GUARDIAN

The way to help students stay focused!

TODAY
we have a lot IN STORE.

so let's get to it…

WHY?

HOW?

WHAT?

Sinek, S. (2009, September). *How Great Leaders Inspire* [Video file]. Retrieved from https://www.ted.com/talks/simon_sinek_how_great_leaders_inspire_action?language=en


WHY?

the PROBLEM...

As students move forward in school they have a hard time developing effective study skills, managing their time, and seeking better advice, leaving students behind academically and unsure about their direction in their major.

the VISION...

Guardian seeks to develop a product that will help students oversee their academic curricula in a manner that will track, remind, and manage their time here at Purdue University

the TARGET POPULATION...
and reasoning

Purdue University's
Mechanical Engineering
Students

WHY?

Mechanical Engineering has the largest population within the College of Engineering according to resources.

Purdue Engineering Degree Programs

Undergraduate Only

Program*	Fall 14 Enrollment	ABET Accredited	Degrees Awarded in Previous Academic Year			
			Fall 2013	Spring 2014	Summer 2014	Total
Aero & Astro Engineering	559	Yes	36	94	9	139
Agricultural Engineering	81	Yes	4	16	1	21
Biological Engineering	158	Yes	2	40	0	42
Biomedical Engineering	259	Yes	8	41	0	49
Chemical Engineering	552	Yes	11	127	2	140
Civil Engineering	399	Yes	68	109	13	190
Computer Engineering	428	Yes	21	60	3	84
Construction Engineering	72		5	16	1	22
Electrical Engineering						
Environ & Ecolo						
Industrial Engin						
Interdisciplinary						
Materials Scienc						
Mechanical Eng						
Multidisciplinary						
Nuclear Engineering	81	Yes	5	27	2	34
First Year Engineering	2309	n/a				
Pre Agr & Biol Engineering	49	n/a				
Totals	**7877**		**348**	**970**	**69**	**1387**

* Enrollment numbers for the professional engineering programs excludes students in First Year Engineering and Pre Agr & Biol Engineering.

Mechanical Engineering	1376	Yes	78	259	24	361

Mechanical Engineering Program

Fall 2014 enrollment: **1376**
ABET Accredited: Yes

Degrees Awarded in previous year

Fall 2013	: **78**
Spring 2014	: **259**
Summer 2014	: **24**
Total	: **361**

Figure 1. Purdue Engineering Degree Programs, Purdue University (2014).

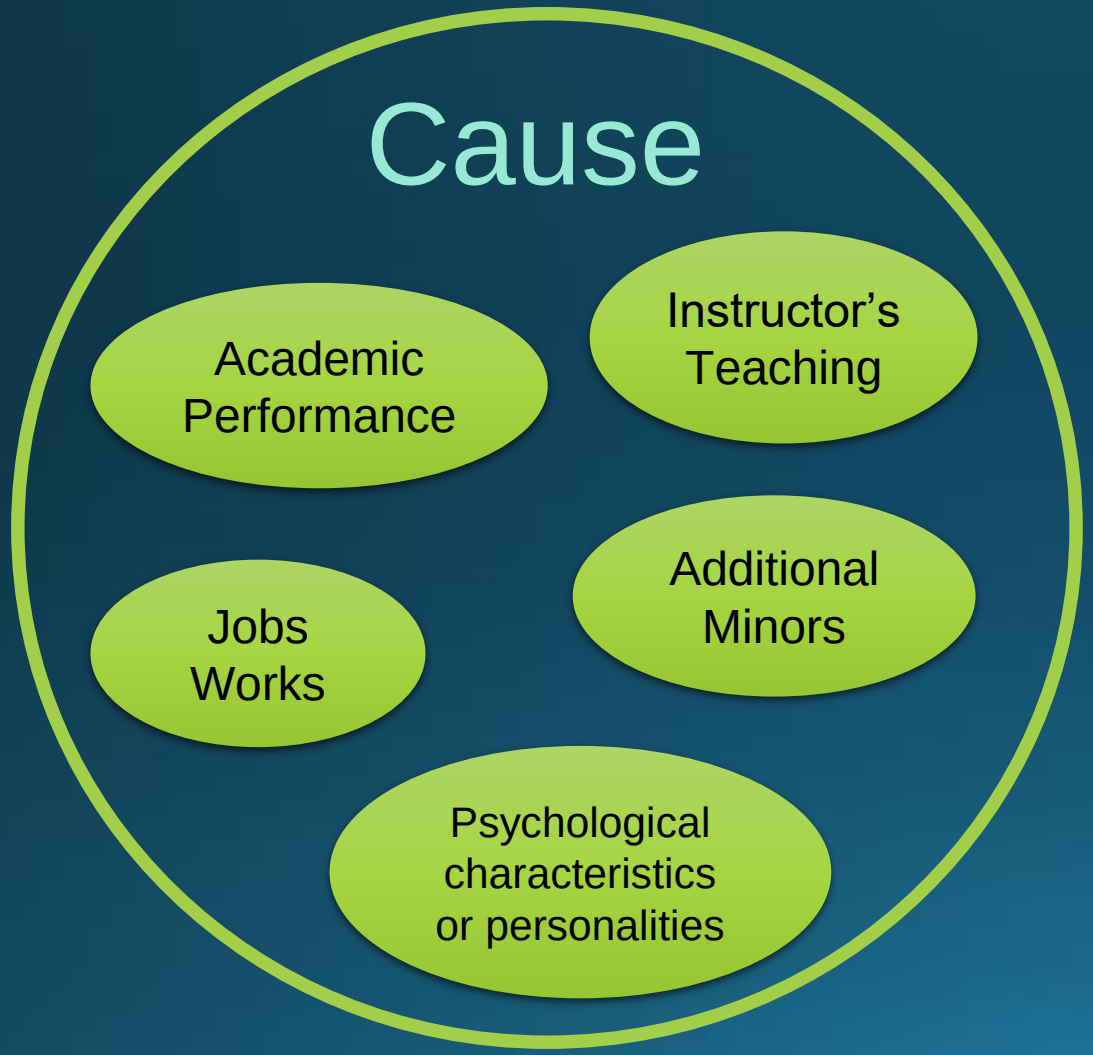
HOW?

4 ways to tackle the PROBLEM...

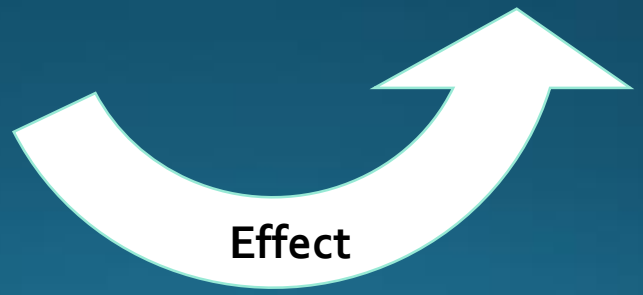
Process

- Secondary Research
- Questionnaires
- Trends
- Personas
- Scenario & Design Requirements
- Ideation
- Prototype
- Cognitive Walkthrough

Secondary Research Overview



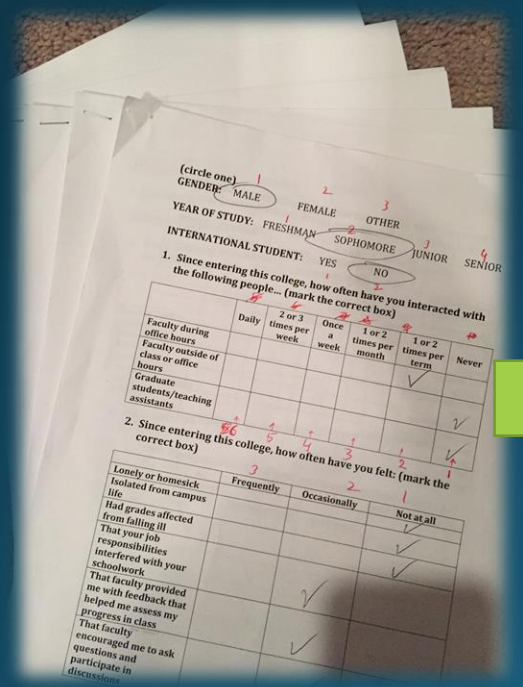
Change in Majors
&
Graduation Rate



Questionnaire

Sample

Sample of undergraduate students in Mechanical Engineering were chosen to complete a 5 -10 minute questionnaire by recruiting inside of the ME building at Purdue. Students had no connection to the interviewers.



participant	Gender	of	nal	Q1			Q2					
				a	b	c	a	b	c	d	e	f
ME01	1	2	2	2	1	1	1	1	1	2	2	
ME02	1	1	1	1	1	4	1	1	1	1	3	
ME03	1	3	2	3	3	4	1	1	2	2	3	
ME04	2	1	2	3	1	4	2	2	1	1	2	
ME05	1	4	2	2	2	5	2	2	2	1	2	
ME06	1	3	2	6	5	4	1	2	1	2	1	
ME07	1	2	2	1	1	2	1	2	1	2	1	
ME08	1	4	1	3	1	3	2	1	1	2	2	
ME09	2	2	2	3	1	6	1	1	3	2	3	
ME10	2	4	2	3	2	5	1	1	1	1	1	
ME11	1	3	2	4	2	3	2	2	1	1	2	
ME12	1	3	2	5	3	3	1	1	2	2	2	
ME13	2	1	2	5	4	5	2	1	1	2	2	
ME14	2	4	2	2	1	1	2	2	1	3	2	
ME15	2	3	2	5	4	5	2	1	2	1	3	
ME16	2	2	1	5	1	4	2	2	2	1	3	
ME17	1	3	2	2	2	4	2	2	2	3	2	
ME18	1	3	2	3	2	3	1	2	2	2	1	
ME19	1	3	2	2	2	4	1	1	1	2	2	
ME20	2	3	2	3	2	5		2	2	2	2	
ME21	1	3	2	2	2	5	1	1	1	1	2	
ME22	2	4	2	2	2	1	1	1	1	1	1	
ME23	1	4	2	3	2	4	2	1	1	1	1	
ME24	2	2	2	5	1	1	1	1	1	1	1	
ME25	1	4	2	1	1	5	2	1	2	1	2	
ME26	1	4	2	3	4	5	2	1	1	1	2	
ME27	1	4	2	4	2	2	1	3	1	1	2	
ME28	1	3	2	2	1	5	1	1	2	1	2	
ME29	1	3	2	3	2	3	1	1	2	1	3	

Demographics

20 male

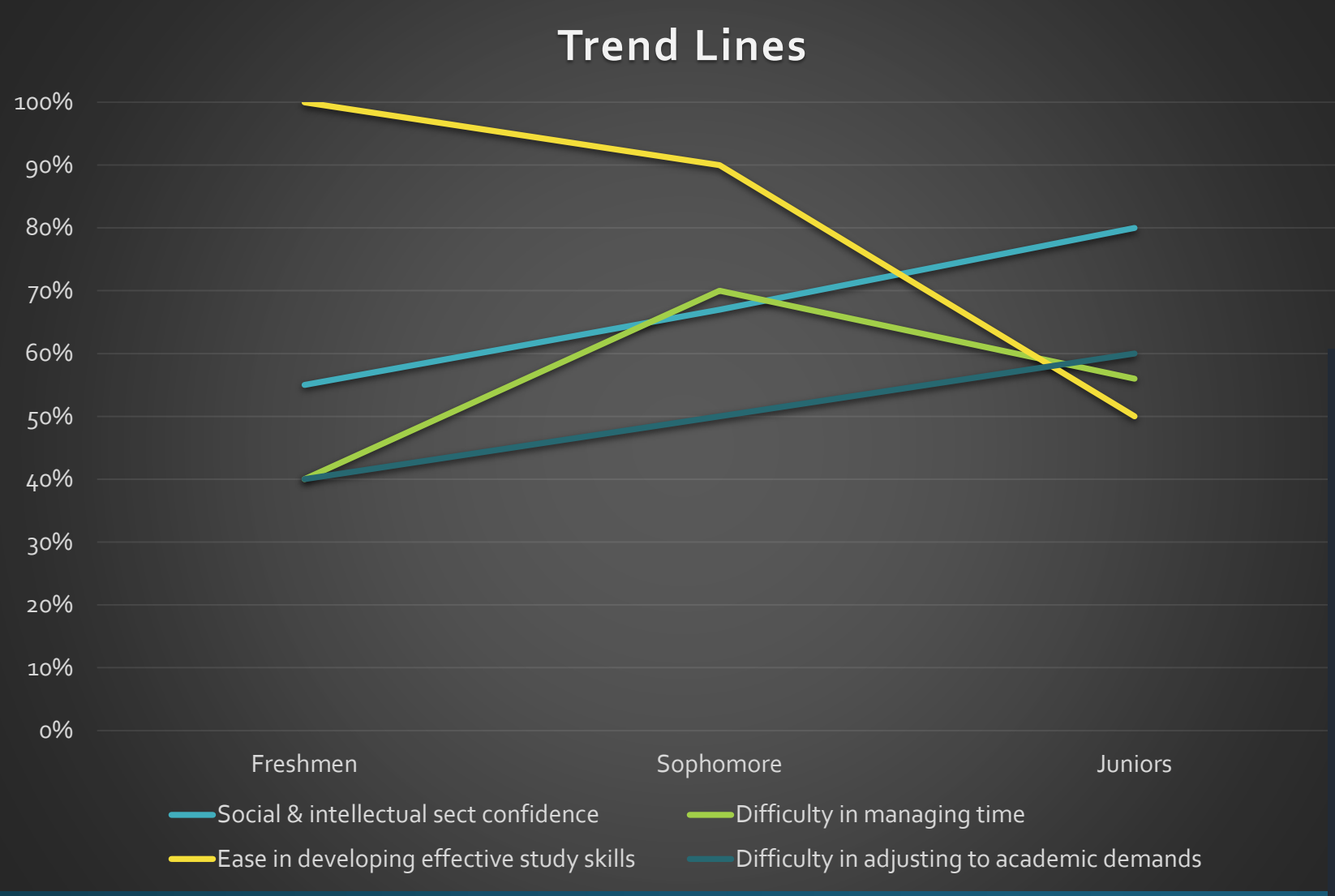
2 freshmen, 4 sophomores and 14 juniors

11 female

3 freshman, 6 sophomore and 2 juniors

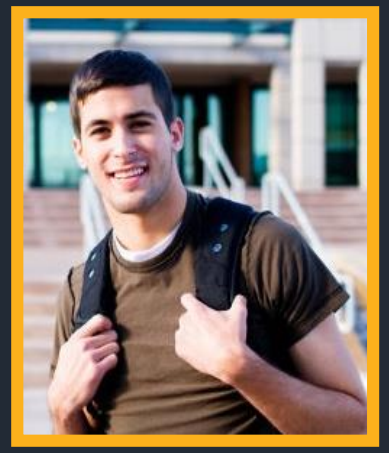
Trends

After all the data was gathered from the questionnaires, it was placed into a sequence where averages were taken and placed in categories to create an affinity diagram. This helped to define personas.



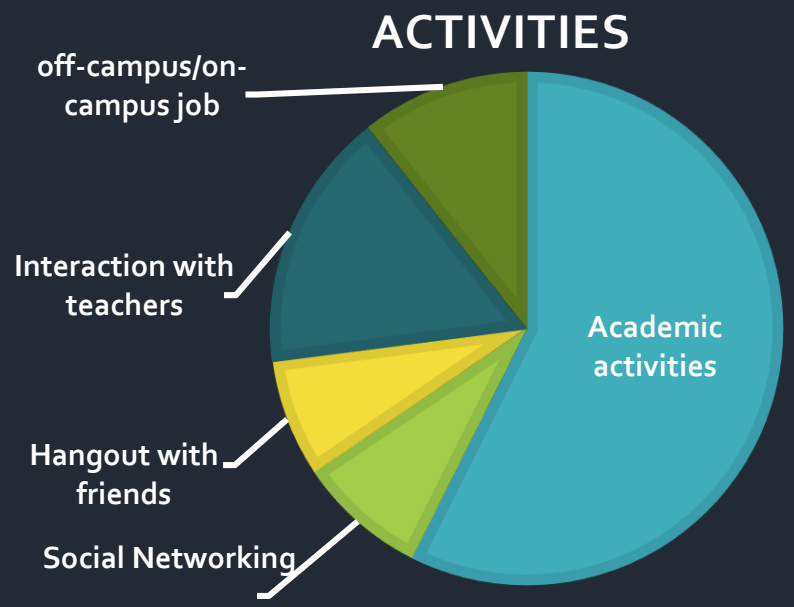
- It can be noted that as year increases student's social self confidence increases as well.
- Students find difficulty in managing time in their second year but recover fairly well in their junior year.
- Students' ease of developing study skills decreases over the years.
- Students' difficulty in adjusting to academic demands increased slightly.

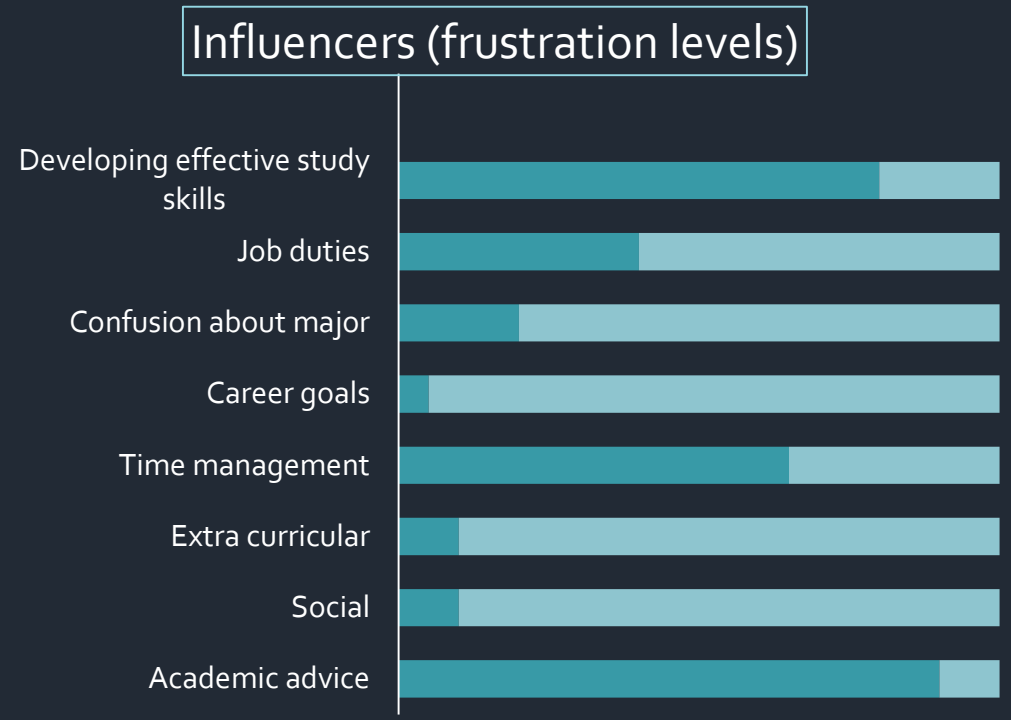
Primary Persona



Name:	Jeffrey E. Nelms
Year:	Junior
Major:	Mechanical Engineering
College:	College of Engineering
University:	Purdue University

"I need better advice from teaching community and better time management to help me graduate on time"



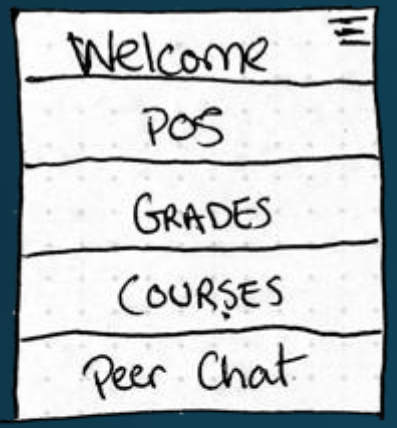


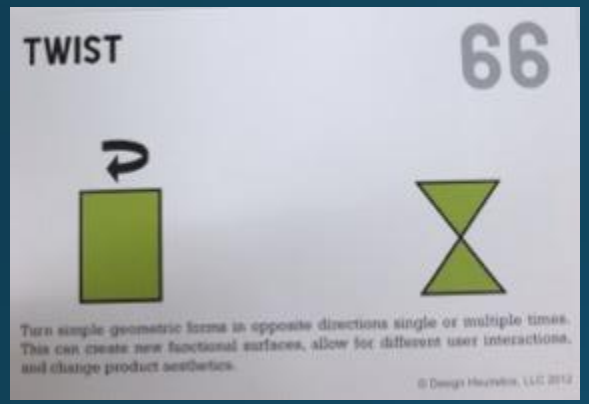
Design Requirements

1. A notification system for upcoming tasks, deadlines, exams and even some tips to manage subjects and times
2. Ability to view all the courses, current or past and ability to add or remove courses
3. Guardian should generate suggestion for which courses to take based on the peer and course analysis
4. A way to track grades/scores, predict grades/scores and help in improvement of overall scores/grades
5. Ability to maintain and share plan of study, ability to create multiple plans
6. Re-enforce the communication with advisor


WHAT?

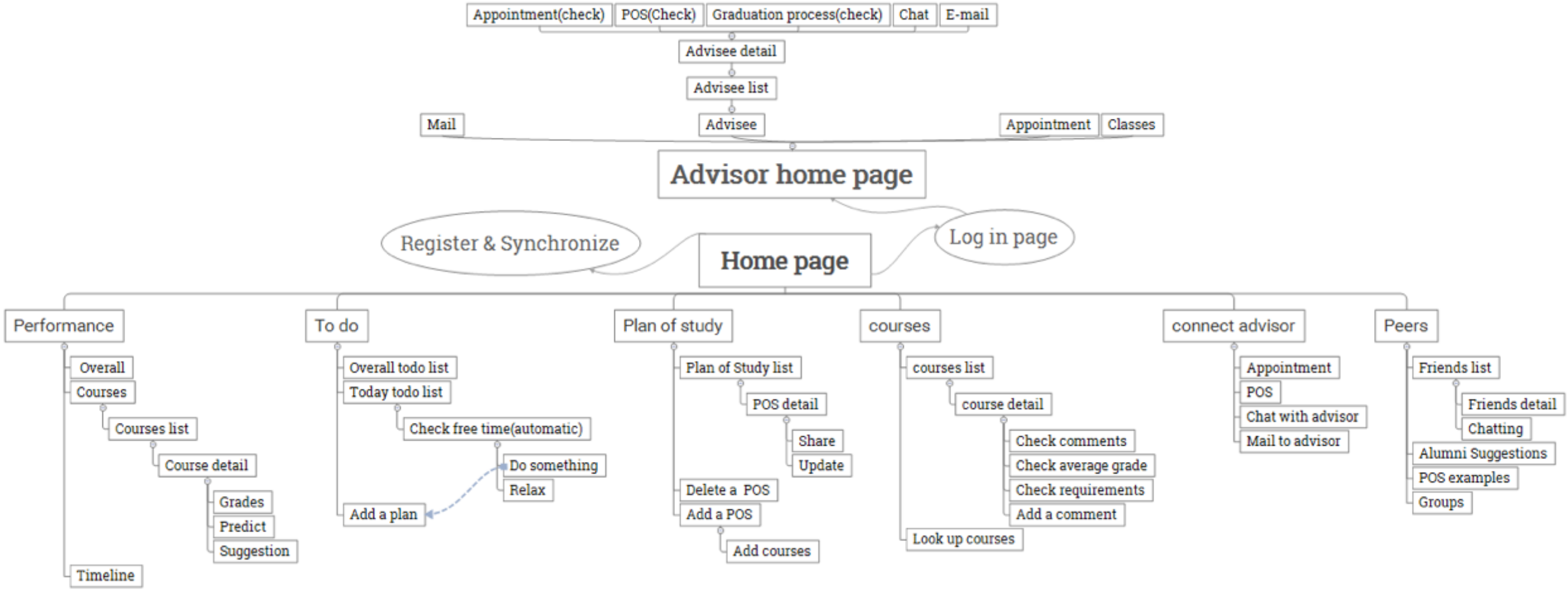
Ideation





Main Selection

Information Architecture



the PROTOTYPE...

the Walkthrough…

OVERVIEW

ACTION >	The student wants to check course-wise path predictor.	The student wants to chat with another peer.	The student wants to check their notifications in the app.
1. Will the user realistically be doing this action?	YES	YES	YES
2. Is the control for the action visible?	YES	YES	YES
3. Is there a strong link between control and action?	NO	YES	NO
4. Is the feedback appropriate?	YES	YES	YES

OVERVIEW

ACTION >	The student wants to add a different course to a new plan of study.	The student wants to see Guardian's advice on what course to take in the coming semester.	The student would like to schedule an appointment with the advisor.
1. Will the user realistically be doing this action?	YES	YES	YES
2. Is the control for the action visible?	YES	NO	YES
3. Is there a strong link between control and action?	YES	YES	YES
4. Is the feedback appropriate?	YES	YES	YES

What is **Recommended…**

- [ ] Review the Wireframe for any corrections
  [agile]
- [ ] Design high-fidelity prototype & Review
- [ ] Software Design & Development Kickoff


Any
QUESTIONS?