

Preliminary Concept Selection and Schedule

Team GM2

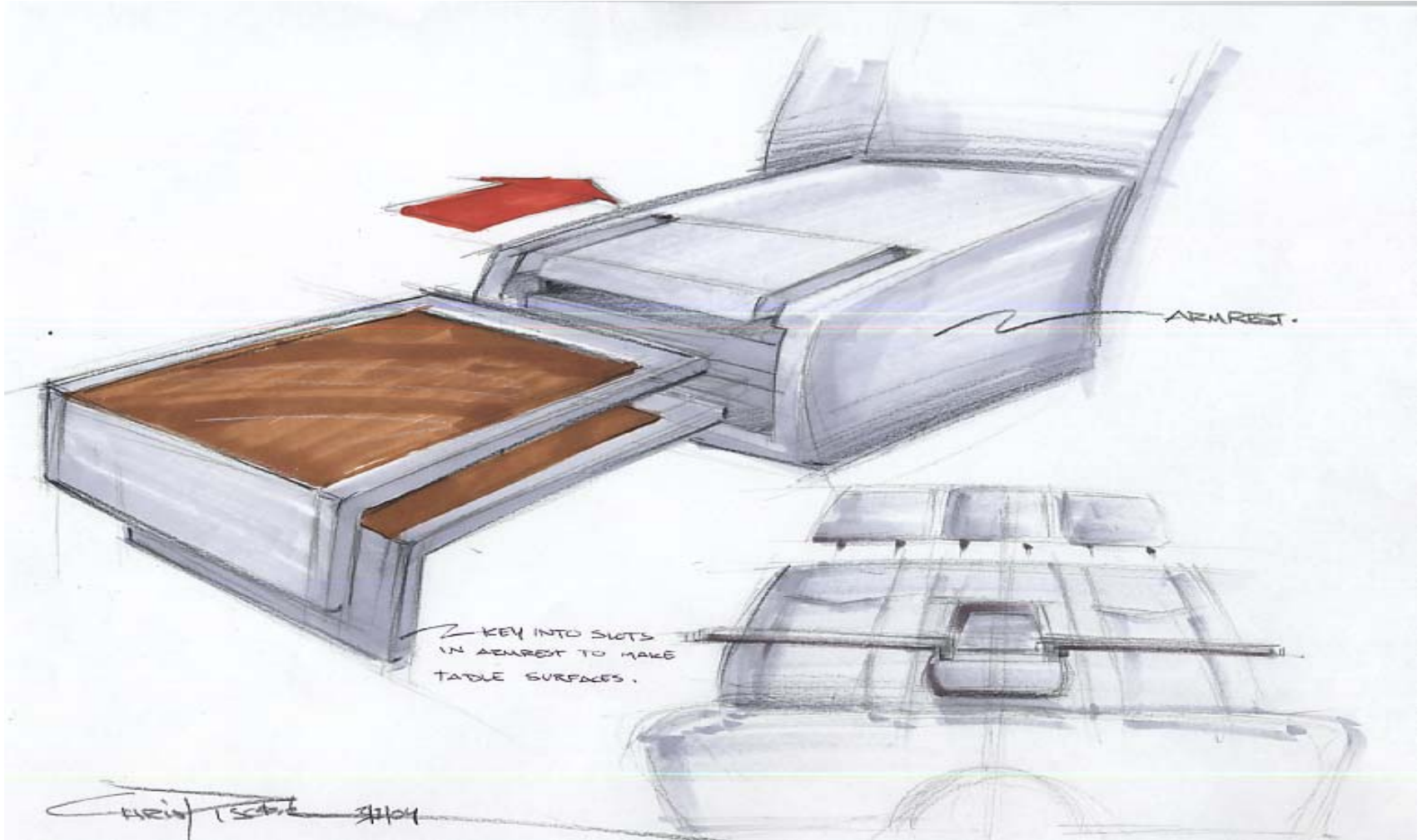
Lane Ballard Amber Mazooji

Tom Burns Minja Penttila

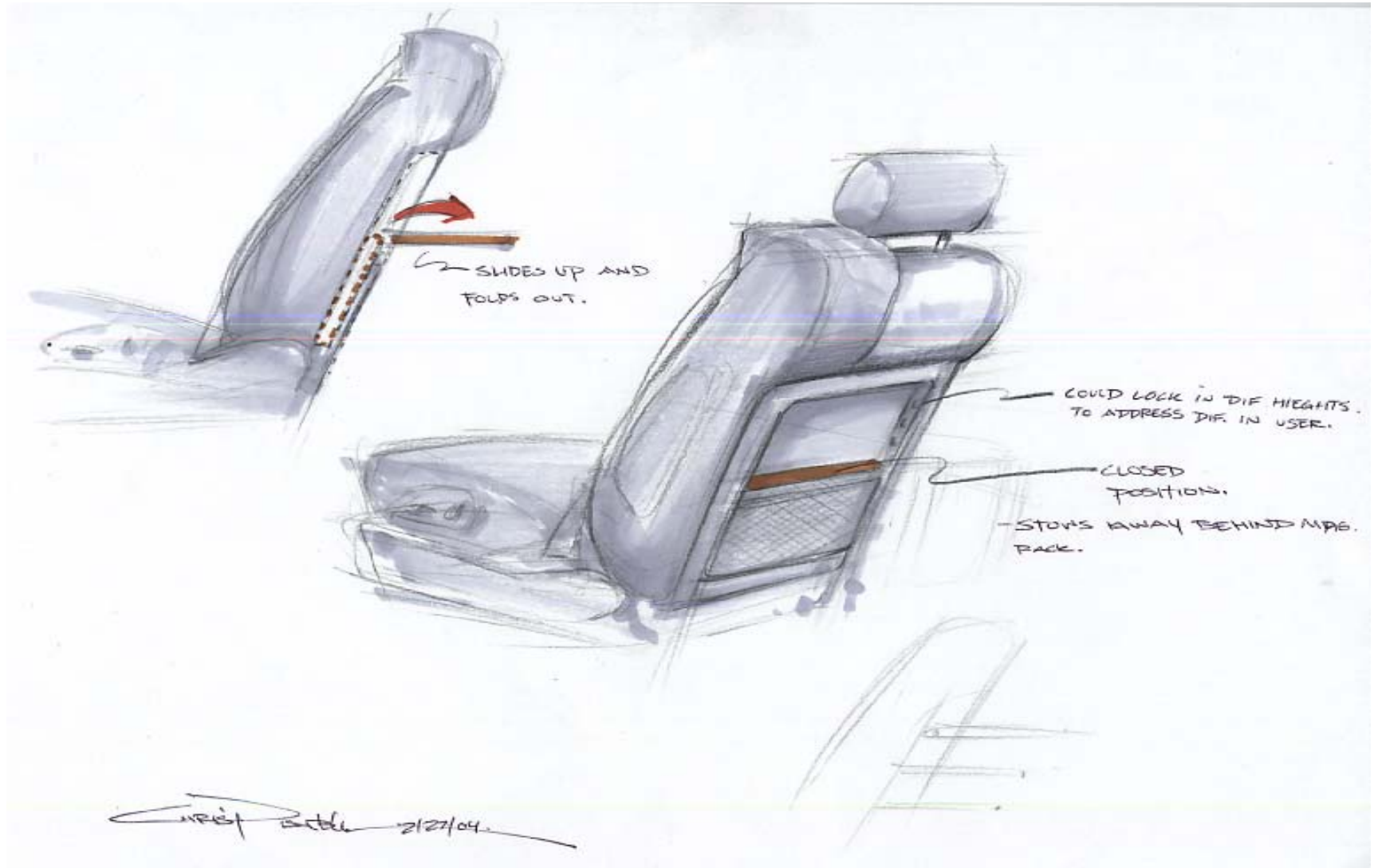
John Celmins Chris Piscitelli

Paul Glomski Tomer Posner

Most Preferred Concept - Center Console Back



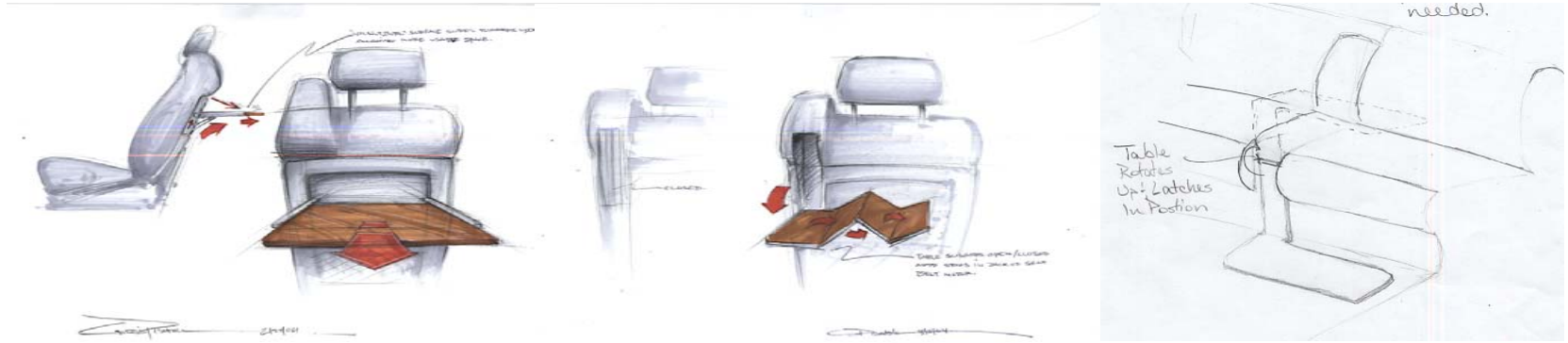
2nd Most Preferred Concept - Seat Back



3rd Most Preferred Concept – Center Console Front



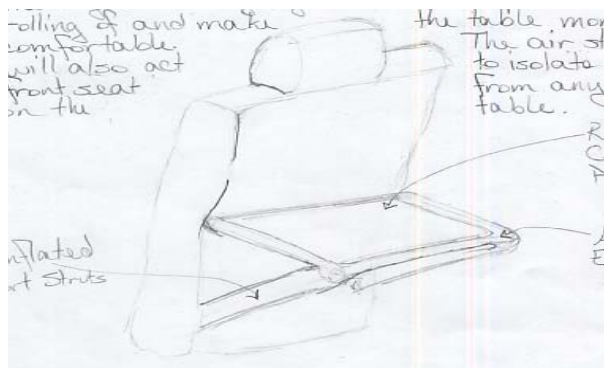
Other Concepts Considered



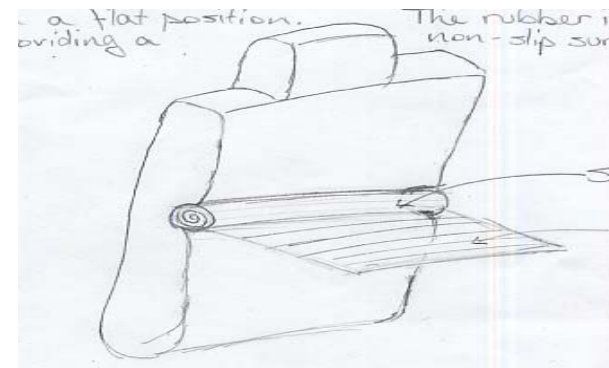
Airplane (Reference Concept)

Scissor Table

Foot Rest



Inflatable Table



Roll-out Table

Concept Selection Matrix at a Glance

Primary Needs

Secondary Needs/ Criteria

Market Weights Business & Family

Sketches

Short Descriptions

Scores (1-5) Reference = 3

Weighted Scores

Primary Need		CATEGORIES		CONCEPTS																															
		Family	Business	A (ref) Airplane				B Seat back				C Center console front				D Center console back				E Foot rest				F Inflatable Table				G Roll out Table				H Scissor Table			
				Rating	Notes	Wtd 1	Wtd2	Rating	Notes	Wtd 1	Wtd	Rating	Notes	Wtd 1	Wtd	Rating	Notes	Wtd 1	Wtd	Rating	Notes	Wtd 1	Wtd	Rating	Notes	Wtd 1	Wtd	Rating	Notes	Wtd 1	Wtd				
1. Unintrusive.	Unnoticeable to front seat passenger Doesn't restrict passenger comfort/moving Is compatible with car seats Is removable Allows access to the vehicle floor	5 4 5 1 3	4 5 2 1 3	3 3 3 3 3	15.00 12.00 15.00 3.00 9.00	12.00 15.00 6.00 3.00 9.00	3.0 3.3 3.0 2.8 3.0	15.00 13.33 15.00 2.83 9.00	12.00 16.67 6.00 2.83 9.00	4.0 3.7 3.4 3.5 3.2	20.00 14.67 17.00 3.50 9.50	16.00 18.33 6.80 3.50 9.50	5.0 3.3 3.4 4.3 3.5	25.00 13.33 17.00 4.33 10.50	20.00 16.67 6.80 4.33 10.50	4.5 1.8 2.6 2.0 1.7	22.50 7.33 13.00 2.00 5.00	18.00 9.17 5.20 2.00 5.00	3.3 3.0 2.8 2.5 3.0	16.67 12.00 14.00 2.50 9.00	13.33 15.00 5.60 2.50 9.00	2.8 3.2 2.8 2.3 3.0	14.17 12.67 14.00 2.33 9.00	11.33 15.83 5.60 2.33 6.00	3.3 3.5 3.2 3.0 3.3	16.67 14.00 16.00 3.00 10.00	13.33 17.50 6.40 3.00 10.00								
2. Aesthetically pleasing.	Will maintain or enhance the look of the interior	5	5	3	15.00	15.00	3.2	15.83	15.83	2.5	12.50	12.50	3.8	19.17	19.17	2.0	10.00	10.00	1.2	5.83	5.83	2.8	14.17	14.17	3.7	18.33	18.33								
3. Provides functionality.	Provides power source Provides storage for small electronics Useful for working on a laptop Useful for talking on the phone Useful for listening to music Useful for playing cards Useful for coloring Useful for reading a book/magazine Supports book in comfortable reading position Has smooth surface for writing / drawing Offers illumination of work area during use Can accommodate a beverage container Is personalizable with pictures or images	3 4 1 1 2 5 4 1	4 2 5 1 1 3 0 4 2	3 3 3 3 3 3 3 3 3 3 3 3 3	9.00 12.00 12.00 3.00 3.00 6.00 15.00 12.00 3.00	12.00 6.00 15.00 3.00 3.00 3.17 0.00 12.00 6.00	3.2 3.0 3.0 3.3 3.0 3.2 3.2 3.2 3.2	9.50 12.67 12.00 3.33 3.00 6.33 15.83 12.67 3.17	12.67 6.00 6.00 16.67 3.00 3.17 0.00 12.00 6.33	3.0 2.7 3.3 3.0 3.0 3.2 3.0 3.0 3.3	9.00 12.00 10.67 3.00 3.00 6.33 15.83 12.67 3.33	12.00 6.00 5.33 17.50 3.00 3.17 0.00 12.00 6.67	2.7 2.5 2.8 2.8 2.7 2.8 2.8 2.7 2.8	8.00 10.00 5.00 3.33 3.00 3.00 14.17 10.67 2.83	10.67 5.00 4.67 14.17 3.00 3.00 0.00 10.67 5.67	2.3 2.8 3.0 3.0 3.0 3.0 2.8 2.7 2.7	7.00 9.33 9.33 2.5 15.00 3.00 15.00 5.33 2.67	9.33 4.67 14.17 3.00 3.00 3.00 11.67 10.67 5.33	2.5 2.0 2.0 2.3 2.7 2.7 2.7 2.7 2.7	22.50 10.00 10.00 5.00 12.50 3.00 11.67 10.67 2.67	10.00 5.00 4.67 14.17 3.00 3.00 0.00 10.67 5.33	1.2 2.0 2.0 2.3 2.7 2.7 2.7 2.7 2.7	5.83 9.33 5.00 2.5 2.67 5.33 5.33 5.33 5.33	5.83 10.00 4.67 14.17 3.00 3.00 3.00 11.67 10.67	2.8 2.8 2.0 2.3 2.7 2.7 2.7 2.7 2.7	14.17 14.17 8.33 8.33 2.67 5.33 5.33 5.33 5.33	3.7 3.3 2.0 2.3 2.8 2.8 2.8 2.8 2.8	18.33 11.33 8.33 8.33 2.83 5.33 5.33 5.33 5.67	11.00 11.33 3.00 3.00 10.00 10.00 10.00 10.00 10.00	2.8 3.3 2.0 2.3 2.8 2.8 2.8 2.8 2.8	14.17 11.33 8.33 8.33 2.83 5.33 5.33 5.33 5.67	8.50 11.33 3.00 3.00 10.00 10.00 10.00 10.00 10.00			
4. Easy to use.	Operable with one hand Easy to deploy	5 5	3 5	3 3	15.00 15.00	9.00 15.00	2.8 3.0	14.17 15.00	8.50 15.00	2.3 2.5	11.67 12.50	7.00 12.50	2.3 2.3	11.67 15.00	7.00 12.50	2.7 2.3	13.33 11.67	8.00 11.67	2.7 2.2	13.33 10.83	8.00 8.83	3.7 3.8	18.33 19.17	11.00 19.17	2.8 2.8	14.17 14.17	8.50 14.17								
5. Safe to operate	Does not snag, pinch, or harm the user	5	5	3	15.00	15.00	3.2	15.83	15.83	2.7	13.33	13.33	3.0	15.00	15.00	2.3	11.67	11.67	3.7	18.33	18.33	2.2	10.83	10.83	2.3	11.67	11.67								
6. Easy to maintain.	Is sturdy Is durable Cleans easily	5 5 5	5 5 3	3 3 3	15.00 15.00 15.00	15.00 15.00 9.00	3.0 3.0 3.0	15.00 15.00 15.00	15.00 15.00 9.00	2.2 2.2 2.8	10.83 13.33 14.17	10.83 13.33 8.50	2.8 3.2 3.2	14.17 15.83 15.83	14.17 13.33 9.50	2.7 3.0 2.0	13.33 10.00 10.00	13.33 15.00 6.00	2.0 1.8 2.2	10.00 9.17 10.83	10.00 9.17 6.50	2.5 2.5 1.8	12.50 9.17 10.83	12.50 9.17 6.50	2.3 2.3 2.3	11.67 11.67 11.67	11.67 11.67 7.00								
7. Protects items	Retains items on it during travel Is stable under rough road conditions and turns	4 4	4 4	3 3	12.00 12.00	12.00 12.00	3.0 3.2	12.00 12.67	12.00 12.67	3.0 2.3	12.00 9.33	12.00 9.33	2.8 2.8	11.33 11.33	11.33 11.33	3.0 2.8	12.00 11.33	12.00 11.33	2.8 2.3	12.00 11.33	12.00 9.33	2.8 2.3	11.33 9.33	11.33 9.33	3.0 2.7	12.00 10.67	12.00 10.67								
8. Fits body sizes	Fit Cost	5 5	3 5	3 3	15.00 15.00	9.00 15.00	3.2 3.2	15.83 15.83	9.50 15.00	2.3 3.2	11.67 20.83	7.00 20.83	2.3 4.2	11.67 13.33	7.00 13.33	2.3 3.5	11.67 17.50	7.00 15.00	2.8 3.0	14.17 15.00	8.50 15.00	3.0 3.0	15.00 15.00	9.00 3.0	15.00 16.67	3.5 3.3	17.50 16.67	10.50 16.67							
Features		Total Score		330.0 282.0				334.8 288.7				320.5 274.3				341.2 294.5				290.2 245.5				291.2 248.1				294.8 256.3				316.3 274.7			
		Below Baseline		9				12				12				1				4				3				10							
		Same as Baseline		29				18				6				7				6				7				6							
		Above Baseline		0				2				11				21				19				13				13							
		Continue?		No				Yes				Yes				Yes				No				No				No							

- Total Weighted Scores
- Number Equal to Baseline
- Number Below Baseline
- Overall Rank
- Number Above Baseline
- In Top Three – Yes/No

Customer Features Prioritization

In order to better understand which features to include in our final concept, we are conducting customer surveys to identify which are most preferred.

Feature Survey Preliminary Results*

Features Selection			
Feature	Importance Ranking (Rank from 1st to 9th)	Feature Value (Rate each from 1 least to 10 most valuable)	Comments
Light integral	2.0	8.5	
Slide out feature (airplane tray)	2.4	6.8	
Power outlet	4.4	4.5	
Storage space behind tables	5.2	6.3	
Cup Holder	5.4	4.5	
Expanding tables to center	5.6	5.7	
Electronics storage (cell/MP3)	6.0	5.7	
Storage space in tables	6.6	5.0	
Reading (tilt to help reading)	7.4	4.3	

Note: The vehicle already has two rear seat cup holders, and has a 12V outlet in the back of the center console
 Note: This data is preliminary due to insufficient sample size.

*Results based on a limited number of completed surveys; finalized data will include a larger sample size

Key Uncertainties / Questions

Questions	Data Sources for Follow-up
How do we anchor the tray table into the frame of the vehicle?	1,5
Who exactly is our target audience?	2
Are the concepts realistic for car seat structure (i.e. is there room in the consoles and front seat)?	1,3,4
Do the concepts offer enough flexibility for table movement, i.e. to fit different body sizes?	1,3,4
Is the center consol-back idea dimensionally feasible, and if so is there a significant cost savings for a dealer to install a custom center consol vs. installing a seat-mounted tray?	1,5,6
Is the center consol-front concept dimensionally feasible, and if so will this concept provide a table to the front-seat passenger?	1,3
What weight will this table need to support during use with people leaning on it?	1,4,5
What are typical accelerations in the direction of travel, turning, and vertical?	1,5
What is a "comfortable" height or range of heights for the table?	3,4
Would the table be installed onto a seat before it is delivered to GM?	1,5
Would the table be installed onto a seat before it is delivered to the dealership?	5,6
How much will this cost GM or dealer and what are required margins?	1,2,4,6
What will the volumes be?	2,5,6

Data Sources	
1	CAD data and engineering drawings
2	GM marketing data
3	Human factors reference
4	Prototype models (testing with target customers)
5	Benchmarking from GM products
6	Dealer research

Draft Schedule

GM Lap Tray - Team #2

Page 1 of 1

3/9/04

Duration	Start Date	End Date	TASK	Mar				Apr				May			
				6	13	20	27	3	10	17	24	1	8	15	22
36d	3/4/04	4/8/0	Detail Design												
1d	3/29/04	3/29/	Select Concept												
1d	4/8/04	4/8/0	Assembly Drawings Complete												
34d	3/13/04	4/15/	Materials and Component Selection												
1d	3/30/04	3/30/	Bill of Materials Complete												
1d	4/3/04	4/3/0	Vendor Selection												
10d	4/6/04	4/15/	Procurement of Materials and												
38d	3/23/04	4/29/	Prototype & Testing												
1d	3/29/04	3/29/	Proof of Concept Prototype Complete												
26d	4/4/04	4/29/	Alpha prototype build												
12d	4/16/04	4/27/	Construct Financial Model												
1d	5/8/04	5/8/0	Final Presentation & Demonstration												

5/8

Process Comments

Process Reflection

- We observed that many tray-table features (examples: cup-holders, surface material, talbe lighting, etc.) can be addressed independent of the general design concept. Therefore, our concept selection matrix only displays “high level” designs. Further customer research will determine which features are included.
- The concept selection matrix addresses how well the design answers each of the customer needs. However, in our case, the choice of design is highly constrained by the car interior. Although some dimensions are known, we will have to potentially reevaluate concept design when detailed dimensional data is available.

Group Meeting – 3/2/2004

- We discussed the next deliverables and distributed responsibilities among team members.
- We decided to follow the book’s method regarding the concept selection matrix, even though we had some reservations regarding it. (see process reflection above)
- Each design was presented by its creator, and reviewed in higher detail by the team. Similar designs were consolidated, resulting in the categories at the top of the concept selection matrix.
- It was decided that the concept selection matrix will separately score each design by how it answers the needs of different populations – the first being families with children, the second being business users.

Group Meeting – 3/4/2004

- The concept selection matrix was presented, and the weight of each need was discussed. As mentioned above, a different weight was assigned to the need importance for “Family” and “Business” users.
- A preliminary Gantt-chart was presented to the team and reviewed.
- Team members brought forth other lingering concerns that they thought the team should address. In addition, every team member was requested to think of the ensuing days.

GM Conference Call and Email Correspondence – 3/4/2004

- Discussed GM Visit and Project Status Review
 - Both GM teams will present to Gary Cowger on **Monday March 29th from 1:00 - 1:30**. Each team will have 15 minutes to do their presentation.
 - **Required Follow-up** – Teams to forward the names of the presenters from each group once they are available
- Received faculty approval to sign GM confidentiality agreement
- Reviewed our market research findings that a higher weighting should be placed on the family purchaser with young children
- GM is working to provide seats, additional market data, and dimensional data. In the interim, we are taking measurements at Cadillac dealerships and conducting market research

Appendix

- Concept Selection Matrix Data

		CATEGORIES		A (ref) Airplane				B Seat back				C Center console front			
		Family	Business	Rating	Notes	Wtd 1	Wtd2	Rating	Notes	Wtd 1	Wtd	Rating	Notes	Wtd 1	Wtd
Primary Need	Selection Criteria	Weight	Weight												
1. Unintrusive.	Unnoticeable to front seat passenger	5	4	3		15.00	12.00	3.0		15.00	12.00	4.0		20.00	16.00
	Doesn't restrict passenger comfort/moving	4	5	3		12.00	15.00	3.3		13.33	16.67	3.7		14.67	18.33
	Is compatible with car seats	5	2	3		15.00	6.00	3.0		15.00	6.00	3.4		17.00	6.80
	Is removable	1	1	3		3.00	3.00	2.8		2.83	2.83	3.5		3.50	3.50
	Allows access to the vehicle floor	3	3	3		9.00	9.00	3.0		9.00	9.00	3.2		9.50	9.50
2. Aesthetically pleasing.	Will maintain or enhance the look of the interior	5	5	3		15.00	15.00	3.2		15.83	15.83	2.5		12.50	12.50
3. Provides functionality.	Provides power source	3	4	3		9.00	12.00	3.2		9.50	12.67	3.0		9.00	12.00
	Provides storage for small electronics	4	2	3		12.00	6.00	3.0		12.00	6.00	2.7		10.67	5.33
	Useful for working on a laptop	1	5	3		3.00	15.00	3.3		3.33	16.67	3.5		3.50	17.50
	Useful for talking on the phone	1	1	3		3.00	3.00	3.0		3.00	3.00	3.0		3.00	3.00
	Useful for Listening to music	1	1	3		3.00	3.00	3.0		3.00	3.00	3.0		3.00	3.00
	Useful for playing cards	2	1	3		6.00	3.00	3.2		6.33	3.17	3.2		6.33	3.17
	Useful for coloring	5	0	3		15.00	0.00	3.0		15.00	0.00	3.2		15.83	0.00
	Useful for reading a book/magazine	4	4	3		12.00	12.00	3.0		12.00	12.00	3.2		12.67	12.67
	Supports book in comfortable reading position	1	2	3		3.00	6.00	3.2		3.17	6.33	3.3		3.33	6.67
	Has smooth surface for writing / drawing	5	5	3		15.00	15.00	3.0		15.00	15.00	3.0		15.00	15.00
	Offers illumination of work area during use	4	4	3		12.00	12.00	3.0		12.00	12.00	2.7		10.67	10.67
	Can accommodate a beverage container	5	2	3		15.00	6.00	3.0		15.00	6.00	3.0		15.00	6.00
Is personalizable with pictures or images	3	1	3		9.00	3.00	3.0		9.00	3.00	3.0		9.00	3.00	
4. Easy to use.	Operable with one hand	5	3	3		15.00	9.00	2.8		14.17	8.50	2.3		11.67	7.00
	Easy to deploy	5	5	3		15.00	15.00	3.0		15.00	15.00	2.0		10.00	10.00
5. Safe to operate	Does not snag, pinch, or harm the user	5	5	3		15.00	15.00	3.2		15.83	15.83	2.7		13.33	13.33
6. Easy to maintain.	Is sturdy	5	5	3		15.00	15.00	3.0		15.00	15.00	2.2		10.83	10.83
	Is durable	5	5	3		15.00	15.00	3.0		15.00	15.00	2.7		13.33	13.33
	Cleans easily	5	3	3		15.00	9.00	3.0		15.00	9.00	2.8		14.17	8.50
7. Protects items	Retains items on it during travel	4	4	3		12.00	12.00	3.0		12.00	12.00	3.0		12.00	12.00
	Is stable under rough road conditions and turns	4	4	3		12.00	12.00	3.2		12.67	12.67	2.3		9.33	9.33
8. Fits body sizes	Fit	5	3	3		15.00	9.00	3.2		15.83	9.50	3.2		15.83	9.50
9. Cost	Cost	5	5	3		15.00	15.00	3.0		15.00	15.00	3.2		15.83	15.83
Features	Total Score					330.0	282.0			334.8	288.7			320.5	274.3
		Below Baseline		0				9				12			
		Same as Baseline		29				18				7			
		Above Baseline		0				2				10			
						3.00	3.00			2.00	2.00			4.00	4.00
		Continue?				No				Yes				Yes	

		CATEGORIES		D				E				F			
		Family	Business	Center console back				Foot rest				Inflateable Table			
Primary Need	Selection Criteria	Weight	Weight	Rating	Notes	Wtd 1	Wtd	Rating	Notes	Wtd 1	Wtd	Rating	Notes	Wtd 1	Wtd
1. Unintrusive.	Unnoticeable to front seat passenger	5	4	5.0		25.00	20.00	4.5		22.50	18.00	3.3		16.67	13.33
	Doesn't restrict passenger comfort/moving	4	5	3.3		13.33	16.67	1.8		7.33	9.17	3.0		12.00	15.00
	Is compatible with car seats	5	2	3.4		17.00	6.80	2.6		13.00	5.20	2.8		14.00	5.60
	Is removable	1	1	4.3		4.33	4.33	2.0		2.00	2.00	2.5		2.50	2.50
	Allows access to the vehicle floor	3	3	3.5		10.50	10.50	1.7		5.00	5.00	3.0		9.00	9.00
2. Aesthetically pleasing.	Will maintain or enhance the look of the interior	5	5	3.8		19.17	19.17	2.0		10.00	10.00	1.2		5.83	5.83
3. Provides functionality.	Provides power source	3	4	2.7		8.00	10.67	2.3		7.00	9.33	2.5		7.50	10.00
	Provides storage for small electronics	4	2	2.5		10.00	5.00	2.3		9.33	4.67	2.5		10.00	5.00
	Useful for working on a laptop	1	5	3.3		3.33	16.67	2.8		2.83	14.17	2.5		2.50	12.50
	Useful for talking on the phone	1	1	3.0		3.00	3.00	3.0		3.00	3.00	3.0		3.00	3.00
	Useful for Listening to music	1	1	3.0		3.00	3.00	3.0		3.00	3.00	3.0		3.00	3.00
	Useful for playing cards	2	1	3.2		6.33	3.17	2.7		5.33	2.67	2.7		5.33	2.67
	Useful for coloring	5	0	3.2		15.83	0.00	2.8		14.17	0.00	2.3		11.67	0.00
	Useful for reading a book/magazine	4	4	3.0		12.00	12.00	2.7		10.67	10.67	2.7		10.67	10.67
	Supports book in comfortable reading position	1	2	2.8		2.83	5.67	2.7		2.67	5.33	2.7		2.67	5.33
	Has smooth surface for writing / drawing	5	5	3.0		15.00	15.00	3.0		15.00	15.00	2.3		11.67	11.67
	Offers illumination of work area during use	4	4	2.5		10.00	10.00	2.5		10.00	10.00	3.0		12.00	12.00
	Can accommodate a beverage container	5	2	2.7		13.33	5.33	3.0		15.00	6.00	2.8		14.17	5.67
Is personalizable with pictures or images	3	1	3.0		9.00	3.00	3.0		9.00	3.00	3.2		9.50	3.17	
4. Easy to use.	Operable with one hand	5	3	2.3		11.67	7.00	2.7		13.33	8.00	2.7		13.33	8.00
	Easy to deploy	5	5	2.5		12.50	12.50	2.3		11.67	11.67	2.2		10.83	10.83
5. Safe to operate	Does not snag, pinch, or harm the user	5	5	3.0		15.00	15.00	2.3		11.67	11.67	3.7		18.33	18.33
6. Easy to maintain.	Is sturdy	5	5	2.8		14.17	14.17	2.7		13.33	13.33	2.0		10.00	10.00
	Is durable	5	5	3.2		15.83	15.83	3.0		15.00	15.00	1.8		9.17	9.17
	Cleans easily	5	3	3.2		15.83	9.50	2.0		10.00	6.00	2.2		10.83	6.50
7. Protects items	Retains items on it during travel	4	4	2.8		11.33	11.33	3.0		12.00	12.00	3.0		12.00	12.00
	Is stable under rough road conditions and turns	4	4	2.8		11.33	11.33	2.8		11.33	11.33	2.8		11.33	11.33
8. Fits body sizes	Fit	5	3	2.3		11.67	7.00	2.3		11.67	7.00	2.8		14.17	8.50
9. Cost	Cost	5	5	4.2		20.83	20.83	2.7		13.33	13.33	3.5		17.50	17.50
Features	Total Score					341.2	294.5			290.2	245.5			291.2	248.1
	Below Baseline			12				1				4			
	Same as Baseline			6				7				6			
	Above Baseline			11				21				19			
						1.00	1.00			8.00	8.00			7.00	7.00
	Continue?					Yes				No				No	

Primary Need	Selection Criteria	CATEGORIES		G				H			
		Family	Business	Roll out Table				Scissor Table			
		Weight	Weight	Rating	Notes	Wtd 1	Wtd	Rating	Notes	Wtd 1	Wtd
1. Unintrusive.	Unnoticeable to front seat passenger	5	4	2.8		14.17	11.33	3.3		16.67	13.33
	Doesn't restrict passenger comfort/moving	4	5	3.2		12.67	15.83	3.5		14.00	17.50
	Is compatible with car seats	5	2	2.8		14.00	5.60	3.2		16.00	6.40
	Is removable	1	1	2.3		2.33	2.33	3.0		3.00	3.00
	Allows access to the vehicle floor	3	3	3.0		9.00	9.00	3.3		10.00	10.00
2. Aesthetically pleasing.	Will maintain or enhance the look of the interior	5	5	2.8		14.17	14.17	3.7		18.33	18.33
3. Provides functionality.	Provides power source	3	4	2.8		8.50	11.33	3.3		10.00	13.33
	Provides storage for small electronics	4	2	2.0		8.00	4.00	2.3		9.33	4.67
	Useful for working on a laptop	1	5	2.7		2.67	13.33	3.2		3.17	15.83
	Useful for talking on the phone	1	1	3.0		3.00	3.00	3.0		3.00	3.00
	Useful for Listening to music	1	1	3.0		3.00	3.00	3.0		3.00	3.00
	Useful for playing cards	2	1	2.8		5.67	2.83	2.8		5.67	2.83
	Useful for coloring	5	0	2.3		11.67	0.00	2.3		11.67	0.00
	Useful for reading a book/magazine	4	4	3.0		12.00	12.00	3.0		12.00	12.00
	Supports book in comfortable reading position	1	2	2.7		2.67	5.33	2.8		2.83	5.67
	Has smooth surface for writing / drawing	5	5	1.7		8.33	8.33	2.0		10.00	10.00
	Offers illumination of work area during use	4	4	3.0		12.00	12.00	3.2		12.67	12.67
	Can accommodate a beverage container	5	2	2.2		10.83	4.33	2.8		14.17	5.67
	Is personalizable with pictures or images	3	1	2.3		7.00	2.33	3.0		9.00	3.00
4. Easy to use.	Operable with one hand	5	3	3.7		18.33	11.00	2.8		14.17	8.50
	Easy to deploy	5	5	3.8		19.17	19.17	2.8		14.17	14.17
5. Safe to operate	Does not snag, pinch, or harm the user	5	5	2.2		10.83	10.83	2.3		11.67	11.67
6. Easy to maintain.	Is sturdy	5	5	2.5		12.50	12.50	2.3		11.67	11.67
	Is durable	5	5	2.5		12.50	12.50	2.3		11.67	11.67
	Cleans easily	5	3	1.8		9.17	5.50	2.3		11.67	7.00
7. Protects items	Retains items on it during travel	4	4	2.8		11.33	11.33	3.0		12.00	12.00
	Is stable under rough road conditions and turns	4	4	2.3		9.33	9.33	2.7		10.67	10.67
8. Fits body sizes	Fit	5	3	3.0		15.00	9.00	3.5		17.50	10.50
9. Cost	Cost	5	5	3.0		15.00	15.00	3.3		16.67	16.67
Features	Total Score					294.8	256.3			316.3	274.7
		Below Baseline		3				10			
		Same as Baseline		7				6			
		Above Baseline		19				13			
						6.00	6.00			5.00	5.00
		Continue?				No				No	

MIT OpenCourseWare

<https://ocw.mit.edu>

15.783J / 2.739J Product Design and Development

Spring 2006

For information about citing these materials or our Terms of Use, visit: <https://ocw.mit.edu/terms>.