

APARTMENT PROJECT PLAN

PERT (*Project Evaluation and Review Technique*)
with *unknown* activity times
MicroSoft Office 2007
Excel, Project, & Visio

Colleen J. Burnham

June 14, 2009

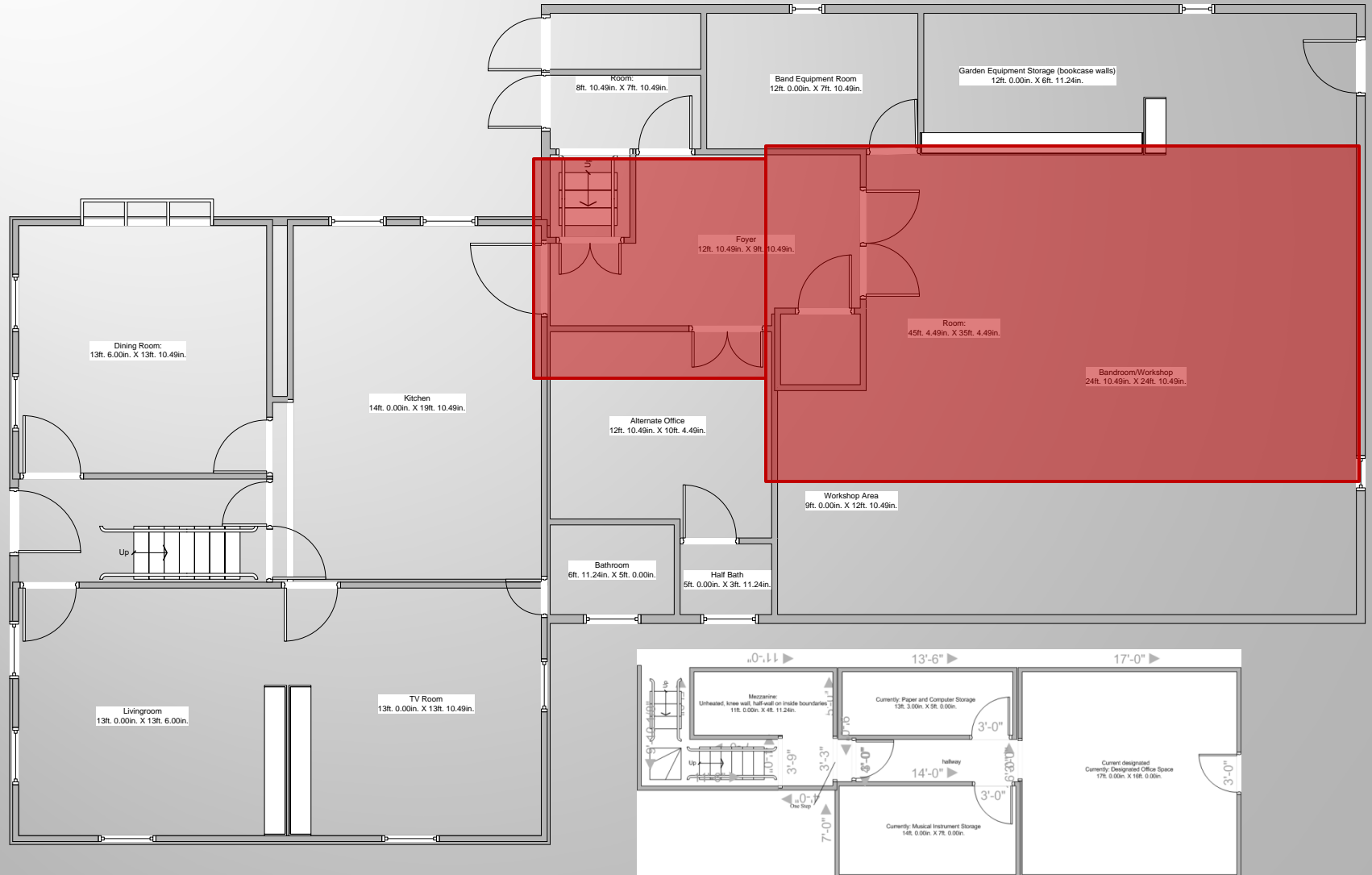
The Plan....

To reconfigure our 500 square foot office suite into an apartment which will be designated as a *custodial rental*.

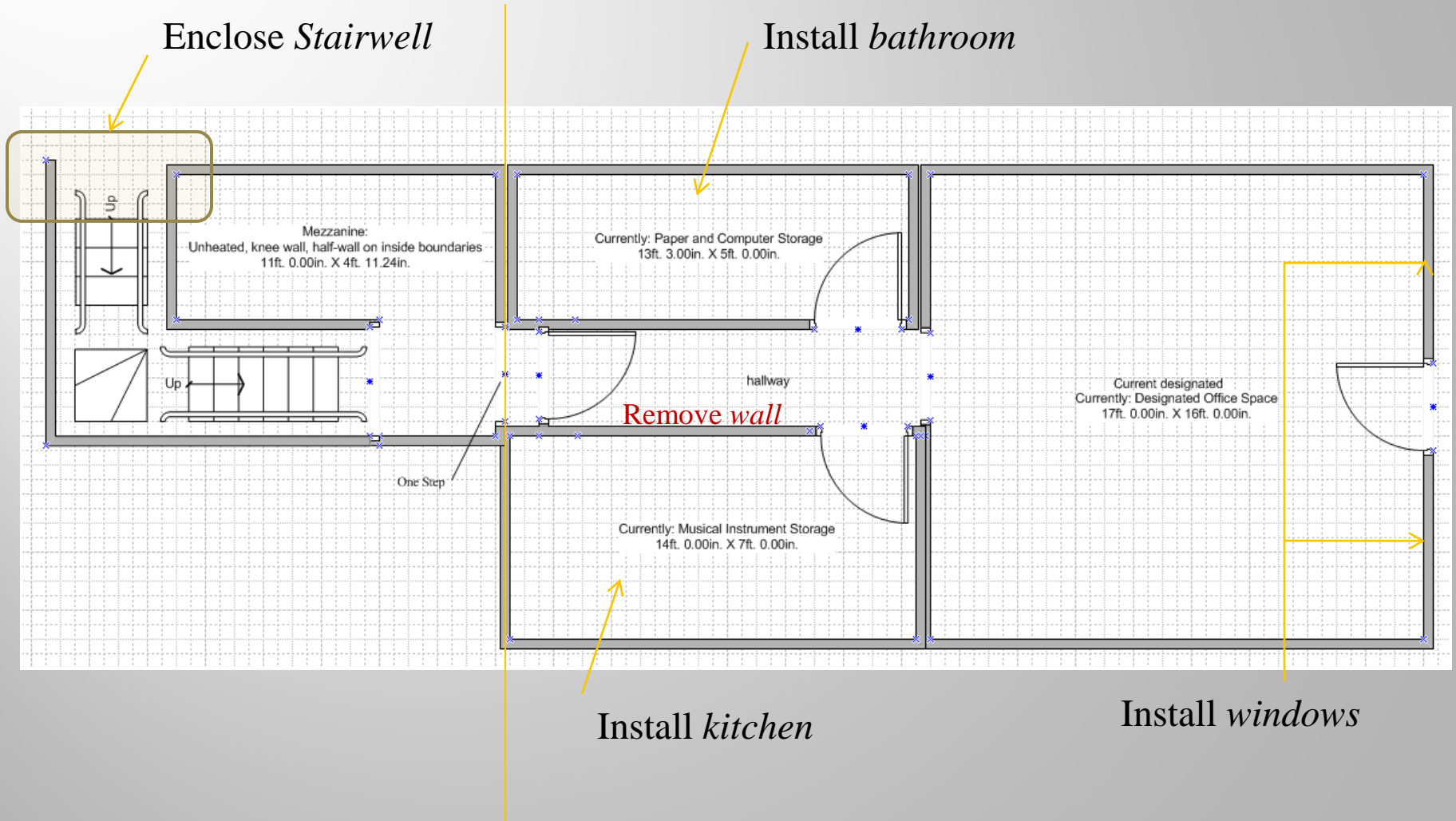
Two floor plans will be considered by cost of reconstruction and by completion time estimates.



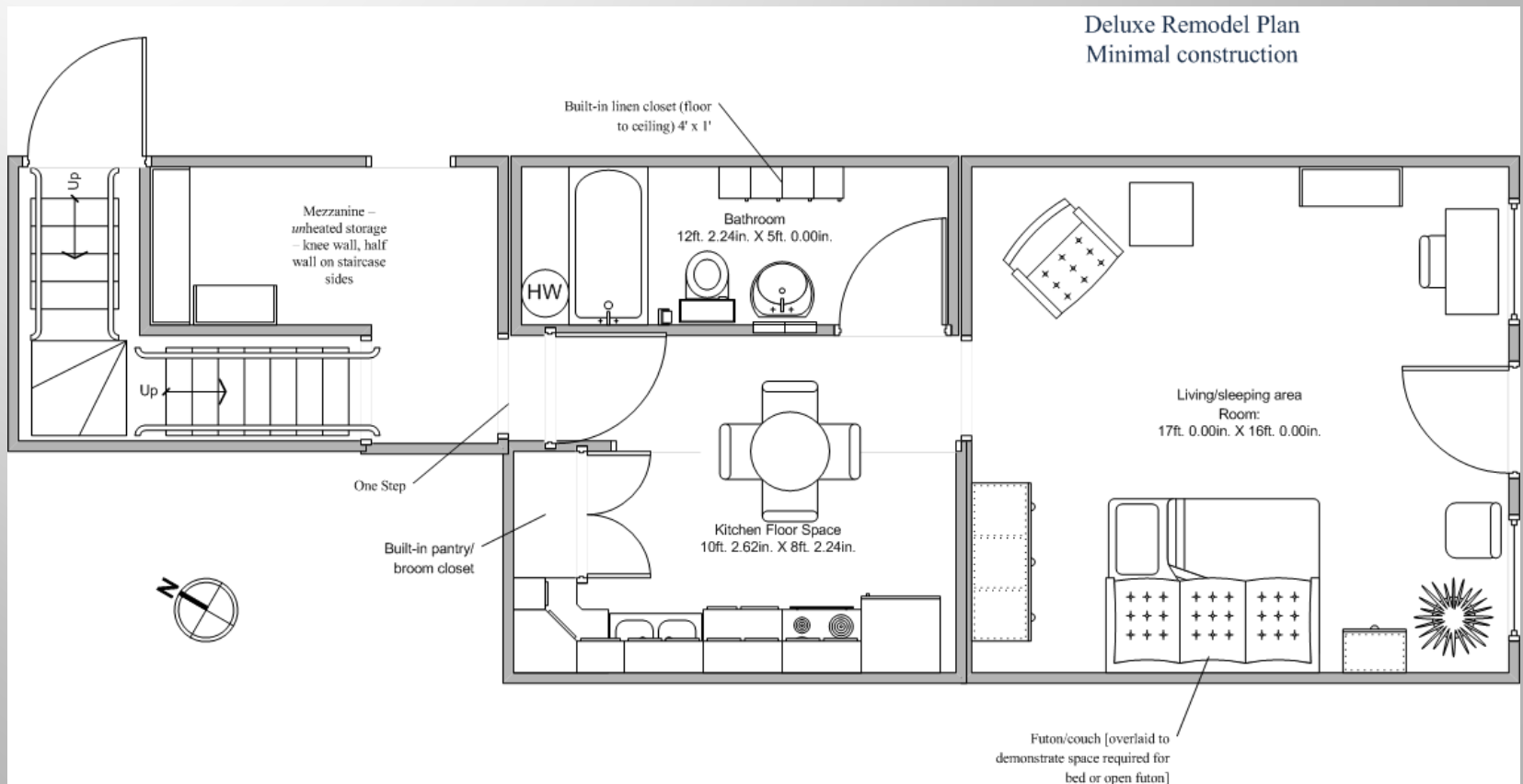
Overall Footprint



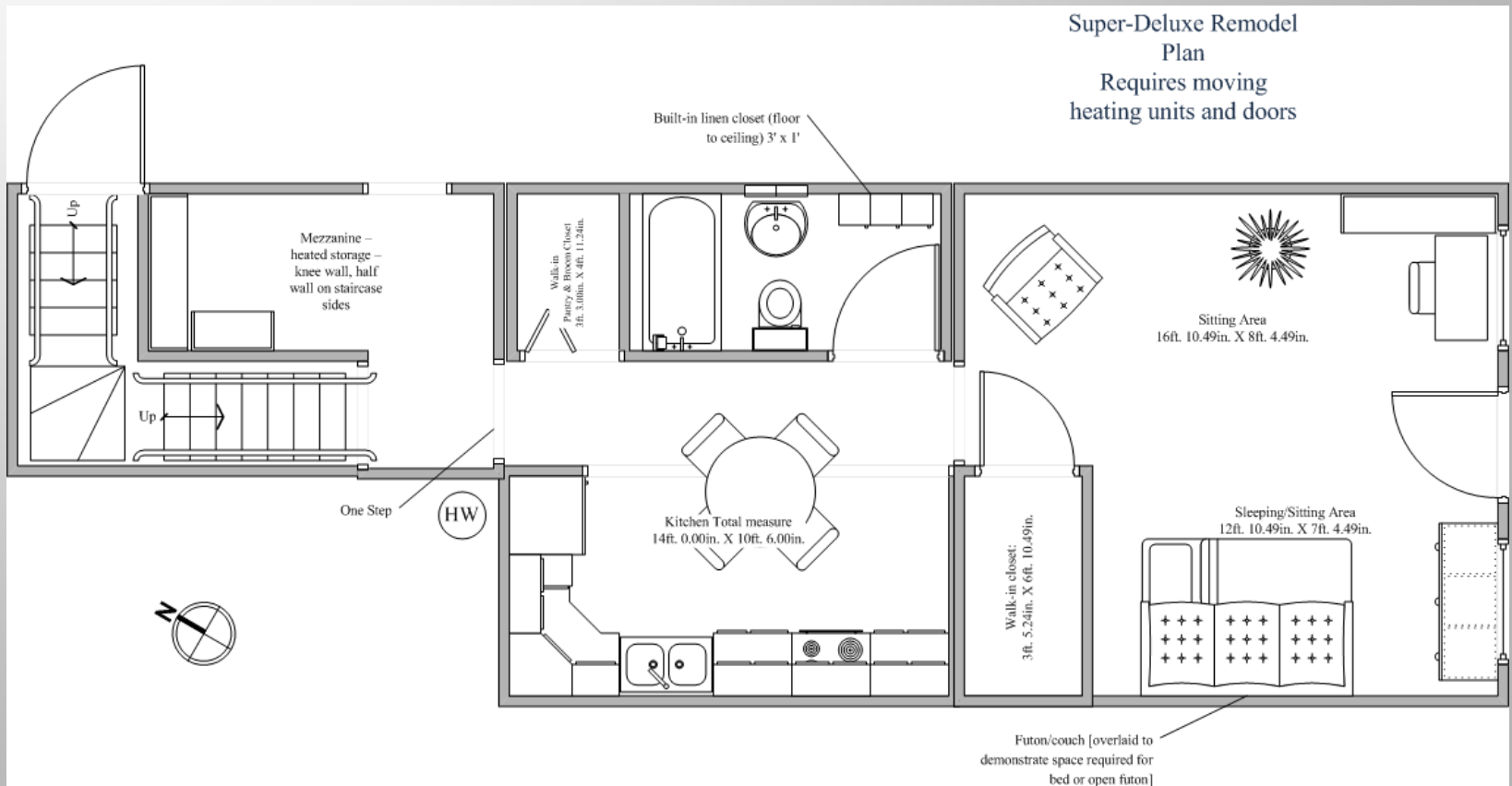
The Big Pieces of the Project



Deluxe Floor Plan I: \$16,182.04



Super-Deluxe Floor Plan II: \$21,486.72



Floor Plan Comparison

*PLAN I: *Deluxe*

- ☐ Less “comprehensive” kitchen
- ☐ Pantry/broom closet in kitchen
- ☐ Unheated storage in “mezzanine”
- ☐ NO closet space
- ☐ Bigger bathroom

PLAN II: *Super-Deluxe*

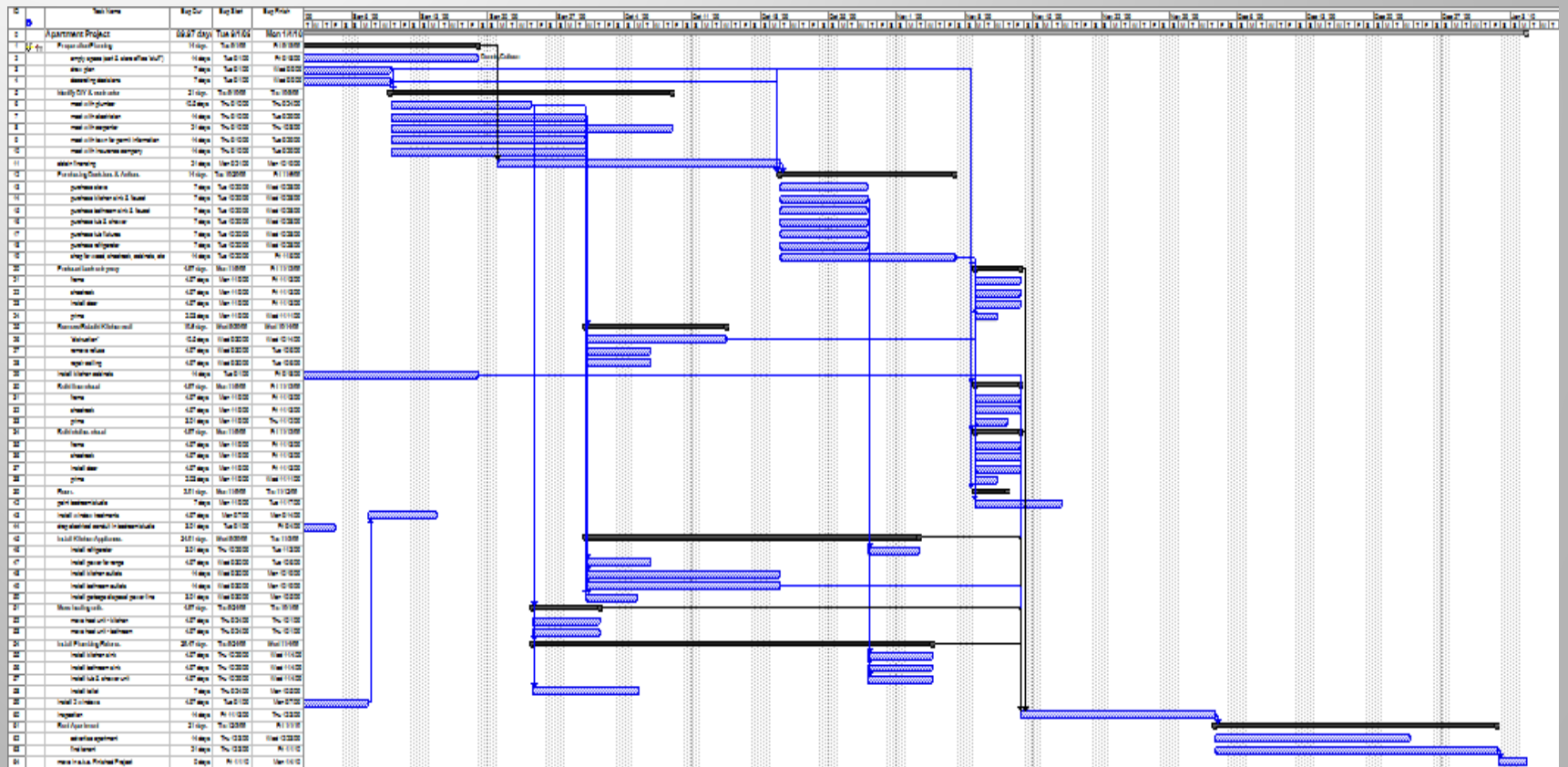
- ☐ More “comprehensive” kitchen
 - ☐ Larger eating area
- ☐ Two walk-in closets
 - ☐ Pantry/storage/broom (kitchen)
 - ☐ Clothes/general storage (living space)
- ☐ Heated storage in “mezzanine”
- ☐ Smaller bathroom
- ☐ Less living space (as a result of the walk-in closet)

Break-Even @ \$350/month	months	46.23
	years	3.85
Break-Even @ \$400/month	months	40.46
	years	3.37
Break-Even @ \$450/month	months	35.96
	years	3.00

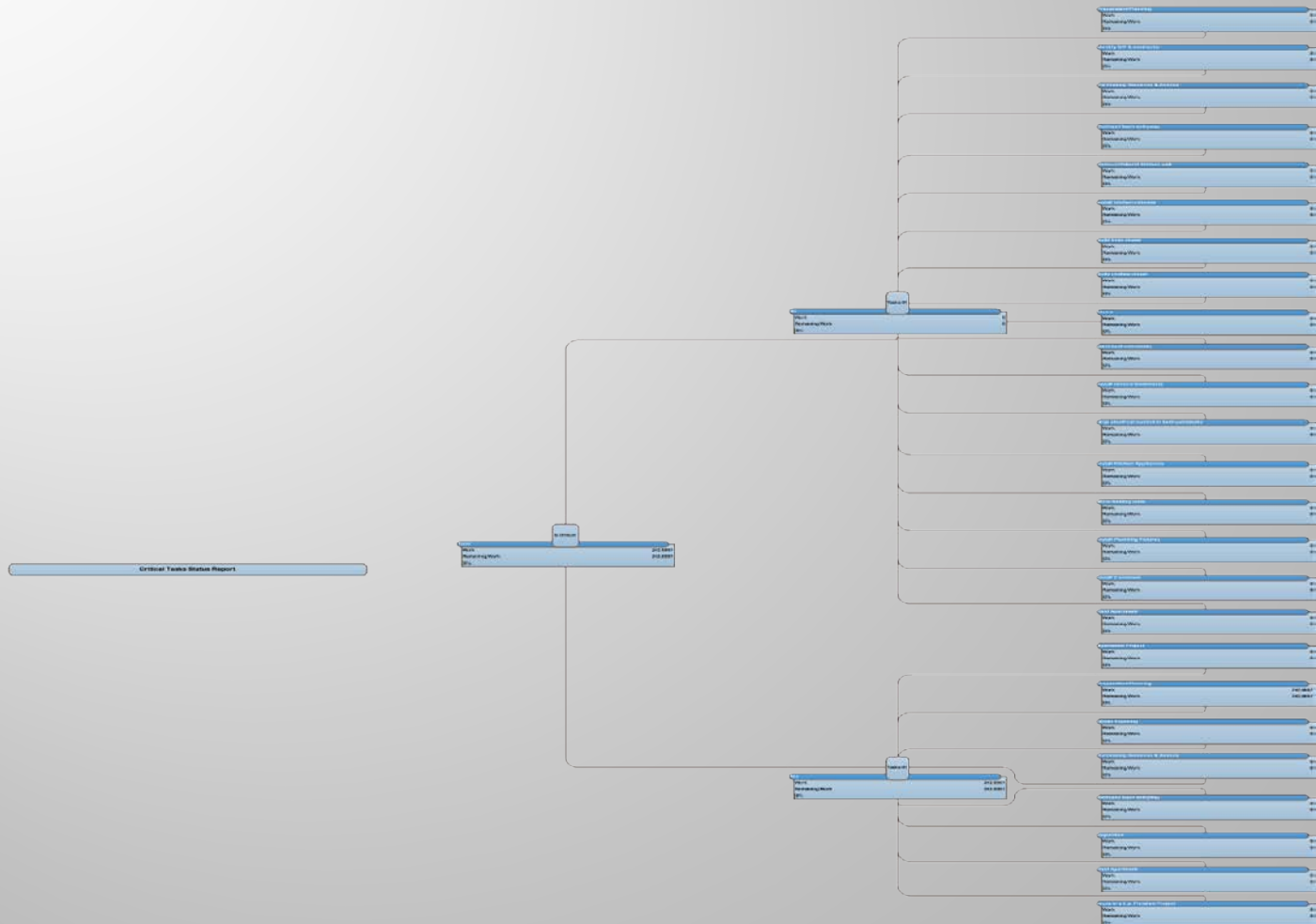
Break-Even @ \$350/month	months	61.39
	years	5.12
Break-Even @ \$400/month	months	53.72
	years	4.48
Break-Even @ \$450/month	months	47.75
	years	3.98

PERT Analysis & Gantt Diagram

Super-Deluxe Floor Plan II



Network Diagram (PERT)



Critical Activities

Critical Tasks as of Sun 6/14/09
Apartment Project

ID	Task Name	Duration																				
0	Apartment Project	92.9 days?																				
1	Preparation/Planning	15.17 days?																				
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56	move in a.k.a. Finished Project	1 day?																				

Zero lag indicates "critical" activity

...a couple of tools in *Project 2007*...

Task Drivers

The following factors are affecting the start date of:

Task: **40 - Install Kitchen Appliances**
 Start: **Wed 9/30/09**

- Subtasks:
 - 42 - install power for range
 - 43 - install kitchen outlets
 - 44 - install bathroom outlets
 - 45 - install garbage disposal power line

	Task Name
38	install window treatments
39	drop electrical conduit in bedroom/s
40	Install Kitchen Appliances
41	install refrigerator
42	install power for range
43	install kitchen outlets
44	install bathroom outlets
45	install garbage disposal power l
46	Install Plumbing Fixtures
47	install kitchen sink
48	install bathroom sink
49	install tub & shower unit
50	install toilet
51	install 2 windows
52	inspection
53	Rent Apartment
54	advertise apartment
55	find tenant
56	move in a.k.a. Finished Project

Name:
Duration:
 Effort driven

Start:
Finish:
Task type:
% Complete:

ID	Resource Name	Units	Work	ID	Predecessor Name	Type	Lag
				46	Install Plumbing Fixtures	FS	0d
				44	install bathroom outlets	FS	0d
				40	Install Kitchen Appliances	FS	0d
				20	Enclosed back entryway	FS	0d
				29	install kitchen cabinets	FS	0d

PERT Questions

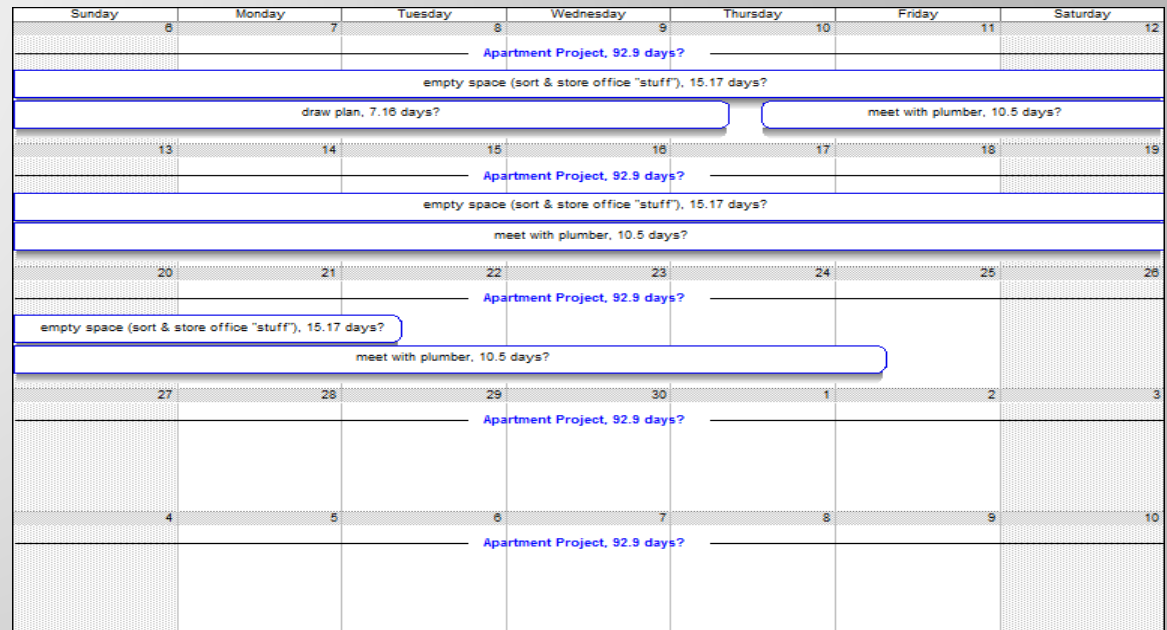
(Anderson, Sweeney, Williams, & Martin, p.411)

1. Total time of project?
2. What are the scheduled start and finish dates for each activity?
3. Critical Activities?
4. How long can critical activities be delayed?

1. What is the total time to complete the project?
2. What are the scheduled ES, EF, LS, & LF for each activity?

Both projects will be completed in 90 days if kept on the schedule defined by the PERT analysis.

The Gantt diagram identifies the earliest and latest finish and start dates.



		Task Name	Exp Dur	Exp Start	Exp Finish
0		<input type="checkbox"/> Apartment Project	89.97 days	Tue 9/1/09	Mon 1/4/10
1		<input type="checkbox"/> Preparation/Planning	14 days	Tue 9/1/09	Fri 9/18/09
2		empty space (sort & store office "stuff)	14 days	Tue 9/1/09	Fri 9/18/09
3		draw plan	7 days	Tue 9/1/09	Wed 9/9/09
4		decorating decisions	7 days	Tue 9/1/09	Wed 9/9/09
5		<input type="checkbox"/> identify DIY & contractor	21 days	Thu 9/10/09	Thu 10/8/09

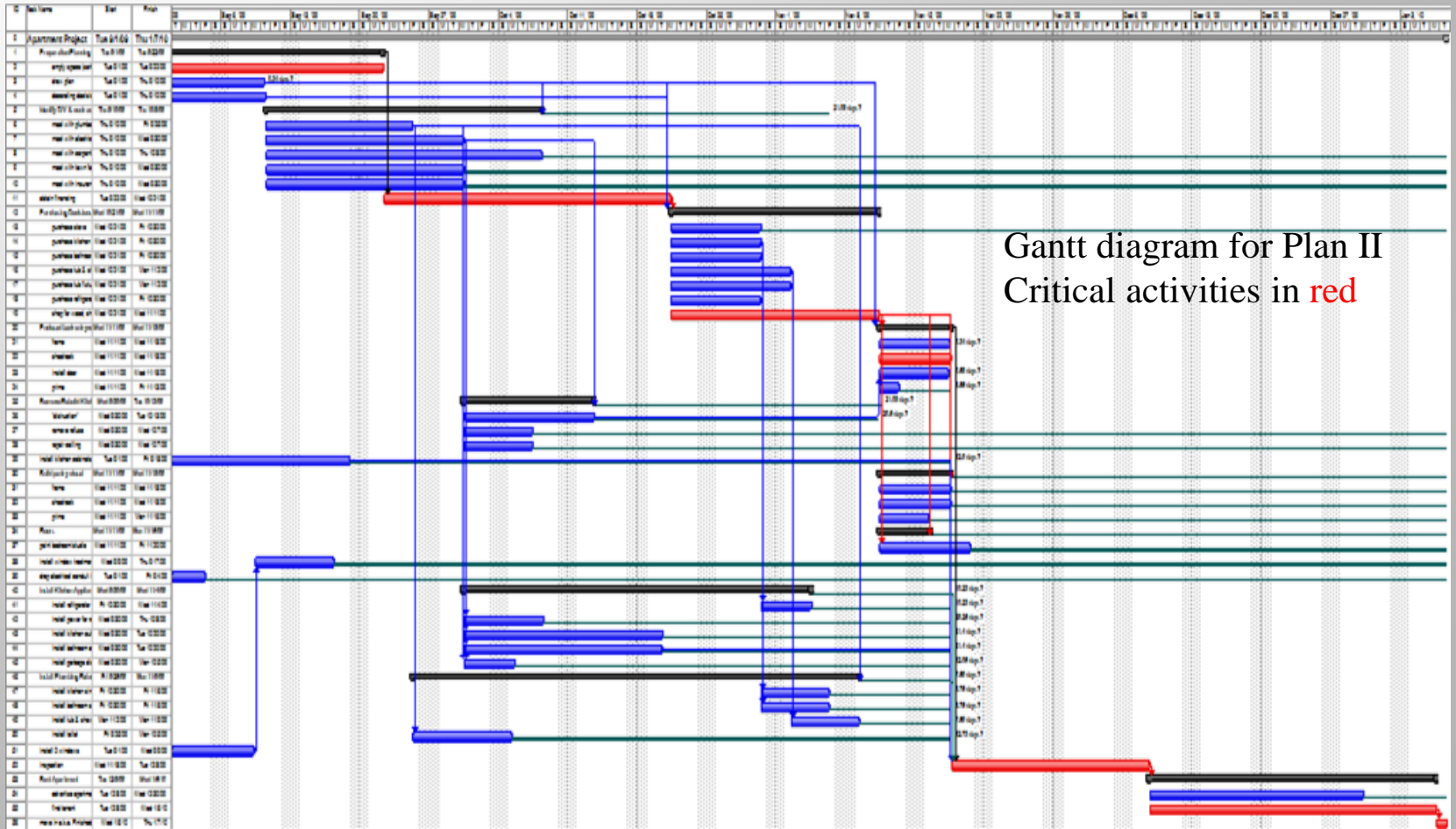
3. Which activities are “critical” and must be completely *exactly* on schedule?

Critical Tasks as of Sun 6/14/09
Apartment Project

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Zero lag indicates "critical" activity

4. How long can “noncritical” activities be delayed without impacting the projected completion time?



Gantt diagram for Plan II
Critical activities in red

Top Level Tasks

Top Level Tasks as of Sun 6/14/09
Apartment Project

ID	Task Name	Duration	Start	Finish
0	Apartment Project	92.9 days?	Tue 9/1/09	Thu 1/7/10
1	Preparation/Planning Preparation and Planning includes: Emptying/Organizing the space Drawing the physical plan Decor decisions	15.17 days?	Tue 9/1/09	Tue 9/22/09
5	identify DIY & contractor	19.83 days?	Thu 9/10/09	Thu 10/8/09
11	obtain financing	21 days?	Tue 9/22/09	Wed 10/21/09
12	Purchasing Decisions & Actions	15.17 days?	Wed 10/21/09	Wed 11/11/09
20	Enclosed back entryway	5.57 days?	Wed 11/11/09	Wed 11/18/09
25	Remove/Rebuild Kitchen wall	9.33 days?	Wed 9/30/09	Tue 10/13/09
29	install kitchen cabinets	14 days?	Tue 9/1/09	Fri 9/18/09
30	Build pantry closet	5.57 days?	Wed 11/11/09	Wed 11/18/09
34	Floors	3.34 days?	Wed 11/11/09	Mon 11/16/09
37	paint bedroom/studio	7.5 days?	Wed 11/11/09	Fri 11/20/09
38	install window treatments	6.15 days?	Wed 9/9/09	Thu 9/17/09
39	drop electrical conduit in bedroom/stu	3.34 days?	Tue 9/1/09	Fri 9/4/09
40	Install Kitchen Appliances	25.16 days?	Wed 9/30/09	Wed 11/4/09
46	Install Plumbing Fixtures	31.31 days?	Fri 9/25/09	Mon 11/9/09
51	install 2 windows	6.15 days?	Tue 9/1/09	Wed 9/9/09
52	inspection	14 days?	Wed 11/18/09	Tue 12/8/09
53	Rent Apartment	21 days?	Tue 12/8/09	Wed 1/6/10
56	move in a.k.a. Finished Project	1 day?	Wed 1/6/10	Thu 1/7/10

So... *What are we going to do?*

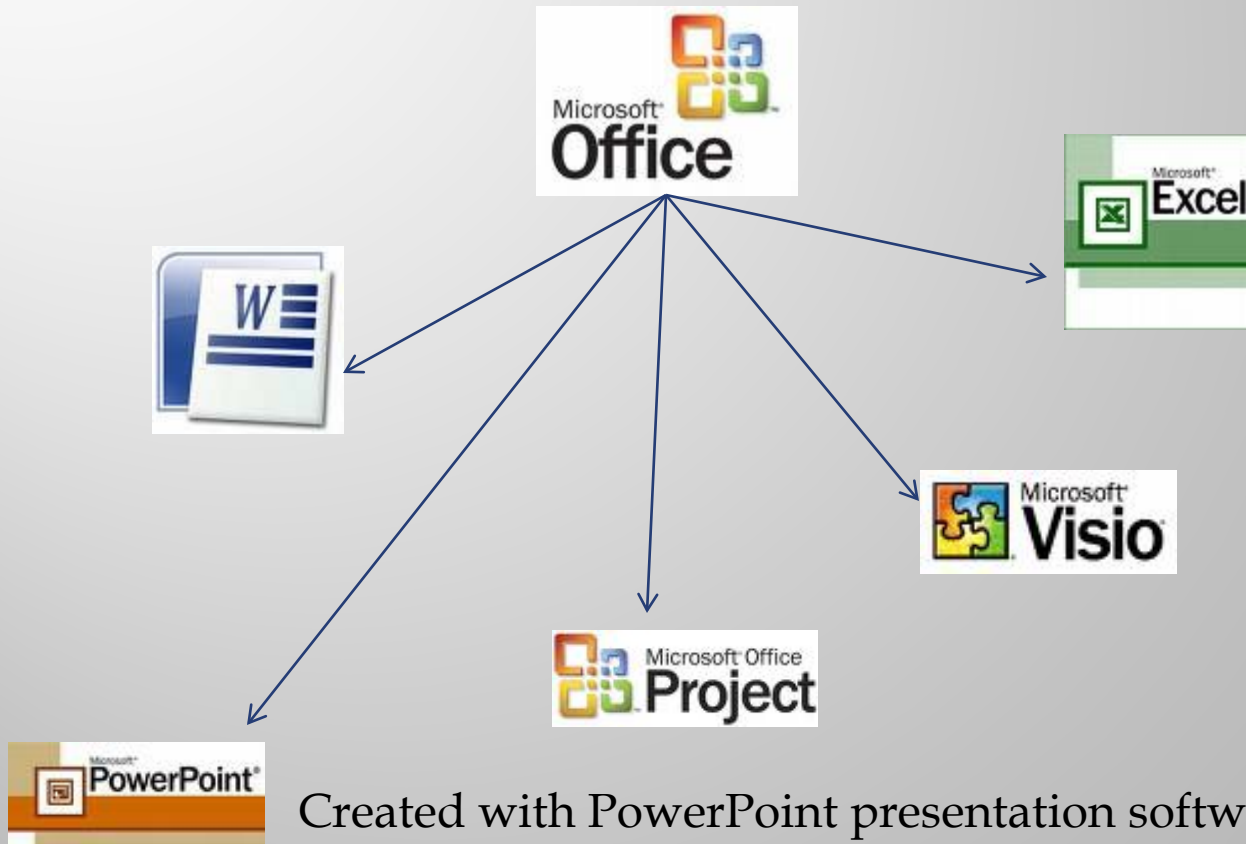
We have rejected the *Super-Deluxe* plan in favor of the *Deluxe* plan's shorter ROI (3 – 3.85 year break-even point)

Assuming the acquisition of financing, we will follow the project plans as they have been defined by the following:

- *Project 2007* PERT analysis
- *Excel* spreadsheet (expenses, contact information, model numbers)
- *Visio* floor plans



Application Acknowledgement



Created with PowerPoint presentation software.

 and, of course, *Google.com*