

ПЛОВДИВСКИ УНИВЕРСИТЕТ “ПАИСИЙ ХИЛЕНДАРСКИ”
ФАКУЛТЕТ ПО МАТЕМАТИКА И ИНФОРМАТИКА

Катедра “Компютърни технологии”

ОСИГУРЯВАНЕ НА КАЧЕСТВО НА СОФТУЕРА (Q.A.)

/упражнения/

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Съдържание

1. Определяне на отборите и проектите
2. Определяне на CoQ Cost Categories
3. Изграждане на план за един проект
4. Формализиране на изискванията – *определяне на различните типове изисквания*
5. Техники за определяне на изискванията – *интервюта, преглед на стари или конкурентни системи, формални диаграми, wireframing, прототипиране и други*
6. Генерични практики и описание на процеси
7. Тестване

CoQ Cost Categories

Prevention	Appraisal	Internal Failure	External Failure
<i>Costs associated with preventing defects</i>	<i>Costs associated with “looking” for defects</i>	<i>Costs associated with defects found prior to implementation / release</i>	<i>Costs associated with defects found after the product is implemented / released</i>
Planning	Reviews	Rework	Warranties
Documentation	• System	• Requirements	Complaint adjustments
Training	• Requirements	• Design	Lost projects
Tools	• Design	• Code	Tech support
Policies and procedures	• Test Plan	• Documentation	Subsequent releases, patches, “Service Packs” (MS terminology)
Quality improvement projects	• Test Script	Defect re-testing	
Data gathering and analysis	Walkthroughs and code inspections	Process losses (testing downtime, changing deliverables, schedule slips, cost overruns, etc.)	
Fault and root cause analysis	• Testing (First-time)		
Quality reporting	Audits		
	CMM Assessments		
	• Class A,, B, C		

Изграждане на план

1. Определяне на заданието за проекта
2. Разбиване на заданието (изискванията) на задачи и подзадачи
3. Оценка на работата и ресурсите за нейното изпълнение
4. Намиране на връзката между задачите (*преди, след, междинни резултати*) и изготвяне на Gantt Chart
5. Идентифициране на критичен път
6. Оптимизиране на процесите и намаляване на времето за изпълнение

REQM: Requirements Management

специфични практики

- 1.1 Obtain an Understanding of Requirements (*customer requirements, product requirements, product component requirements, managing the requirements as the product evolves*)
- 1.2 Obtain Commitment to Requirements
- 1.3 Manage Requirements Changes
- 1.4 Maintain Bidirectional Traceability of Requirements
- 1.5 Identify Inconsistencies between project work and requirements

REQM: Requirements Management

управление на изискванията

Project Planning (PP)

SG1: Establish Estimates

SG2: Develop a project plan

SG3: Obtain Commitment to the plan

Project Monitoring and Control (PMC)

SG1: Monitor Project Against Plan

SG2: Manage Corrective action to closure

Какво основно включва един план

Resources

Budget

Schedule (Milestones)

Stakeholders

Commitments – dependencies, deliverables

Data Plan

Knowledge and skills - Training

Risks



Gantt chart

Gantt chart – (*Гант диаграма*) – диаграма, която показва чрез поредица от хоризонтални линии връзката между количеството извършена работа или производство за определен период от време и планираното.

// обикновено хоризонталната ос представя времето

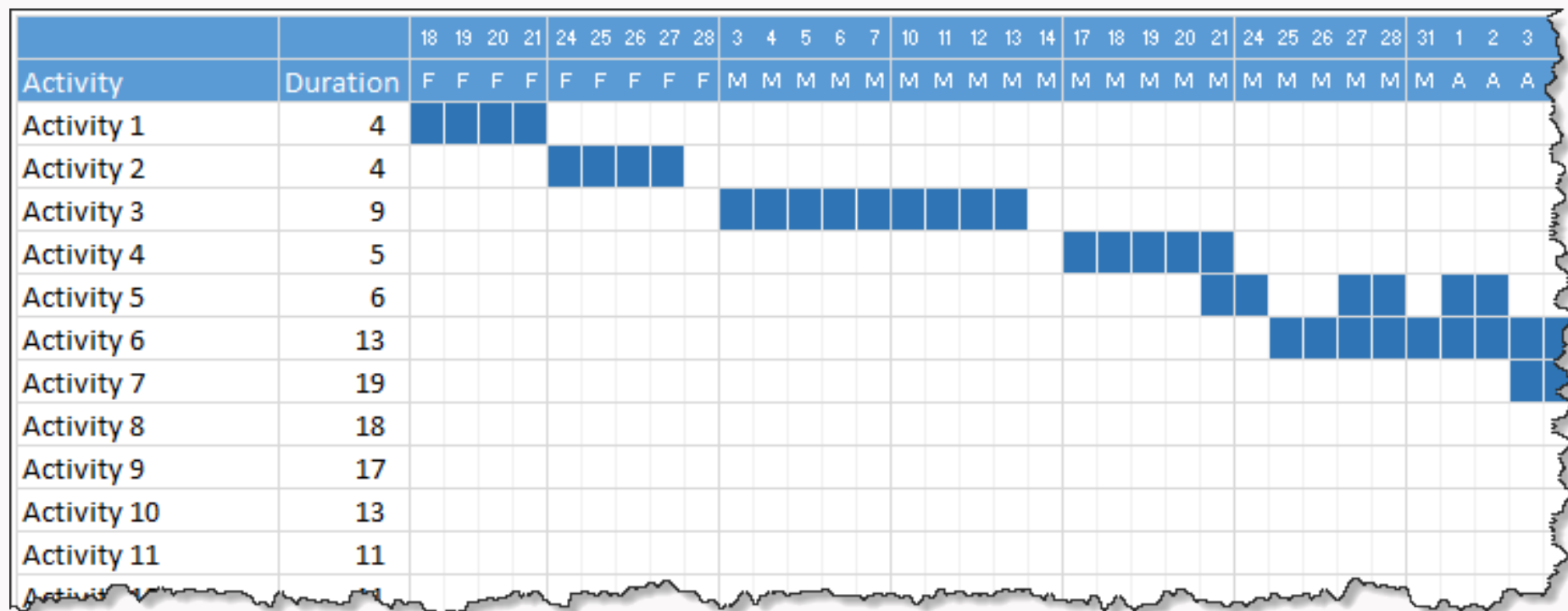
Полезни инструмент за генериране на Gantt chart

<https://www.officetimeline.com/>

<http://www.xmind.net>

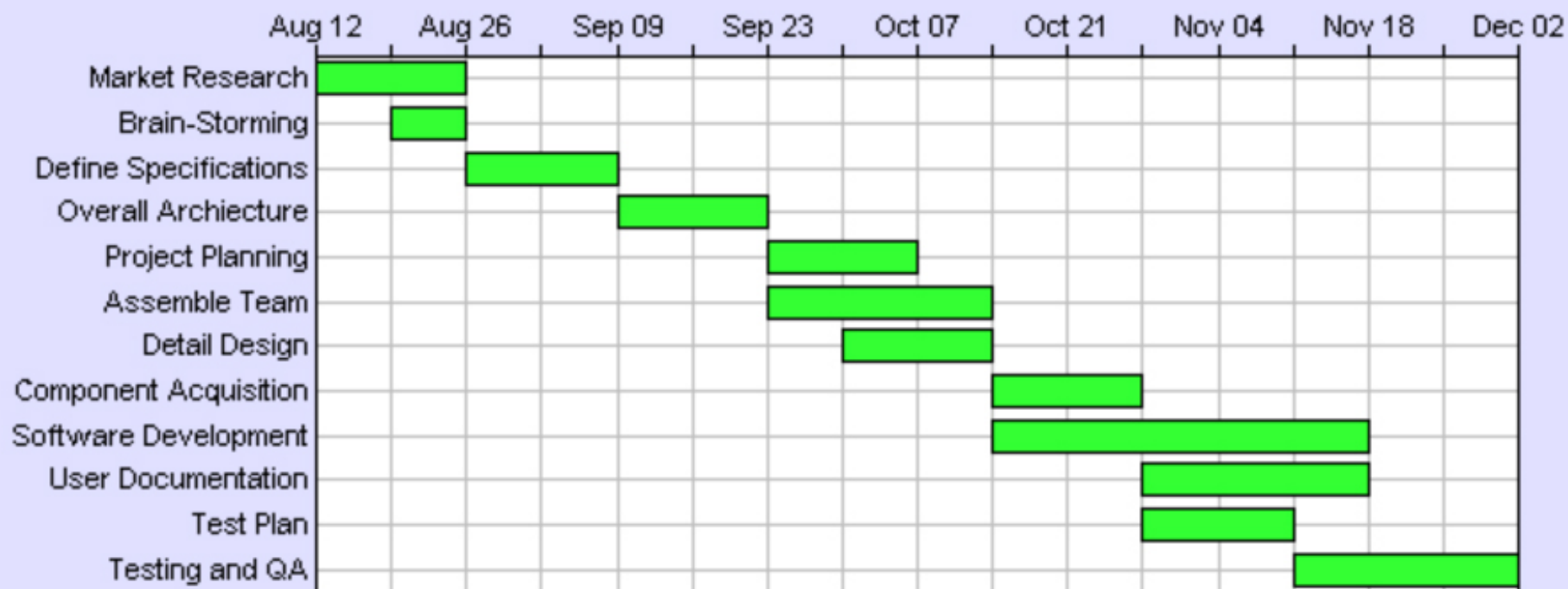
<https://creately.com/app/>

Gantt chart



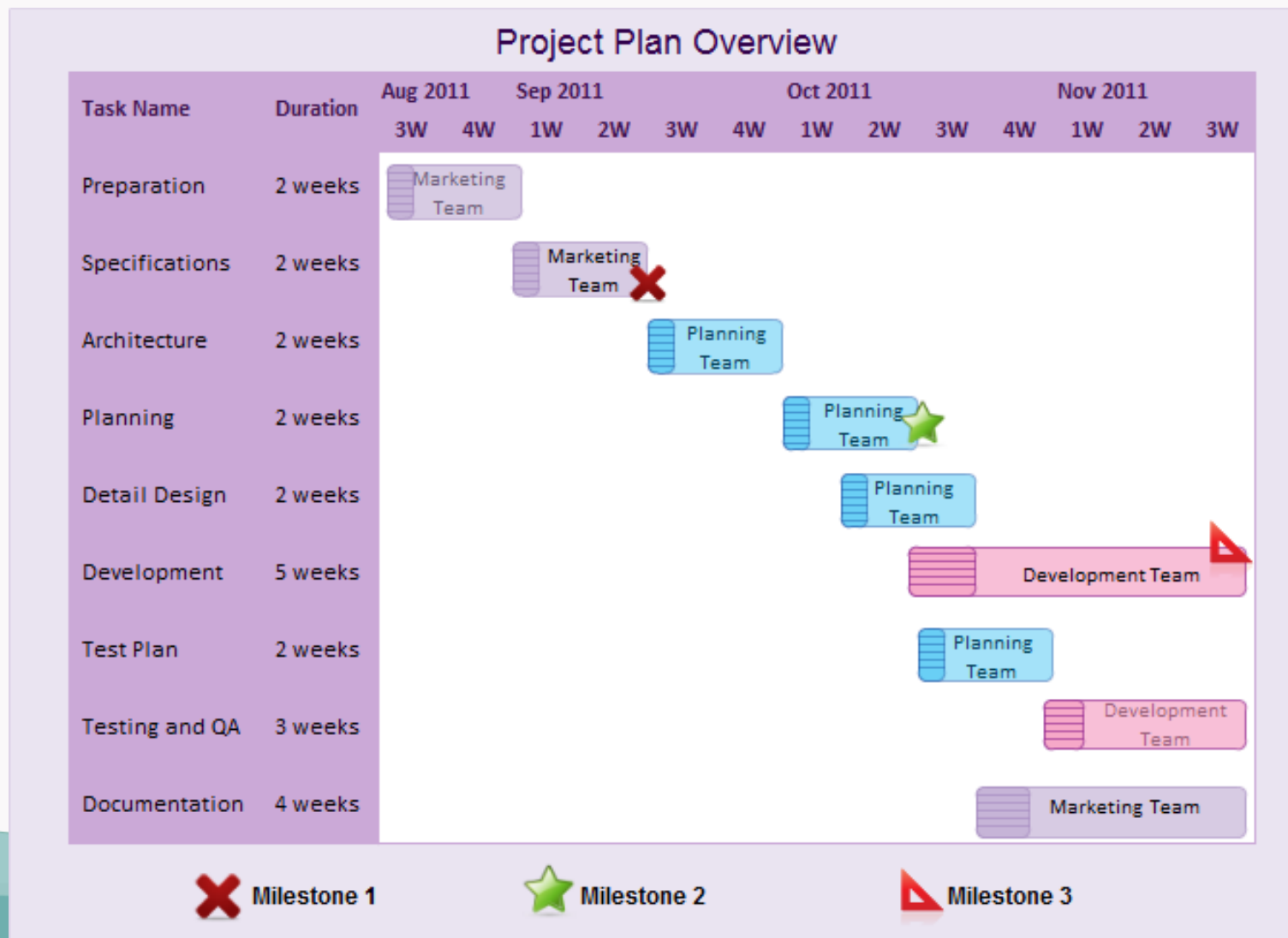
Gantt chart

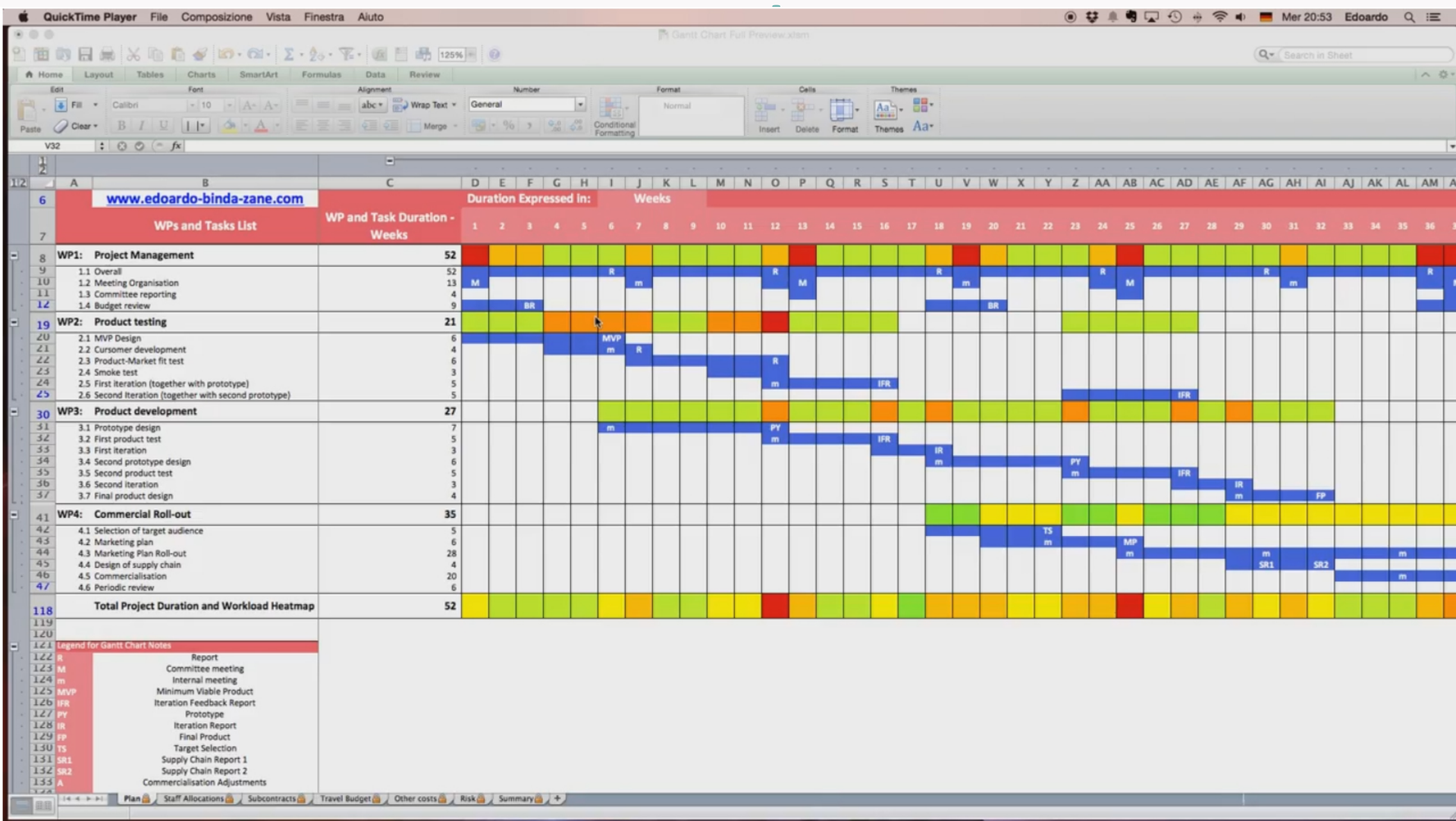
Simple Gantt Chart Demo

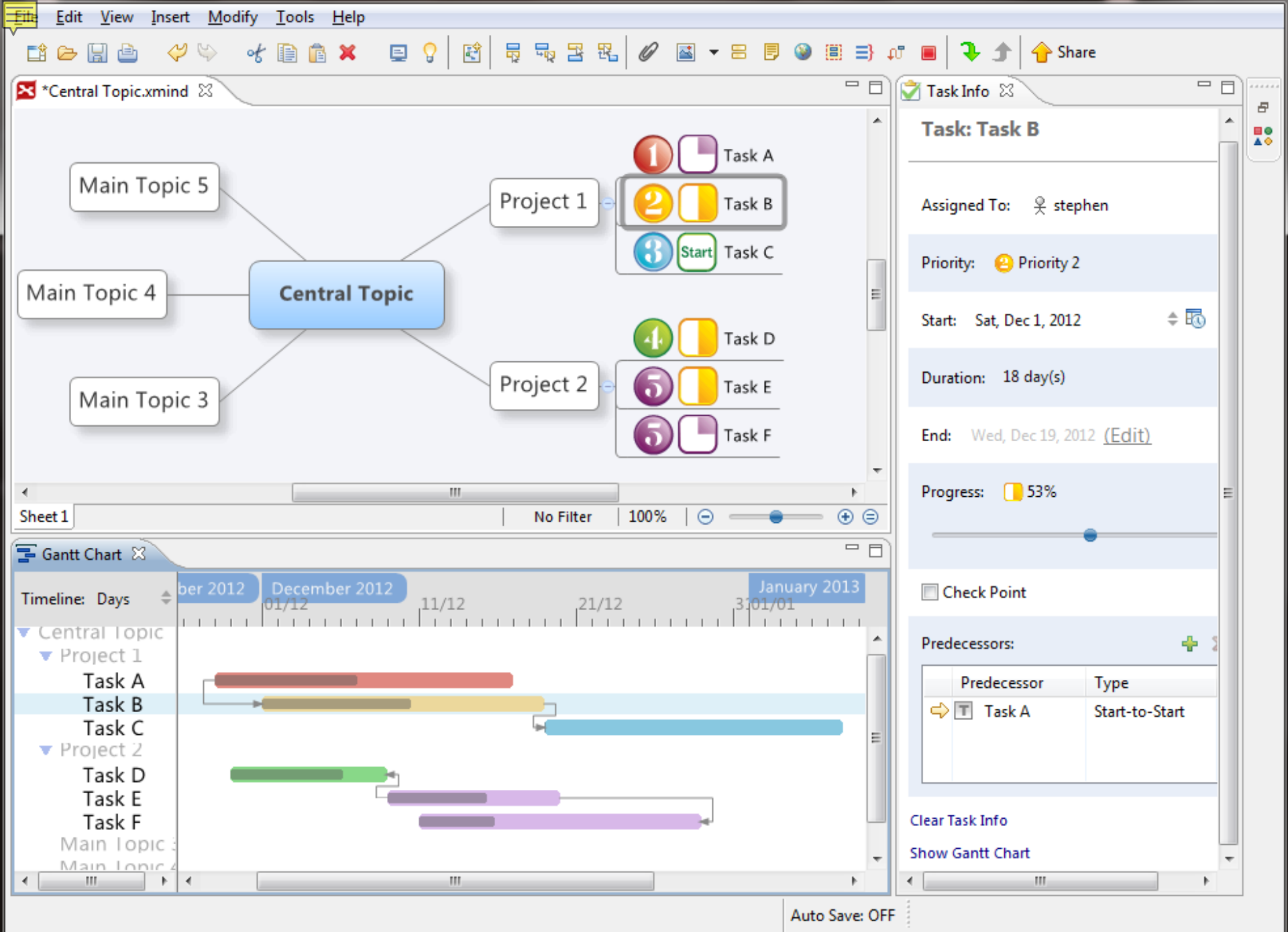




Gantt chart









Task/Week	3	4	5	6	7	8	9	10	11	12	13
Project Brief											
Proposal											
Concept Pitch											
Project's Planning: Design Issues & Treatment											
Project's Planning: Target Audience											
Project's Planning: Mind Maps											
Project's Planning: Application's Flow & Navigation											
Project's Planning: Gantt Chart & Timeline											
Project's Planning: Research & Data Gathering Planning											
Class Trip to Belum Rainforest											
Project's Research: Sketches											
Project's Execution: Icons											
Project's Execution: Typography											
Project's Execution: Layout Design											
Project's Execution: Multimedia Storyboards											
Project's Execution: Content Design & Filtering											
Project's Execution: Digital Screen Design											
Project's Execution: Interaction & Navigation Design											
Project's Execution: Troubleshoot & Self Evaluation											
Project Presentation											
Project Submission											

Съкращения

CMMI: Capability Maturity Model Integration

PI: Process Improvement

PM: Process Management

SEMP: Software Engineering Management Program

REQM: Requirements Management

PP: Project Planning

MA: Measurement and Analysis

PPQA: Process and Product Quality Assurance

CM: Configuration Management

PMC: Project Monitoring and Control

SAM: Supplier Agreement Management

Съкращения

RD: Requirements Development

VAL: Validation

VER: Verification

RSKM: Risk Management

TS: Technical Solution

DAR: Decision Analysis and Resolution

IPM: Integrated Project Management

OPD: Organizational Process Definition

OPF: Organizational Process Focus

OT: Organizational Training

PI: Product Integration

Съкращения

SEI: Software Engineering Institute

CERT: Computer Emergency Response Team

BSC (Balanced ScoreCards): Балансирана система от показатели

TQM principles: Total Quality Management принципи

**БЛАГОДАРЯ ЗА
ВАШЕТО ВНИМАНИЕ!**