



## FATEC - FACULDADE DE TECNOLOGIA DE SÃO PAULO

Projeto Integrador: *“Aplicação computacional para tomada de  
decisão estratégica na alocação de recursos a partir do  
Gráfico de Gantt”.*

Curso: Tecnologia em Banco de Dados

Turma Primeiro Semestre/2020


Grupo Pydevs

Cliente: NECTO


Março/2020

**OBJETIVO:** Aplicação gráfica, que possibilite a alocação de recursos, por projeto, na linha do tempo;

- 1) Devem ser verificáveis: a) o tempo alocado por dia/semana/mês/por projeto/recurso humano b) o tempo livre dos recursos na linha do tempo.
- 2) Deve possibilitar a tomada de decisão estratégica sobre capacidade da empresa de iniciar novos projetos e cobrir contingências (faltas ou ausências por motivo de saúde, férias, demissões) e contratação de novos recursos humanos;



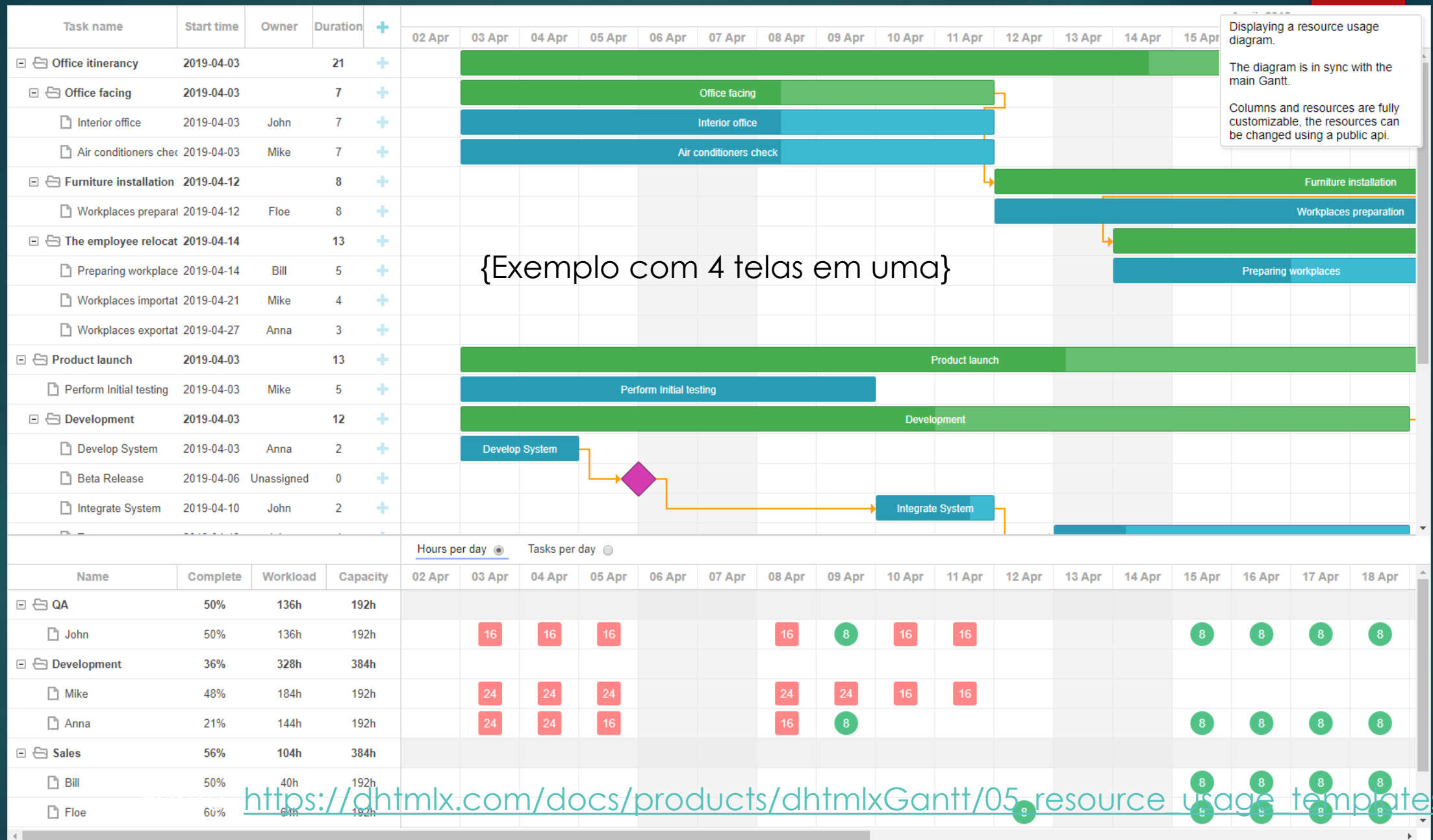
**Visão Presente:** Pesquisa das melhores tecnologias para o caso concreto, conjugando facilidade de desenvolvimento e estabilidade da aplicação em face da capacidade de entrega do grupo Pydevs, dentro do tempo disponível.



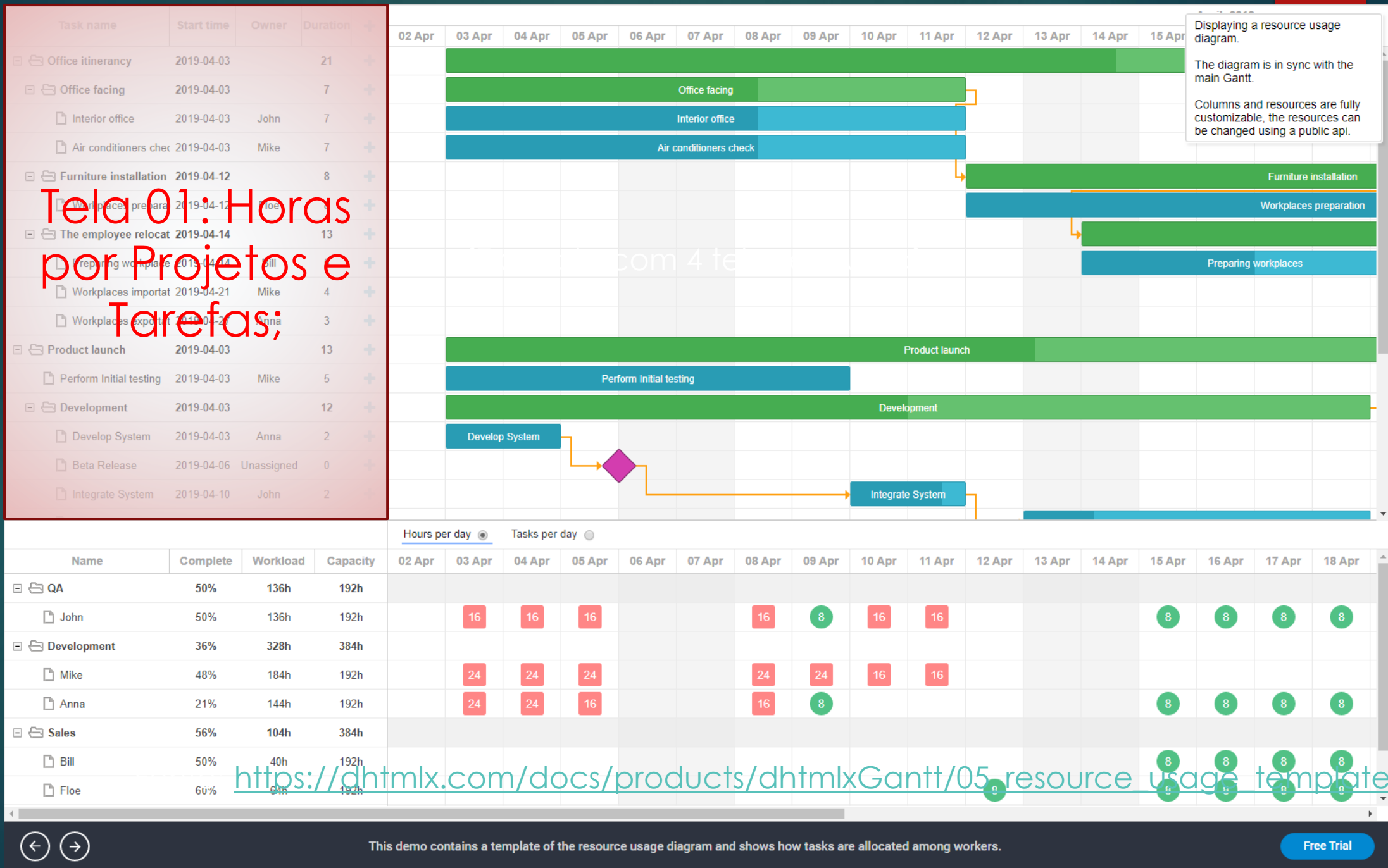
**Visão Presente:** As ferramentas disponíveis no mercado contemplam diversas funcionalidades, em muitas linguagens e plataformas (de linguagem de programação propriamente ditas a software aplicativos v.g. MS Excel).

Com base num exemplo que, neste momento, contemplam os requisitos solicitados pelo cliente, apresentamos nosso desenho conceitual.

Vide diagramas a seguir.



[https://dhtmlx.com/docs/products/dhtmlxGantt/05\\_resource\\_usage\\_templates.html](https://dhtmlx.com/docs/products/dhtmlxGantt/05_resource_usage_templates.html)



Task name	Start time	Owner	Duration	+
Office itinerancy	2019-04-03		21	+
Office facing	2019-04-03		7	+
Interior office	2019-04-03	John	7	+
Air conditioners check	2019-04-03	Mike	7	+
Furniture installation	2019-04-12		8	+
Workplaces preparation	2019-04-12	Floe	8	+
The employee relocation	2019-04-14		13	+
Preparing workplace	2019-04-14	Bill	5	+
Workplaces importation	2019-04-21	Mike	4	+
Workplaces exportation	2019-04-27	Anna	3	+
Product launch	2019-04-03		13	+
Perform Initial testing	2019-04-03	Mike	5	+
Development	2019-04-03		12	+
Develop System	2019-04-03	Anna	2	+
Beta Release	2019-04-06	Unassigned	0	+
Integrate System	2019-04-10	John	2	+



				<div>Hours per day <input checked="" type="radio"/></div> <div>Tasks per day <input type="radio"/></div>																
Name	Complete	Workload	Capacity	02 Apr	03 Apr	04 Apr	05 Apr	06 Apr	07 Apr	08 Apr	09 Apr	10 Apr	11 Apr	12 Apr	13 Apr	14 Apr	15 Apr	16 Apr	17 Apr	18 Apr
<div><div></div><div></div>QA</div>	50%	136h	192h																	
<div><div></div><div>John</div></div>	50%	136h	192h		16	16	16			16	8	16	16				8	8	8	8
<div><div></div><div></div>Development</div>	36%	328h	384h																	
<div><div></div><div>Mike</div></div>	48%	184h	192h		24	24	24			24	24	16	16							
<div><div></div><div>Anna</div></div>	21%	144h	192h		24	24	16			16	8						8	8	8	8
<div><div></div><div></div>Sales</div>	56%	104h	384h																	
<div><div></div><div>Bill</div></div>	50%	40h	192h														8	8	8	8
<div><div></div><div>Floe</div></div>	60%	60h	192h														8	8	8	8

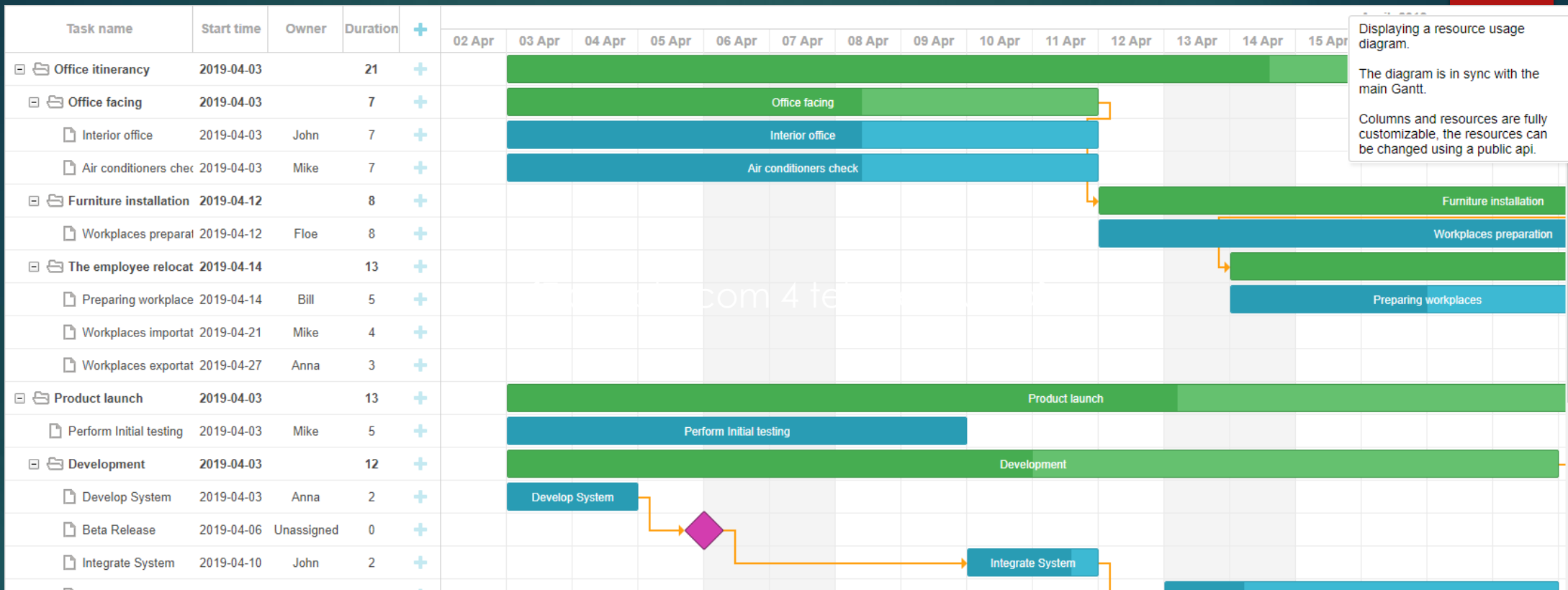
[https://dhtmlx.com/docs/products/dhtmlxGantt/05\\_resource\\_usage\\_templates.html](https://dhtmlx.com/docs/products/dhtmlxGantt/05_resource_usage_templates.html)



This demo contains a template of the resource usage diagram and shows how tasks are allocated among workers.

Free Trial





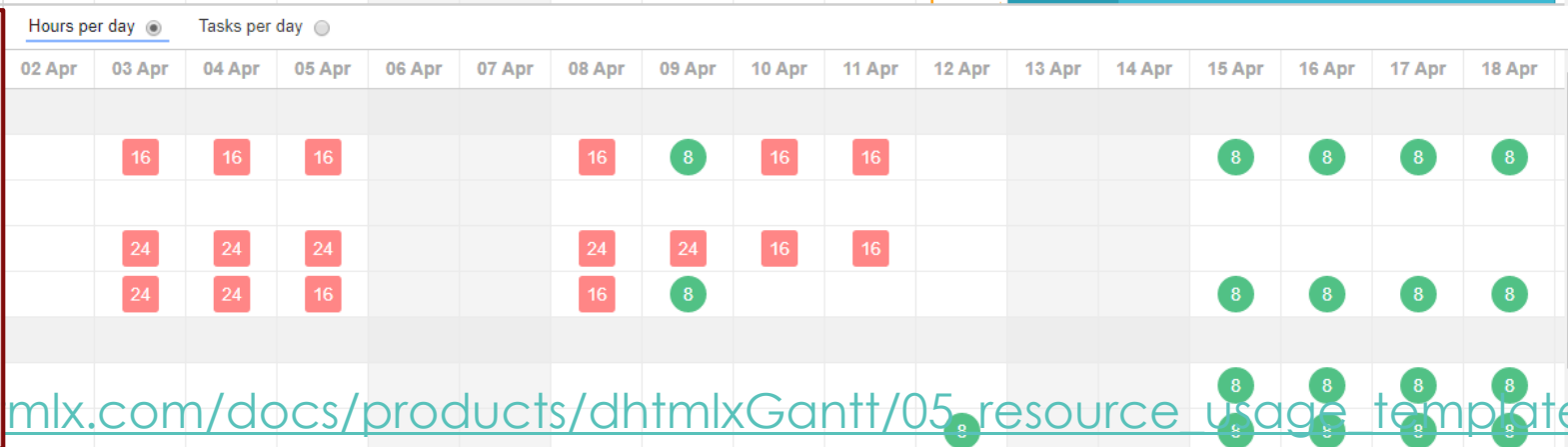
Displaying a resource usage diagram.

The diagram is in sync with the main Gantt.

Columns and resources are fully customizable, the resources can be changed using a public api.

**Tela 03: Alocação de horas por Recurso.**

Name	Complete	Workload	Capacity
QA	10%	136h	192h
John	50%	136h	192h
Dev. Importat	36%	128h	384h
Mike	48%	184h	192h
Anna	20%	144h	192h
Sales	56%	104h	384h
Bill	50%	190h	192h
Floe	60%	180h	384h



[https://dhtmlx.com/docs/products/dhtmlxGantt/05\\_resource\\_usage\\_templates.html](https://dhtmlx.com/docs/products/dhtmlxGantt/05_resource_usage_templates.html)





























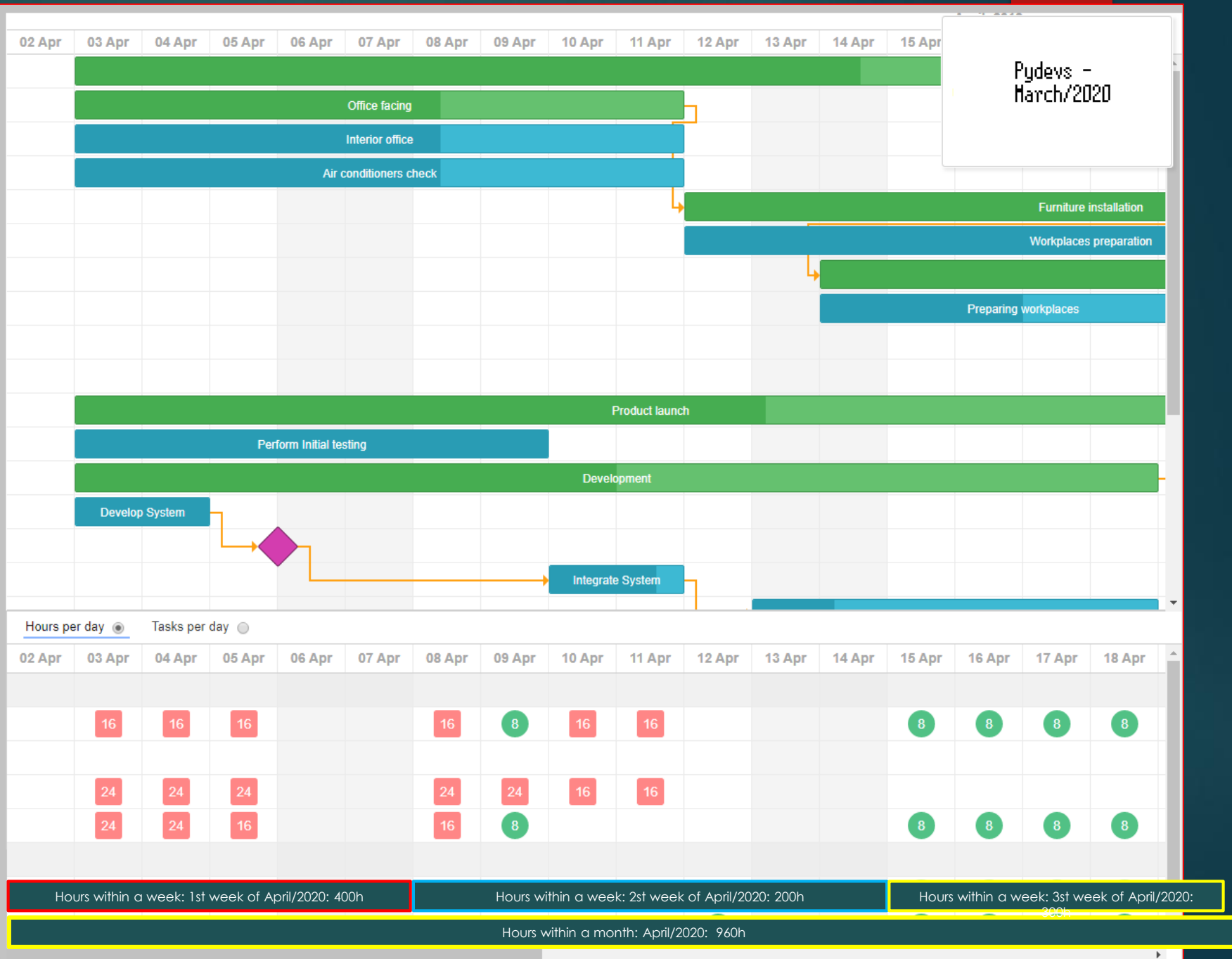


**Visão Futura:** A tela 03 “Alocação de horas por Recurso” e a Tela 02 “Projetos e tarefas na linha do tempo e suas interdependências”, ficariam na parte superior, pela prioridade das informações.

Condicionado à existência de recursos (tempo e força de trabalho), pode-se estabelecer um código de cores p/ sinalizar recursos com muitas horas alocadas, tanto quanto para as unidades de medida na tela 04 (Horas por dia, por semana e por mês, possibilitando reconhecer pessoas e períodos sobrecarregados (portanto, sensíveis ou suscetíveis a alto risco)

Vide diagramas a seguir.

Name	Complete	Workload	Capacity	
 QA	50%	136h	192h	
 John 	50%	136h	192h	
 Development	36%	328h	384h	
 Mike 	48%	184h	192h	
 Anna 	21%	144h	192h	
 Sales	56%	104h	384h	
 Bill 	50%	40h	192h	
 Floe 	60%	64h	192h	
Task name	Start time	Owner	Duration	+
 Office itinerary	2019-04-03		21	+
 Office facing	2019-04-03		7	+
 Interior office	2019-04-03	John	7	+
 Air conditioners check	2019-04-03	Mike	7	+
 Furniture installation	2019-04-12		8	+
 Workplaces preparation	2019-04-12	Floe	8	+
 The employee relocation	2019-04-14		13	+
 Preparing workplace	2019-04-14	Bill	5	+
 Workplaces importation	2019-04-21	Mike	4	+
 Workplaces exportation	2019-04-27	Anna	3	+
 Product launch	2019-04-03		13	+
 Perform Initial testing	2019-04-03	Mike	5	+
 Development	2019-04-03		12	+

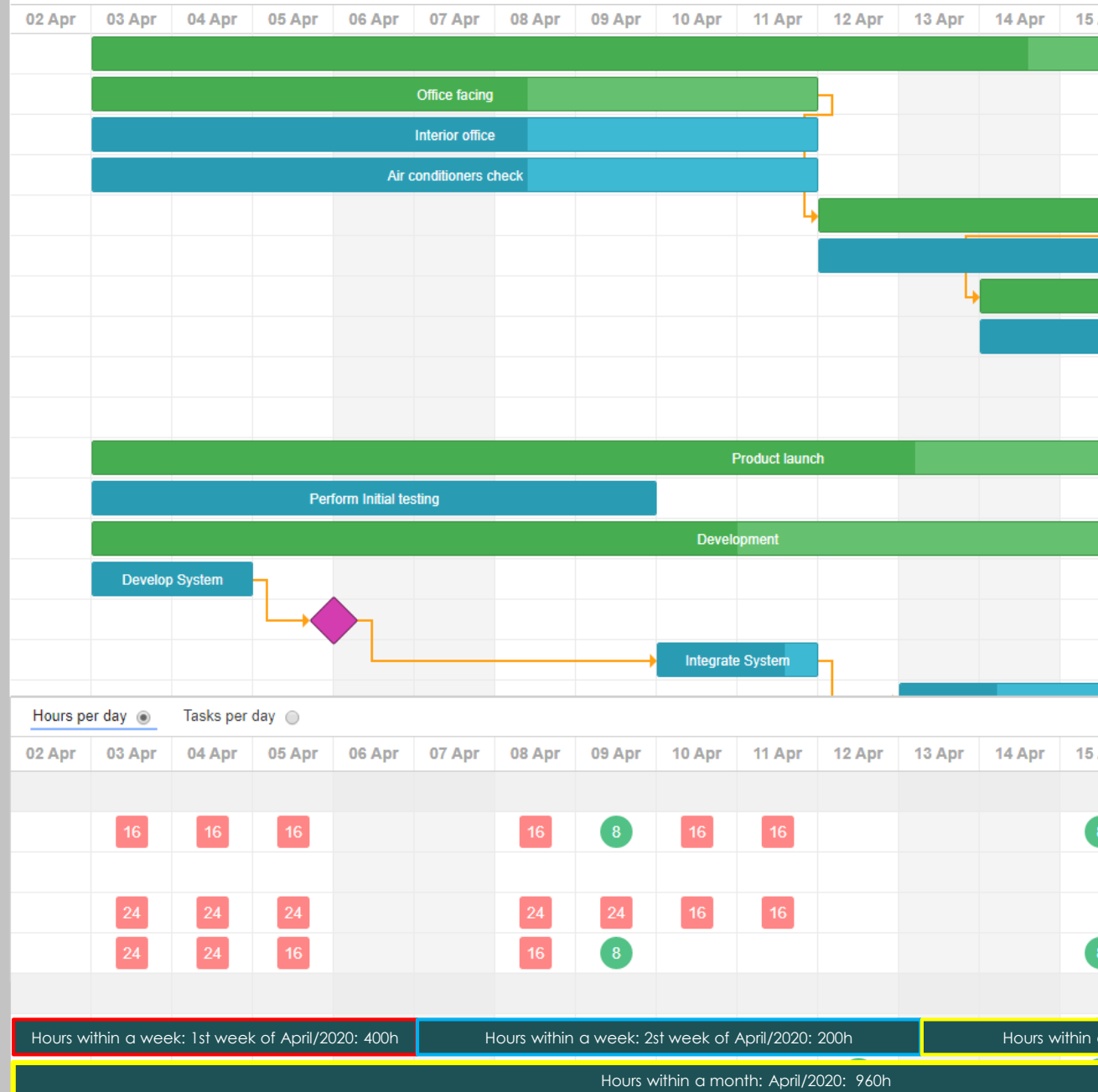


Nome do  
Recurso e Ícone  
colorido

Name	Complete	Workload	Capacity
QA	50%	136h	192h
John	50%	136h	192h
Development	36%	328h	384h
Mike	48%	184h	192h
Anna	21%	144h	192h
Sales	56%	104h	384h
Bill	50%	40h	192h
Floe	60%	64h	192h

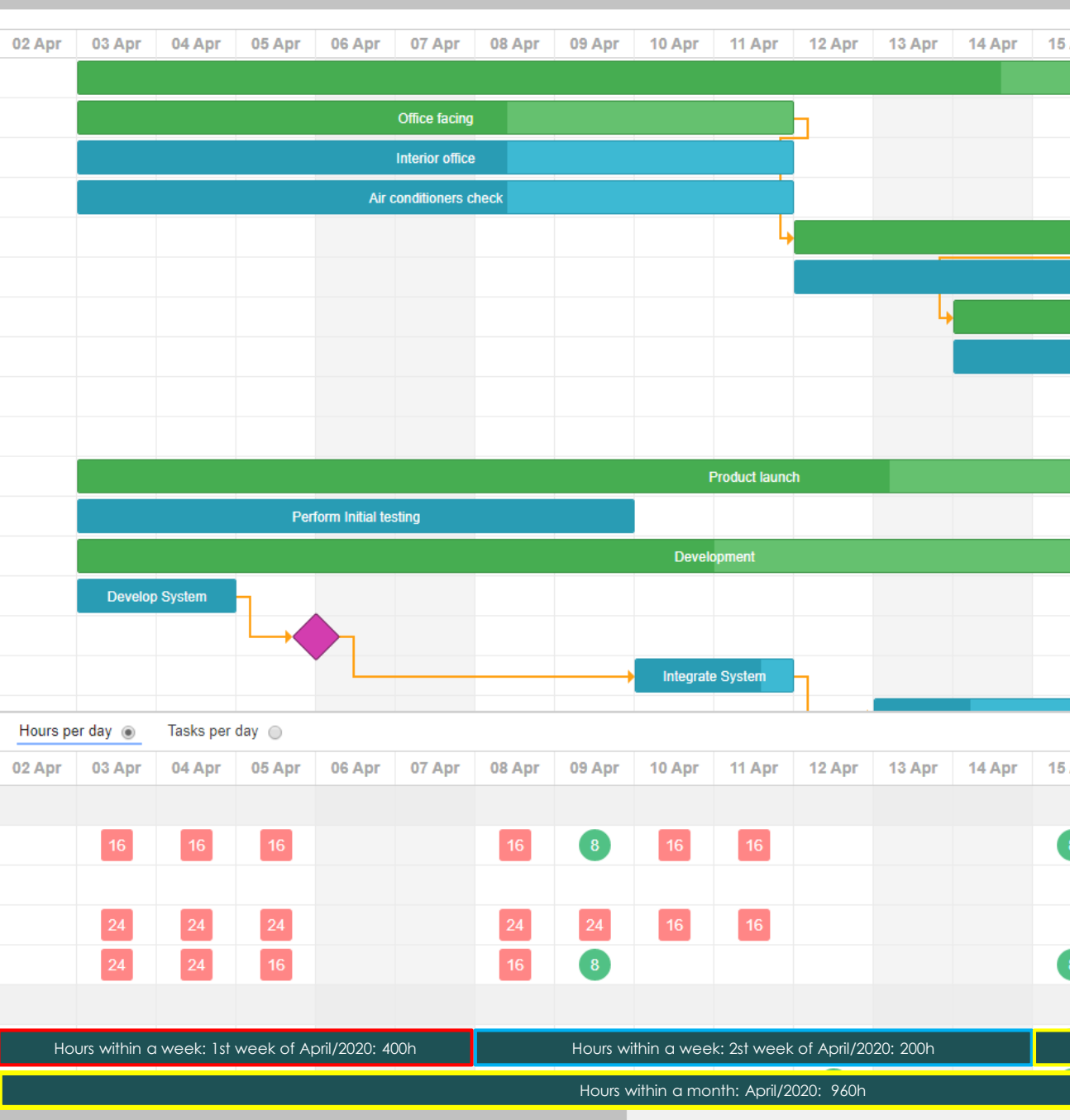
Task name	Start time	Owner	Duration	+
Office itinerary	2019-04-03		21	+
Office facing	2019-04-03		7	+
Interior office	2019-04-03	John	7	+
Air conditioners chec	2019-04-03	Mike	7	+
Furniture installation	2019-04-12		8	+
Workplaces preparat	2019-04-12	Floe	8	+
The employee relocat	2019-04-14		13	+
Preparing workplace	2019-04-14	Bill	5	+
Workplaces importat	2019-04-21	Mike	4	+
Workplaces exportat	2019-04-27	Anna	3	+
Product launch	2019-04-03		13	+
Perform Initial testing	2019-04-03	Mike	5	+
Development	2019-04-03		12	+
































# Ocupação do Recurso (código de cores)

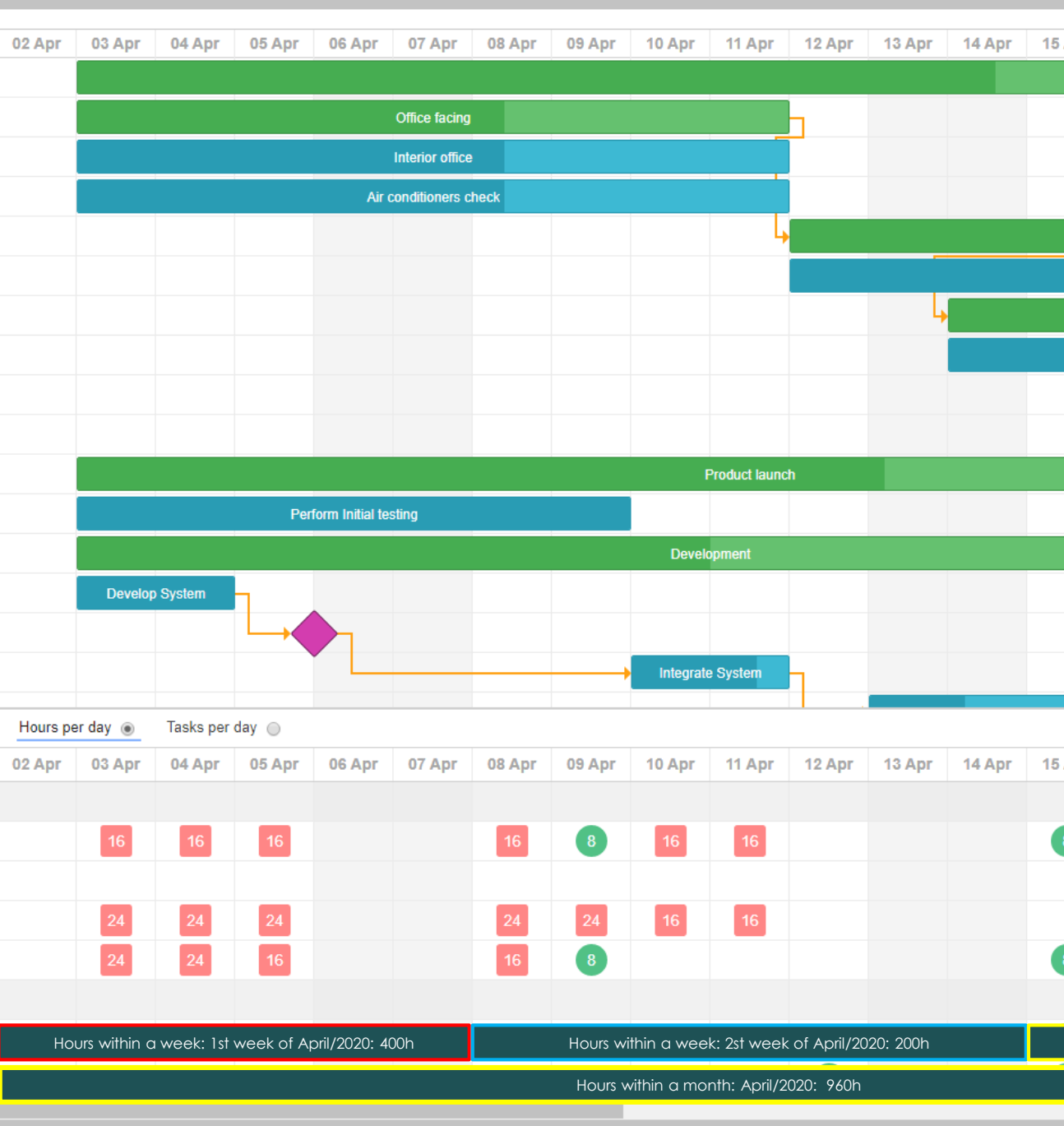
Name	Complete	Workload	Capacity
<div> <div>QA</div> <div> <div>John</div> <div></div> </div> </div>	50%	136h	192h
<div> <div>Development</div> <div> <div>Mike</div> <div></div> </div> </div>	36%	328h	384h
<div> <div></div> <div>Anna</div> </div>	21%	144h	192h
<div> <div>Sales</div> <div> <div>Bill</div> <div></div> </div> </div>	56%	104h	384h
<div> <div></div> <div>Floe</div> </div>	60%	64h	192h

Task name	Start time	Owner	Duration	
Office itinerancy	2019-04-03		21	+
Office facing	2019-04-03		7	+
Interior office	2019-04-03	John	7	+
Air conditioners chec	2019-04-03	Mike	7	+
Furniture installation	2019-04-12		8	+
Workplaces preparat	2019-04-12	Floe	8	+
The employee relocat	2019-04-14		13	+
Preparing workplace	2019-04-14	Bill	5	+
Workplaces importat	2019-04-21	Mike	4	+
Workplaces exportat	2019-04-27	Anna	3	+
Product launch	2019-04-03		13	+
Perform Initial testing	2019-04-03	Mike	5	+
Development	2019-04-03		12	+



Ocupação do Recurso  
em horas  
(código de cores)

Name		Complete	Workload	Capacity
  QA		50%	136h	192h
 John 		50%	136h	192h
  Development		36%	328h	384h
 Mike 		48%	184h	192h
 Anna 		21%	144h	192h
  Sales		56%	104h	384h
 Bill 		50%	40h	192h
 Floe 		60%	64h	192h
Task name	Start time	Owner	Duration	+
 Office itinerancy	2019-04-03		21	+
 Office facing	2019-04-03		7	+
 Interior office	2019-04-03	John	7	+
 Air conditioners chec	2019-04-03	Mike	7	+
 Furniture installation	2019-04-12		8	+
 Workplaces preparat	2019-04-12	Floe	8	+
 The employee relocat	2019-04-14		13	+
 Preparing workplace	2019-04-14	Bill	5	+
 Workplaces importat	2019-04-21	Mike	4	+
 Workplaces exportat	2019-04-27	Anna	3	+
 Product launch	2019-04-03		13	+
 Perform Initial testing	2019-04-03	Mike	5	+
 Development	2019-04-03		12	+

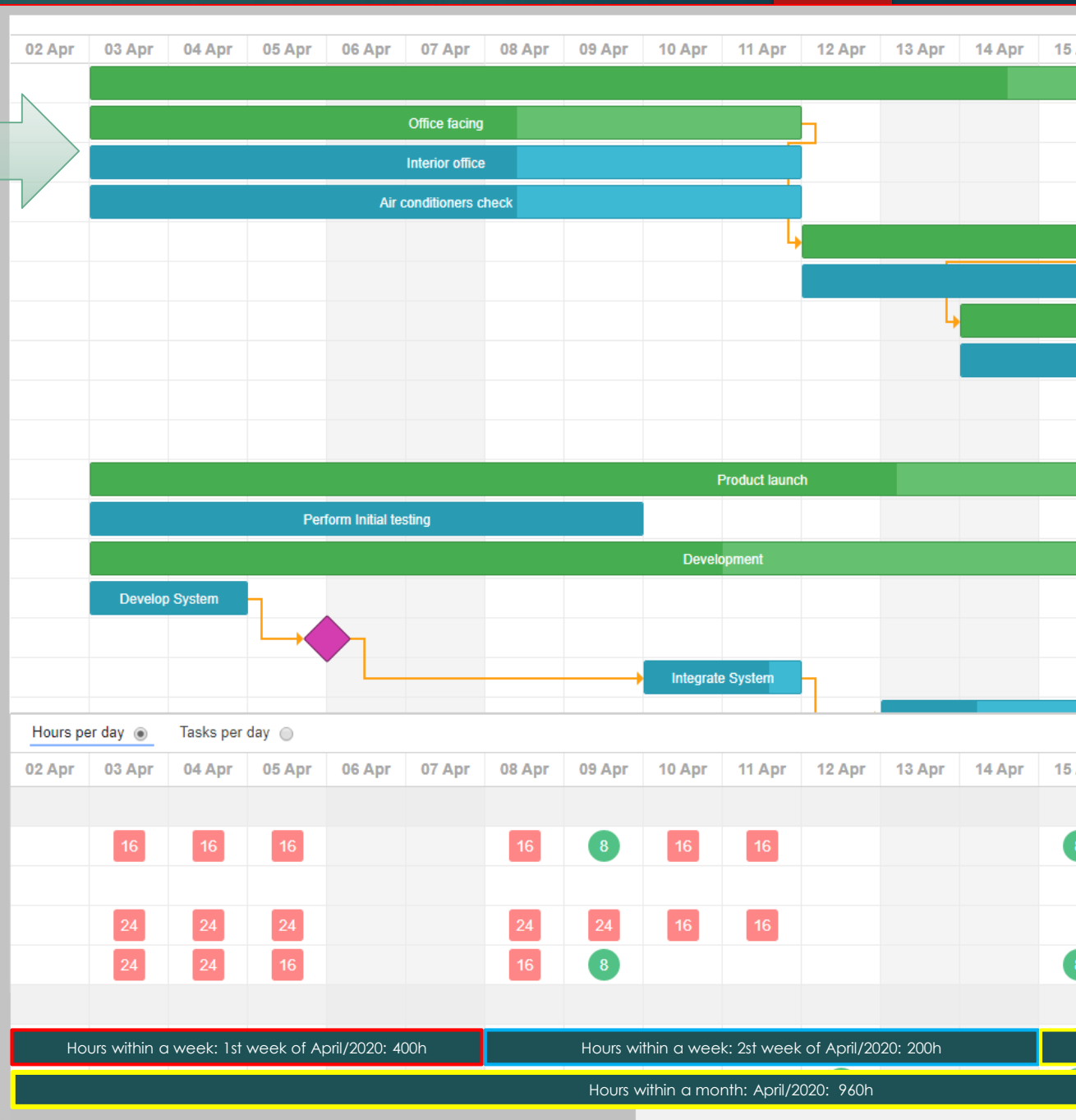


# Projetos e Tarefas na linha do tempo

Name	Complete	Workload	Capacity
QA	50%	136h	192h
John	50%	136h	192h
Development	36%	328h	384h
Mike	48%	184h	192h
Anna	21%	144h	192h
Sales	56%	104h	384h
Bill	50%	40h	192h
Floe	60%	64h	192h

Task name	Start time	Owner	Duration	+
Office itinerary	2019-04-03		21	+
Office facing	2019-04-03		7	+
Interior office	2019-04-03	John	7	+
Air conditioners chec	2019-04-03	Mike	7	+
Furniture installation	2019-04-12		8	+
Workplaces preparat	2019-04-12	Floe	8	+
The employee relocat	2019-04-14		13	+
Preparing workplace	2019-04-14	Bill	5	+
Workplaces importat	2019-04-21	Mike	4	+
Workplaces exportat	2019-04-27	Anna	3	+
Product launch	2019-04-03		13	+
Perform Initial testing	2019-04-03	Mike	5	+
Development	2019-04-03		12	+



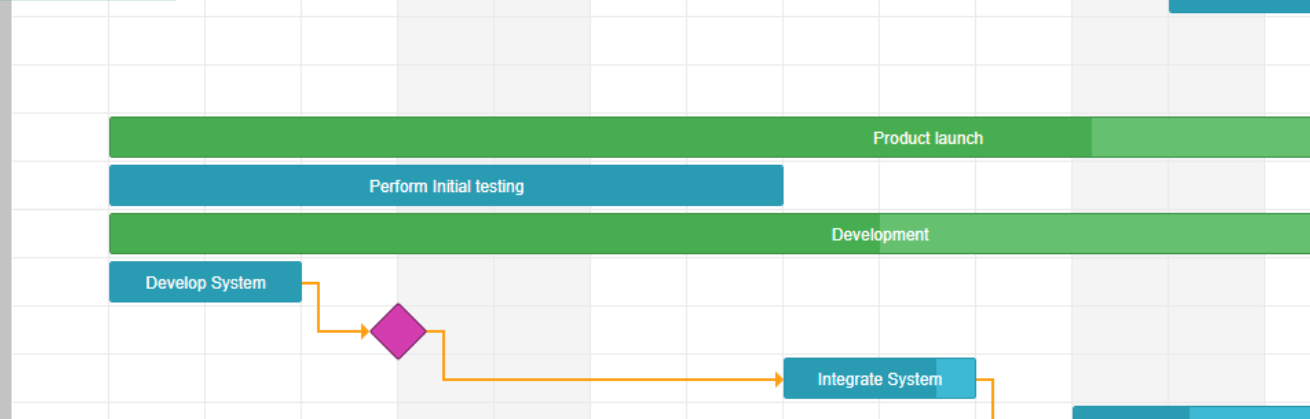
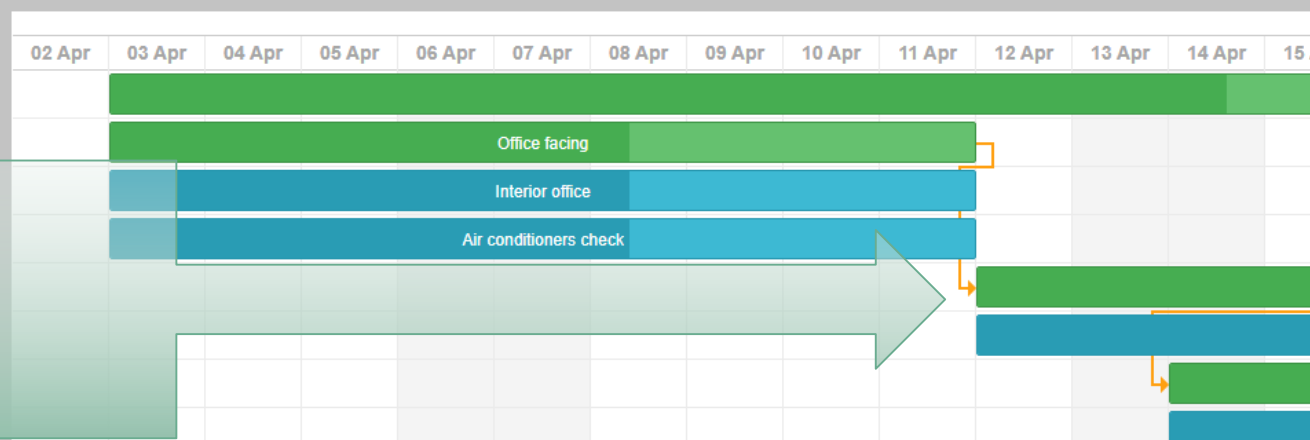


# Tarefas: Interdependência na linha do tempo

Name	Complete	Workload	Capacity
QA	50%	136h	192h
Development	36%	328h	384h
Mike	48%	184h	192h
Anna	21%	184h	192h

Sales	56%	104h	384h
Bill	50%	40h	192h
Floe	60%	64h	192h

Task name	Start time	Owner	Duration	+
Office itinerancy	2019-04-03		21	+
Office facing	2019-04-03		7	+
Interior office	2019-04-03	John	7	+
Air conditioners chec	2019-04-03	Mike	7	+
Furniture installation	2019-04-12		8	+
Workplaces preparat	2019-04-12	Floe	8	+
The employee relocat	2019-04-14		13	+
Preparing workplace	2019-04-14	Bill	5	+
Workplaces importat	2019-04-21	Mike	4	+
Workplaces exportat	2019-04-27	Anna	3	+
Product launch	2019-04-03		13	+
Perform Initial testing	2019-04-03	Mike	5	+
Development	2019-04-03		12	+



Hours within a week: 1st week of April/2020: 400h

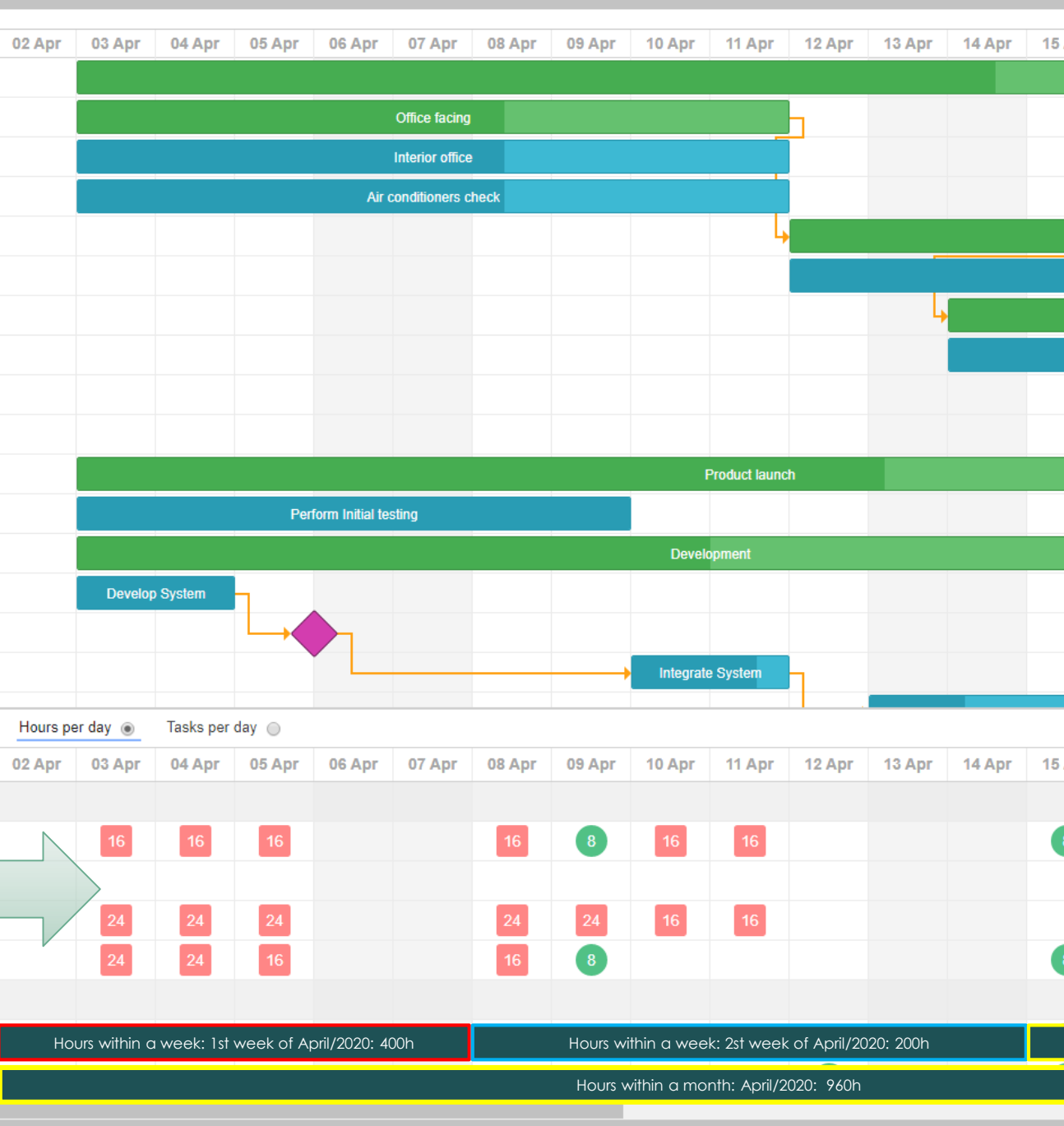
Hours within a week: 2nd week of April/2020: 200h

Hours within a month: April/2020: 960h

Horas por unidade de tempo: dias

Name	Complete	Workload	Capacity
QA	50%	136h	192h
John	50%	136h	192h
Development	36%	328h	384h
Mike	48%	184h	192h
Anna	21%	144h	192h
Sales	56%	104h	384h
Bill	50%	40h	192h
Floe	60%	64h	192h

Task name	Start time	Owner	Duration	+
Office itinerancy	2019-04-03		21	+
Office facing	2019-04-03		7	+
Interior office	2019-04-03	John	7	+
Air conditioners chec	2019-04-03	Mike	7	+
Furniture installation	2019-04-12		8	+
Workplaces preparat	2019-04-12	Floe	8	+
Employee relocat	2019-04-14		13	+
Preparing workplace	2019-04-14	Bill	5	+
Workplaces importat	2019-04-21	Mike	4	+
Workplaces exportat	2019-04-27	Anna	3	+
Product launch	2019-04-03		13	+
Perform Initial testing	2019-04-03	Mike	5	+
Development	2019-04-03		12	+

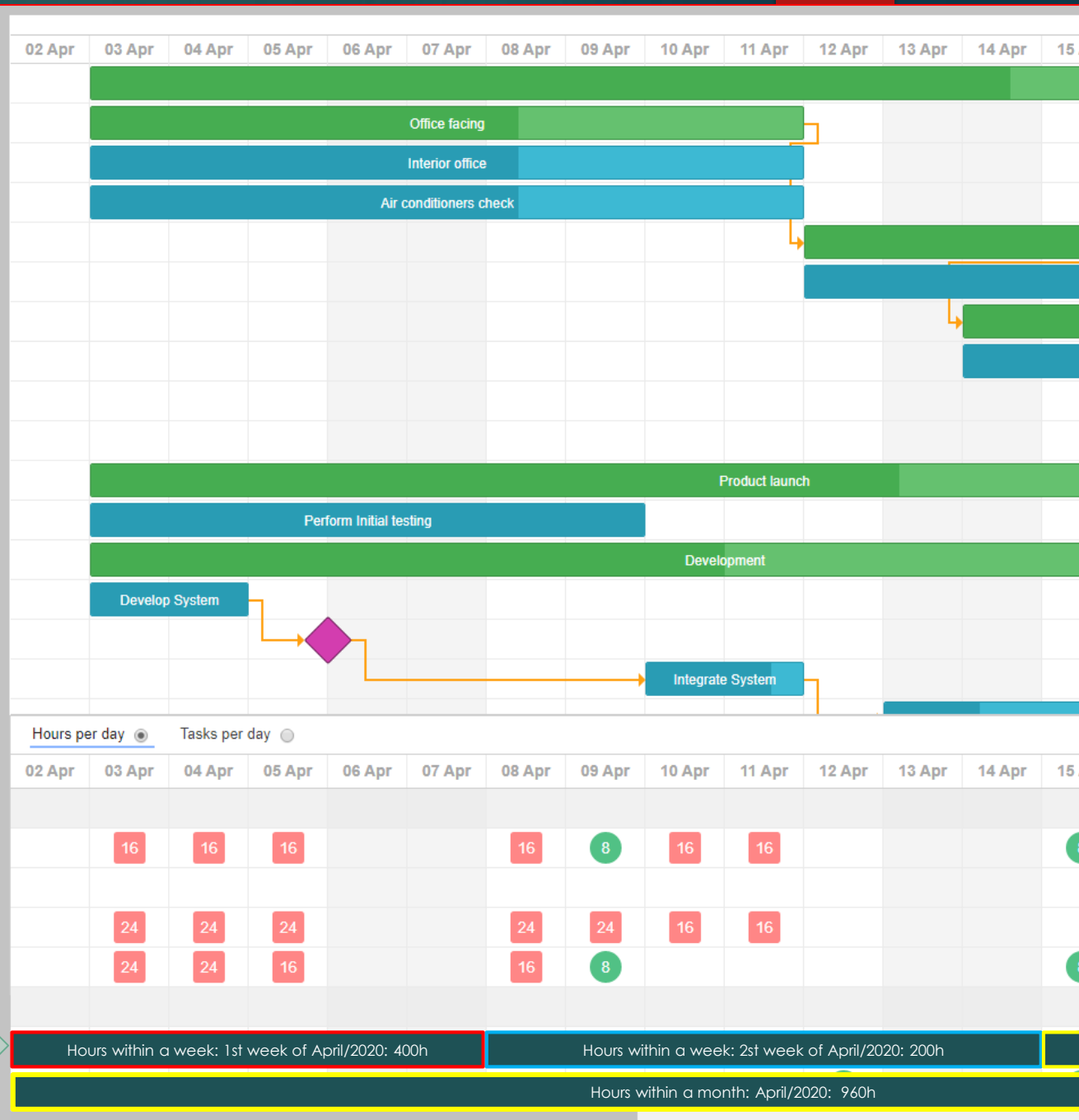


Horas por unidade de  
tempo: semanas

Name	Complete	Workload	Capacity
QA	50%	136h	192h
John	50%	136h	192h
Development	36%	328h	384h
Mike	48%	184h	192h
Anna	21%	144h	192h
Sales	56%	104h	384h
Bill	50%	40h	192h
Floe	60%	64h	192h

Task name	Start time	Owner	Duration	+
Office itinerancy	2019-04-03		21	+
Office facing	2019-04-03		7	+
Interior office	2019-04-03	John	7	+
Air conditioners chec	2019-04-03	Mike	7	+
Furniture installation	2019-04-12		8	+
Workplaces preparat	2019-04-12	Floe	8	+
The employee relocat	2019-04-14		13	+
Preparing workplace	2019-04-14	Bill	5	+
Workplaces importat	2019-04-21	Mike	4	+
Workplaces exportat	2019-04-27	Anna	3	+
Product launch	2019-04-03		13	+
Perform Initial testing	2019-04-03	Mike	5	+
Development	2019-04-03		12	+

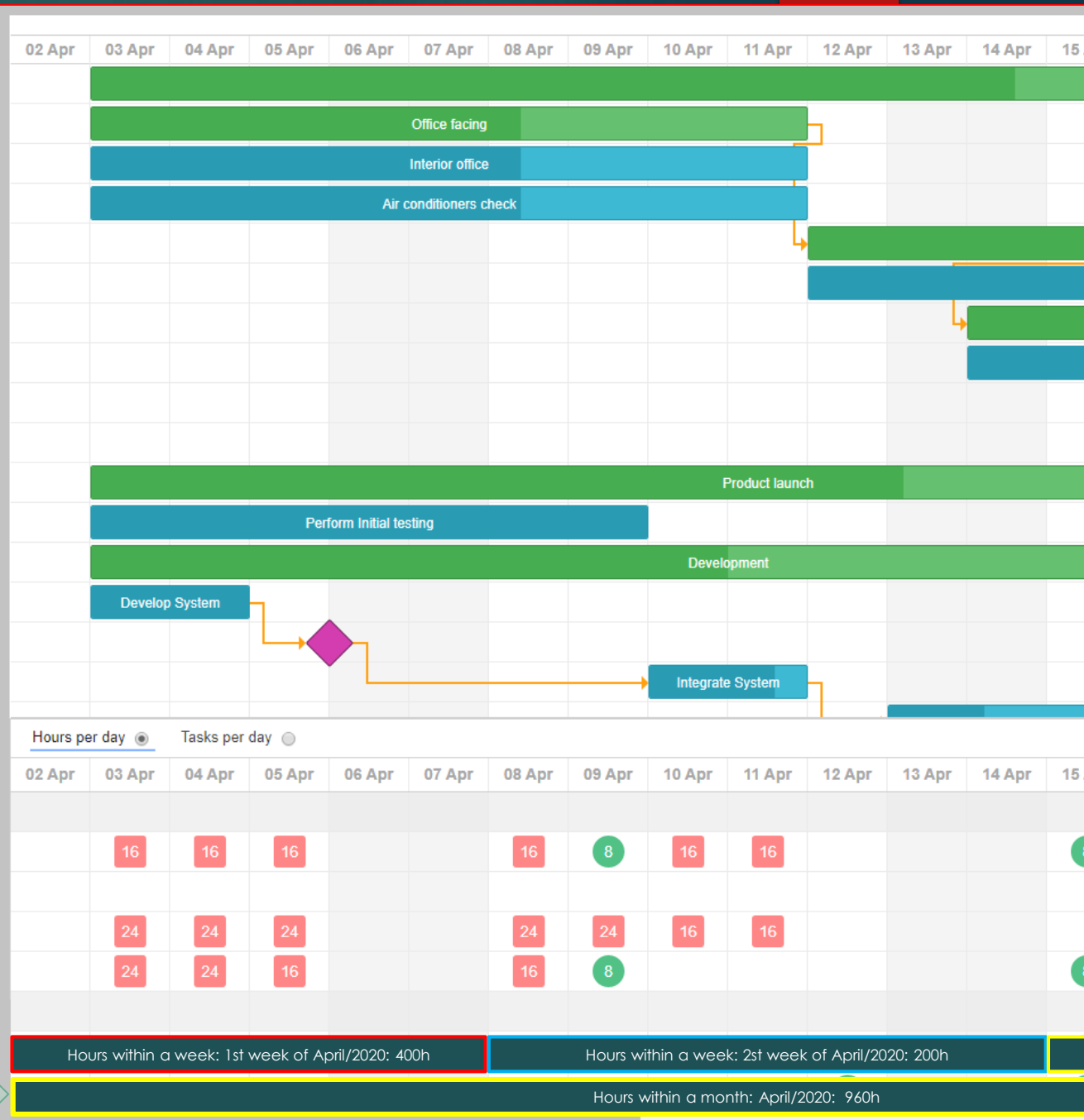


Horas por unidade de  
tempo: mês

Name	Complete	Workload	Capacity
QA	50%	136h	192h
John	50%	136h	192h
Development	36%	328h	384h
Mike	48%	184h	192h
Anna	21%	144h	192h
Sales	56%	104h	384h
Bill	50%	40h	192h
Floe	60%	64h	192h

Task name	Start time	Owner	Duration	+
Office itinerancy	2019-04-03		21	+
Office facing	2019-04-03		7	+
Interior office	2019-04-03	John	7	+
Air conditioners chec	2019-04-03	Mike	7	+
Furniture installation	2019-04-12		8	+
Workplaces preparat	2019-04-12	Floe	8	+
The employee relocat	2019-04-14		13	+
Preparing workplace	2019-04-14	Bill	5	+
Workplaces importat	2019-04-21	Mike	4	+
Workplaces exportat	2019-04-27	Anna	3	+
Product launch	2019-04-03		13	+
Perform Initial testing	2019-04-03	Mike	5	+
Development	2019-04-03		12	+

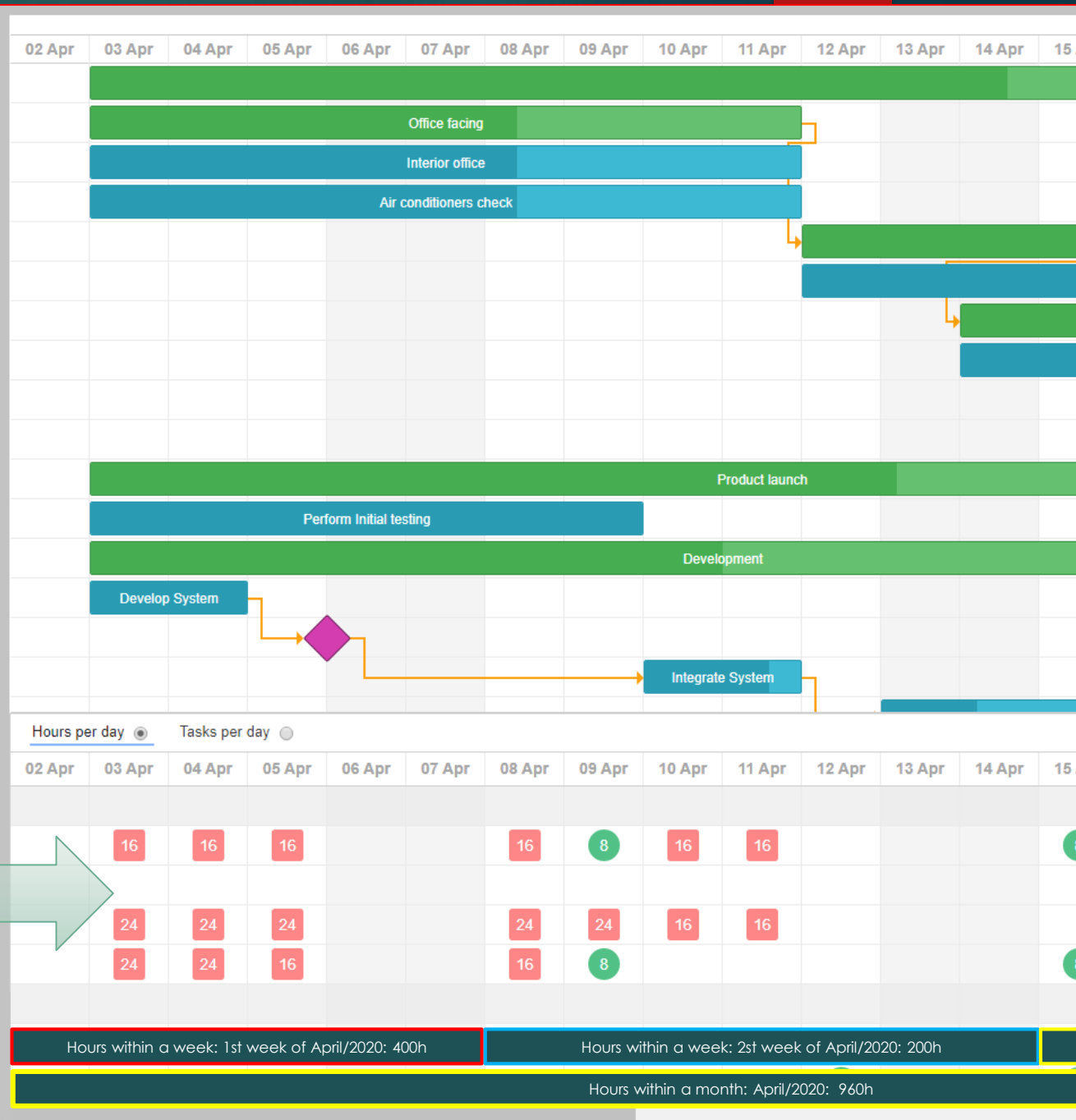


Horas por unidade de tempo: código de cores

Name	Complete	Workload	Capacity
QA	50%	136h	192h
John	50%	136h	192h
Development	36%	328h	384h
Mike	48%	184h	192h
Anna	21%	144h	192h
Sales	56%	104h	384h
Bill	50%	40h	192h
Floe	60%	64h	192h





Task name	Start time	Owner	Duration	+
Office itinerancy	2019-04-03		21	+
Office facing	2019-04-03		7	+
Interior office	2019-04-03	John	7	+
Air conditioners chec	2019-04-03	Mike	7	+
Furniture installation	2019-04-12		8	+
Workplaces preparat	2019-04-12	Floe	8	+
Employee relocat	2019-04-14		13	+
Preparing workplace	2019-04-14	Bill	5	+
Workplaces importat	2019-04-21	Mike	4	+
Workplaces exportat	2019-04-27	Anna	3	+
Product launch	2019-04-03		13	+
Perform Initial testing	2019-04-03	Mike	5	+
Development	2019-04-03		12	+
















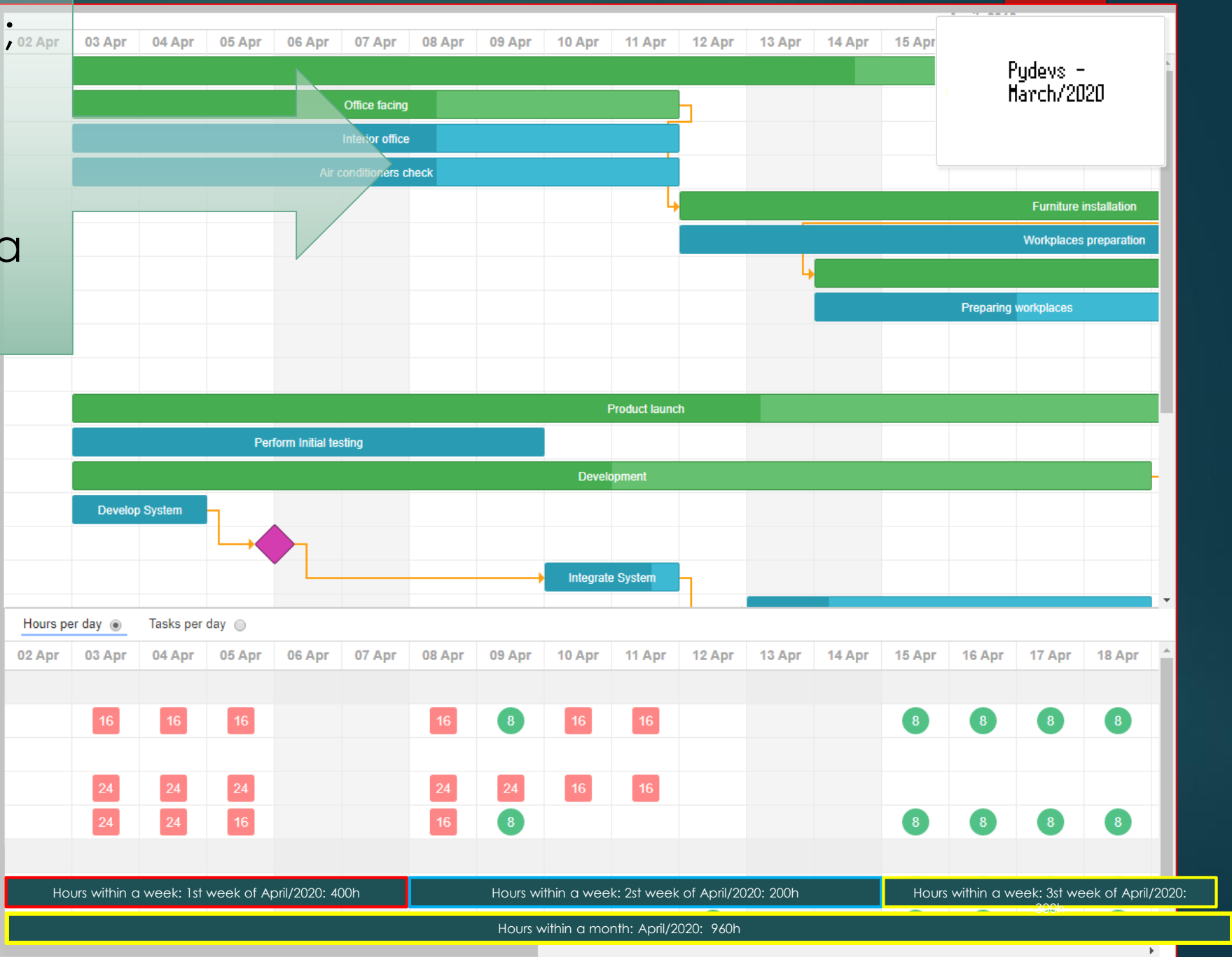
## Visão Futura: Funcionalidades e experiência do usuário

Vide diagramas a seguir.

- Mouse: clica e arrasta;
- Usuário: Fornece o nome do Recurso e Interdependência;
- Adição na tela 1, Tela 03 e Tela 04;

 Bill		50%	40h	192h
 Floe		60%	64h	192h

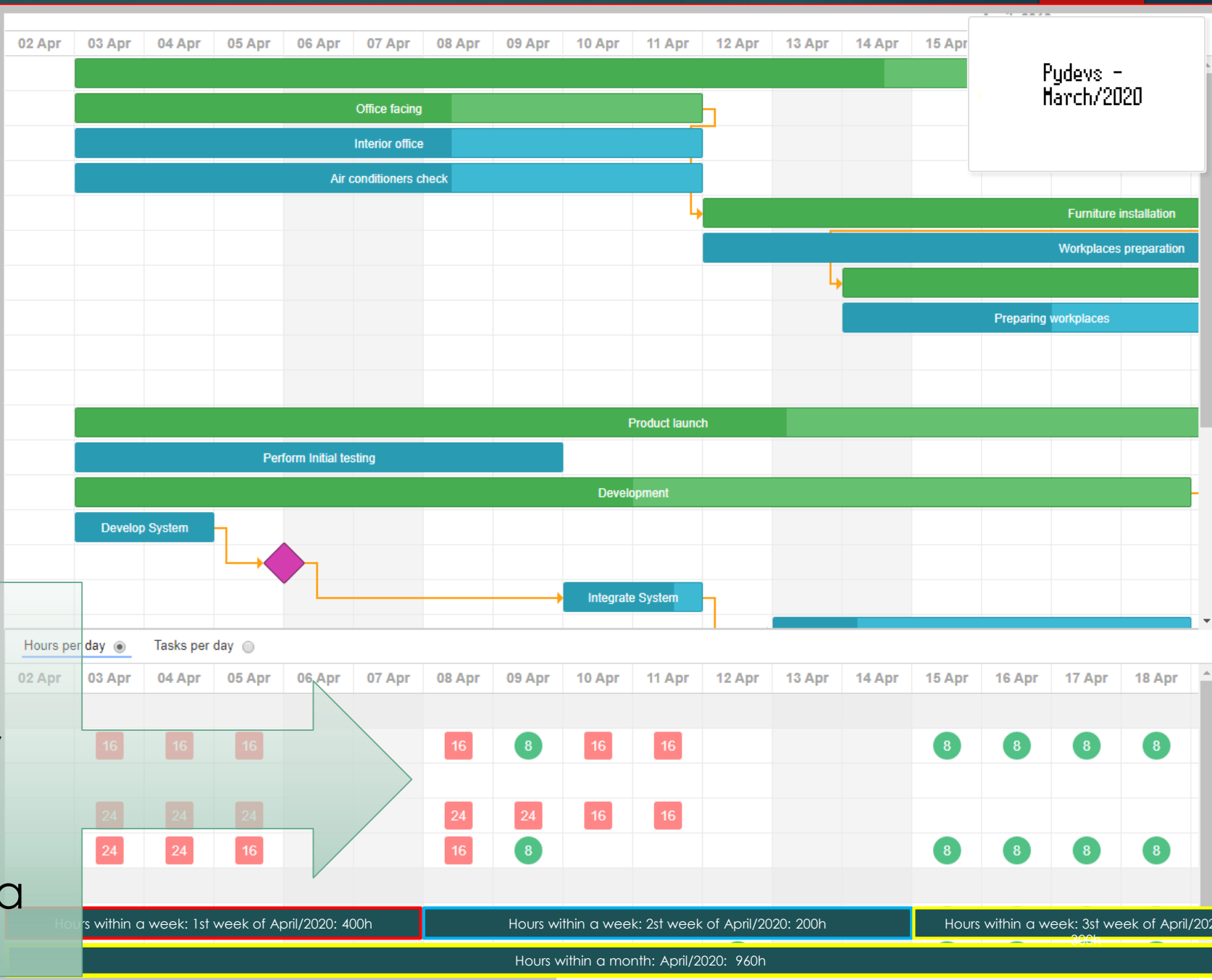
Task name	Start time	Owner	Duration	+
 Office itinerancy	2019-04-03		21	+
 Office facing	2019-04-03		7	+
 Interior office	2019-04-03	John	7	+
 Air conditioners chec	2019-04-03	Mike	7	+
 Furniture installation	2019-04-12		8	+
 Workplaces preparat	2019-04-12	Floe	8	+
 The employee relocat	2019-04-14		13	+
 Preparing workplace	2019-04-14	Bill	5	+
 Workplaces importat	2019-04-21	Mike	4	+
 Workplaces exportat	2019-04-27	Anna	3	+
 Product launch	2019-04-03		13	+
 Perform Initial testing	2019-04-03	Mike	5	+
 Development	2019-04-03		12	+





Name	Complete	Workload	Capacity
QA	50%	136h	192h
John	50%	136h	192h
Development	36%	328h	384h
Mike	48%	184h	192h
Anna	21%	144h	192h
Sales	56%	104h	384h
Bill	50%	40h	192h
Floe	60%	64h	192h

Task name	Start time	Owner	Duration	+
Office itinerary	2019-04-03		21	+
Office facing	2019-04-03		7	+
Meeting office	2019-04-03	Mike	7	+
Air conditioning	2019-04-03	Mike	7	+
Furniture installation	2019-04-12		8	+
Workplaces exportat	2019-04-12	Florence	8	+
The employee relocat	2019-04-14		13	+
Preparing workplace	2019-04-14	Simon	9	+
Workplaces exportat	2019-04-14	Anna	4	+
Workplaces exportat	2019-04-27	Anna	3	+
Testing	2019-04-03	Mike	5	+



## Visão Futura: Infraestrutura Tecnológica.

Nessa fase do projeto (pensar), Pydevs está testando diversas linguagens e respectivas bibliotecas, comparando com exercícios da aula de Engenharia de Software.

Confirmando-se as expectativas com no estado do estudo das linguagens de programação e bibliotecas, teremos:

- Linguagem de Programação: Python;
- Camadas de HTML, json, Javascript são esperadas; (...)

## Visão Futura: Infraestrutura Tecnológica.

(...)

- Aplicação web, sem estrutura desktop;
- Banco de dados ainda não definido;
- Modelagem inicial do BD: Rascunho versão 01 concluída;

**Repositório Github:**

<https://github.com/pydevelopers/pydevs>

**Feedback:**

**Fabio Odaguiri LL.M.**

**Product Owner Pydevs**

**Slack: “pydevs-fatec.slack.com”**

**Whatsapp: (11) 9 4109-3720 (fora do horário comercial)**

**fabio.odaguiri@fatec.sp.gov.br**