | | number of fundamentally new concepts: 1 | | number of relevant new combinations: - | 3 |
| | | | | | Applicability multiplier | x0.5 / x1.0 |
| | | | | | | 9 |
| | | | | | Total: | |

Comments: As the conditions and rules for the Robot League are rather extensive, there is not much room to "reframe". This means very little input and thus little output. Perhaps this method works best for problems that have very little demands.

| Method: <i>40 Points</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|--------------------------|---|------------------------------------|--|--|---|--------------------|
| Case: <i>Robo league</i> | | | | | | |
| number of concepts | 10+ | 7-9 | 5-6 | 3-4 | <i>0-2</i> | <i>1</i> |
| time to execute | 60mins+ | <i>30-59mins</i> | 10-30mins | 5-10mins | less than 5mins | <i>2</i> |
| insight gained | substantial and directly applicable insight | substantial insight | <i>moderate insight</i> | minimal insight | none | <i>3</i> |
| feasibility | ready for next phase | minor adjustments | <i>limited by typical resources</i> | needs currently unavailable technology | only works in fantasy | <i>3</i> |
| ease of use | in mind | simple medium for some information | <i>simple medium for lots of information</i> | multiple media or people | multiple media or people and meticulous bookkeeping | <i>3</i> |
| Innovation | | | number of fundamentally new concepts: <i>-</i> | | number of relevant new combinations: <i>-</i> | <i>0</i> |
| | | | | | Applicability multiplier | <i>x0.5 / x1.0</i> |
| | | | | | | <i>12</i> |
| | | | | | Total: | |

Comments:

Improve features

preserve features

- 1*
- 3*
- 7*
- 9*
- 12*
- 20*
- 22*
- 36*
- 44*

- 9*
- 15*
- 19*
- 1*

Doesn't generate concepts but provides some pointers, increasing insight. It takes quite some to go over everything but that may be because of inexperience and unfamiliarity with the method.

| Method: Morphological Analysis | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|--------------------------------|---|------------------------------------|---------------------------------------|--|---|------------------|
| Case: 3D printer frame | | | | | | |
| number of concepts | 10+ | 7-9 | 5-6 | 3-4 | 0-2 | 5 |
| time to execute | 60mins+ | 30-59mins | 10-30mins | 5-10mins | less than 5mins | 2 |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | minimal insight | none | 2 |
| feasibility | ready for next phase | minor adjustments | limited by typical resources | needs currently unavailable technology | only works in fantasy | 4 |
| ease of use | in mind | simple medium for some information | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | 4 |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: 3 | 3 |
| | | | | | Applicability multiplier | x0.5 / x1.0 |
| | | | | | | |
| | | | | | Total: | 20 |

Comments: Even a simple MA provides some new solutions that are very well feasible. As for the chassis part, it depends heavily on the input of the subproblems.

| Method: <i>O.P.I</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|--------------------------|--|------------------------------------|--|--|---|--------------------|
| Case: <i>Lunar Zebra</i> | | | | | | |
| number of concepts | 10+ | 7-9 | 5-6 | 3-4 | <i>0-2</i> | <i>1</i> |
| time to execute | 60mins+ | 30-59mins | <i>10-30mins</i> | 5-10mins | less than 5mins | <i>3</i> |
| insight gained | <i>substantial and directly applicable insight</i> | substantial insight | moderate insight | minimal insight | none | <i>5</i> |
| feasibility | ready for next phase | minor adjustments | <i>limited by typical resources</i> | needs currently unavailable technology | only works in fantasy | <i>3</i> |
| ease of use | in mind | simple medium for some information | <i>simple medium for lots of information</i> | multiple media or people | multiple media or people and meticulous bookkeeping | <i>3</i> |
| Innovation | | | number of fundamentally new concepts: <i>0</i> | | number of relevant new combinations: <i>0</i> | <i>0</i> |
| | | | | | Applicability multiplier | <i>x0.5 / x1.0</i> |
| | | | | | | |
| | | | | | Total: | <i>15</i> |

Comments: *With the zebra it hasn't generated any concepts. This could be because of the already existing solution and overall complexity of the problem. It creates a lot insight as it forces you to think about a lot of possible scenarios.*

| Method: <i>TRIZ Laws</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|--------------------------|---|------------------------------------|---|--|---|------------------|
| Case: <i>Garbage Bin</i> | | | | | | |
| number of concepts | 10+ | 7-9 | 5-6 | 3-4 | 0-2 | 5 |
| time to execute | 60mins+ | 30-59mins | 10-30mins | 5-10mins | less than 5mins | 5 |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | minimal insight | none | 2 |
| feasibility | ready for next phase | minor adjustments | limited by typical resources | needs currently unavailable technology | only works in fantasy | 5 |
| ease of use | in mind | simple medium for some information | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | 4 |
| Innovation | | | number of fundamentally new concepts: 0 | | number of relevant new combinations: 1 | 1 |
| | | | | | Applicability multiplier | x0.5 / x1.0 |
| | | | | | | |
| | | | | | Total: | 11 |

Comments:

Adapted into actual synthesis method. Only works with existing solutions as input. Applicability limited for chassis because of law 4, requiring a control element

| Method: <i>40 hours in depth</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|----------------------------------|---|---|---------------------------------------|--|---|--------------------|
| Case: <i>George Br</i> | | | | | | |
| number of concepts | 10+ | 7-9 | 5-6 | 3-4 | <i>0-2</i> | <i>1</i> |
| time to execute | 60mins+ | 30-59mins | <i>10-30mins</i> | 5-10mins | less than 5mins | <i>3</i> |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | <i>minimal insight</i> | none | <i>2</i> |
| feasibility | ready for next phase | minor adjustments | <i>limited by typical resources</i> | needs currently unavailable technology | only works in fantasy | <i>3</i> |
| ease of use | in mind | <i>simple medium for some information</i> | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | <i>4</i> |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: <i>0</i> | <i>0</i> |
| | | | | | Applicability multiplier | <i>x0.5 / x1.0</i> |
| | | | | | | |
| | | | | | Total: | <i>65</i> |

Comments: *Doesn't work at all for concept generation*

| Method: <i>MM</i> | 5 points | 4 points | 3 points | 2 points | 1 point | Awarded Point(s) |
|--------------------------|---|---|---------------------------------------|--|---|---------------------------|
| Case: <i>Lunar Zebra</i> | | | | | | |
| number of concepts | <i>10+</i> | 7-9 | 5-6 | 3-4 | 0-2 | <i>5</i> |
| time to execute | 60mins+ | 30-59mins | <i>10-30mins</i> | 5-10mins | less than 5mins | <i>3</i> |
| insight gained | substantial and directly applicable insight | substantial insight | moderate insight | <i>minimal insight</i> | none | <i>2</i> |
| feasibility | ready for next phase | minor adjustments | <i>limited by typical resources</i> | needs currently unavailable technology | only works in fantasy | <i>3</i> |
| ease of use | in mind | <i>simple medium for some information</i> | simple medium for lots of information | multiple media or people | multiple media or people and meticulous bookkeeping | <i>4</i> |
| Innovation | | | number of fundamentally new concepts: | | number of relevant new combinations: | <i>0</i> |
| | | | | | Applicability multiplier | x0.5 / <i>x1.0</i> |
| | | | | | Total: | <i>17</i> |

Comments: Perhaps because the Zebra's chassis demands more complex solutions, it was easier to apply this method. Still, the generated concepts tend to be generic and needs quite some to become feasible.