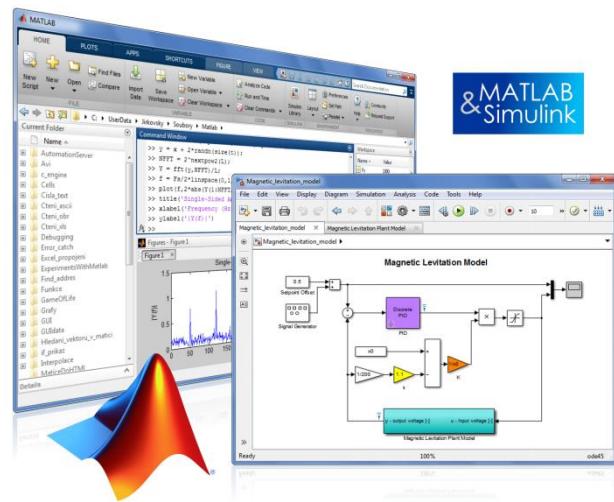


10.09.2020 Brno

TCC 2020

Novinky, tipy a triky pro vytváření grafů v prostředí MATLAB



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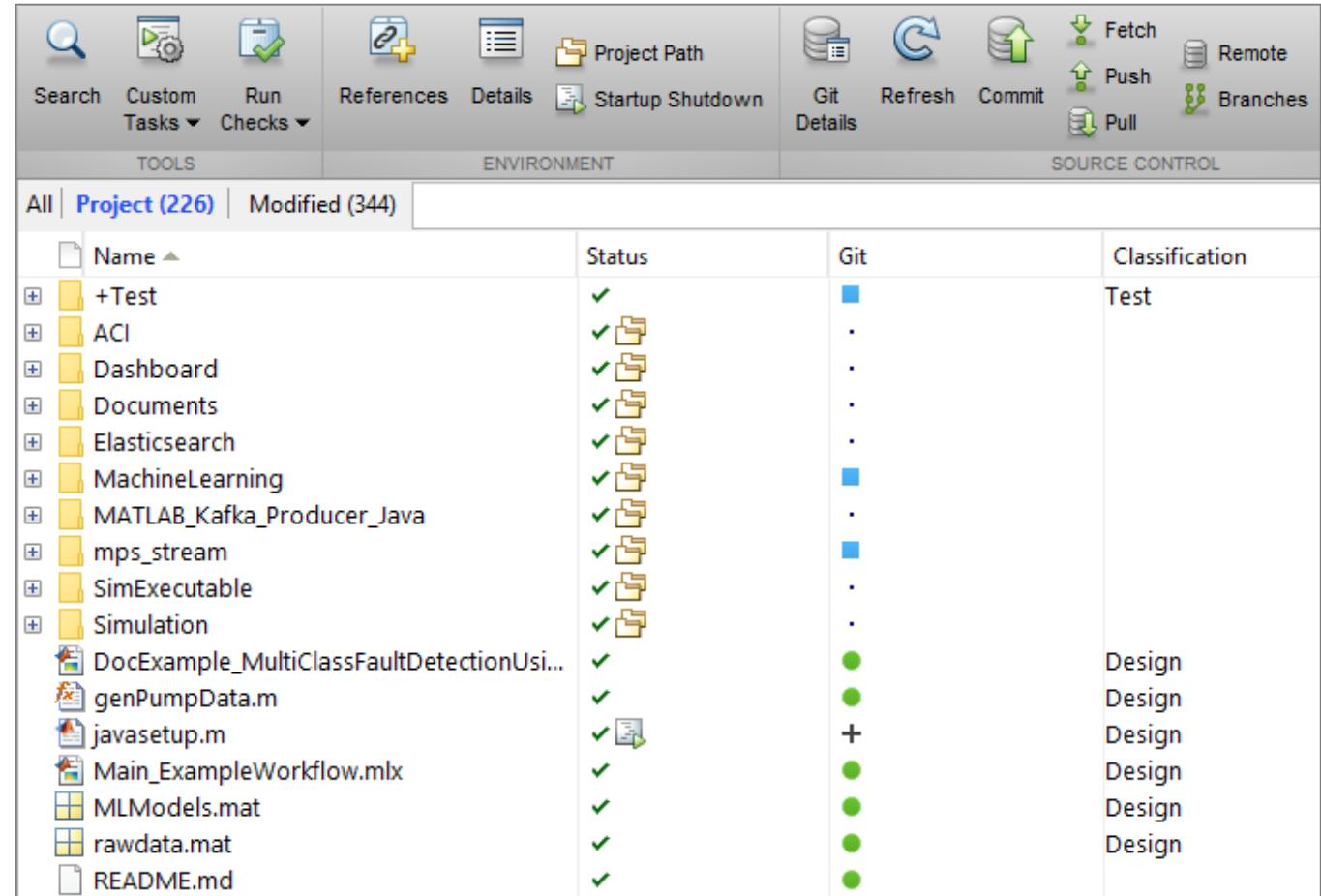
Obsah

- Nové a aktualizované grafické funkce
- Chart Classes
- App Building (App Designer / uifigure)

Organize, manage, and share your code with MATLAB projects

R2019a

- Configure your environment
- Analyze dependencies
- Track and control changes with source control integration
- Package and share projects

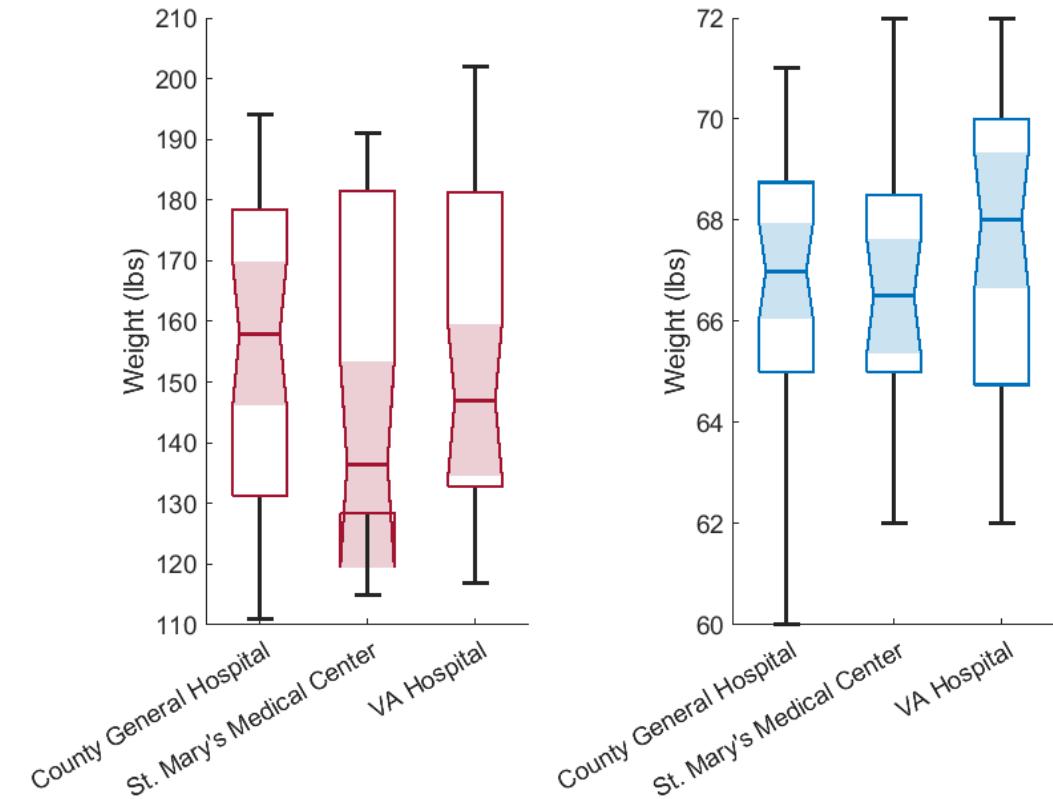


The screenshot shows the MATLAB Project browser interface. At the top, there are tabs for Search, Custom Tasks, Run Checks, References, Details, Project Path, Startup Shutdown, Git Details, Refresh, Commit, and Source Control. The Source Control tab is selected, showing icons for Fetch, Push, Remote, Pull, and Branches. Below the tabs, there are three tabs: All, Project (226), and Modified (344). The main area is a table with columns for Name, Status, Git, and Classification. The table lists various MATLAB files and folders, each with a status indicator (green checkmark) and a Git icon. The Classification column indicates the type of file.

Name	Status	Git	Classification
+Test	✓	■	Test
ACI	✓	■	.
Dashboard	✓	■	.
Documents	✓	■	.
Elasticsearch	✓	■	.
MachineLearning	✓	■	.
MATLAB_Kafka_Producer_Java	✓	■	.
mps_stream	✓	■	.
SimExecutable	✓	■	.
Simulation	✓	■	.
DocExample_MultiClassFaultDetectionUsi...	✓	●	Design
genPumpData.m	✓	●	Design
javasetup.m	✓	+	Design
Main_ExampleWorkflow mlx	✓	●	Design
MLModels.mat	✓	●	Design
rawdata.mat	✓	●	Design
README.md	✓	●	Design

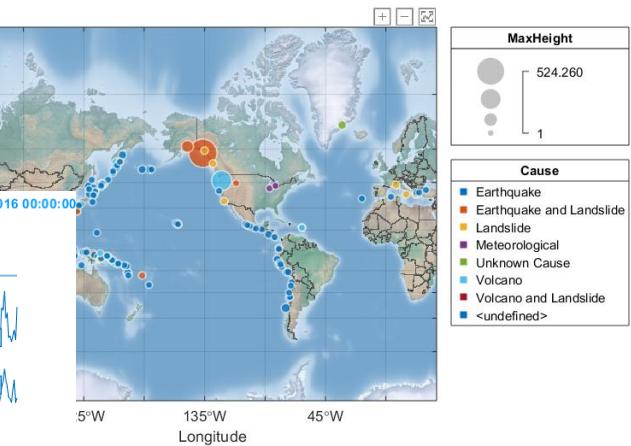
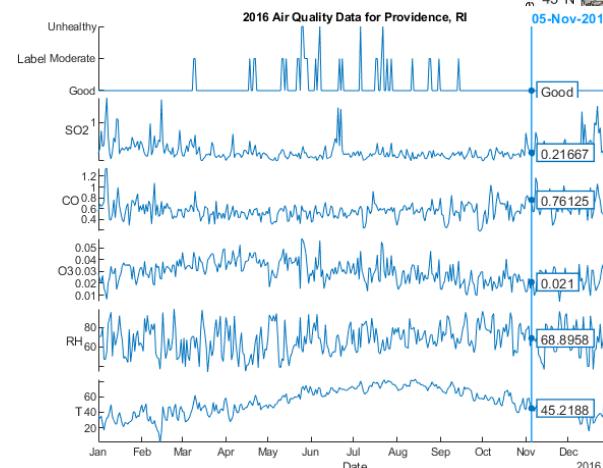
Nové grafické funkce

- Box plots
 - `boxchart`
- Position, nest, and change the grid size of layouts
 - `tiledlayout`
- Save and copy graphics with improved support for publishing workflows
 - `exportgraphics`, `copygraphics`



Nové a aktualizované grafické funkce

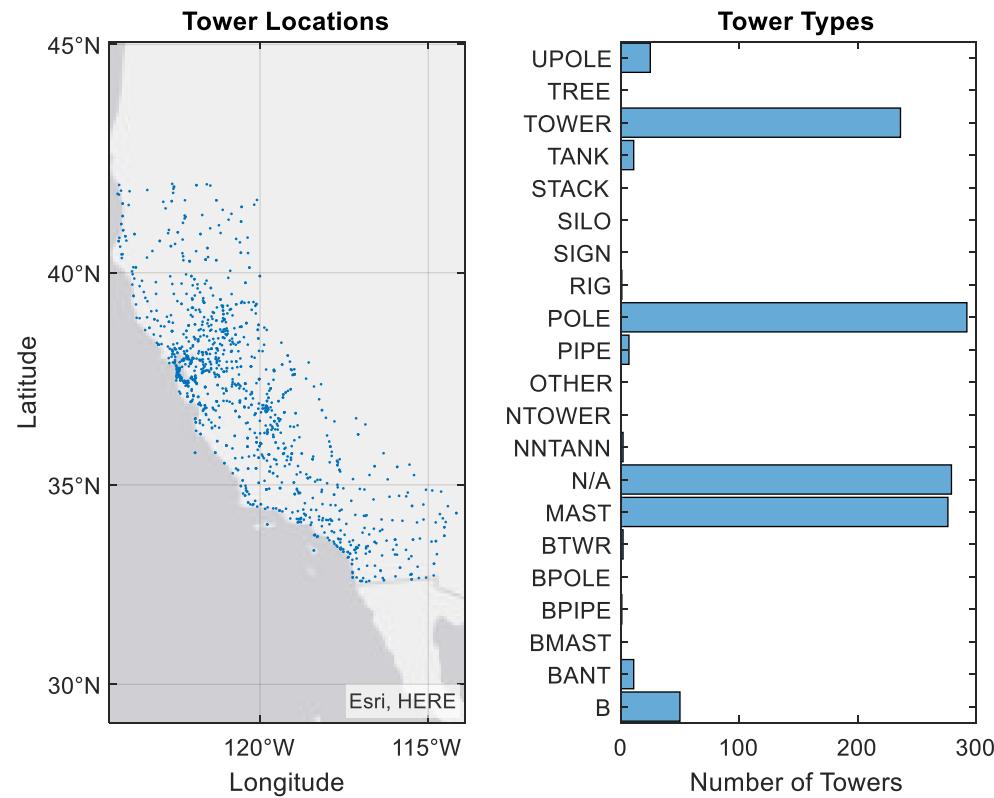
- Updated polar plots and dual-axes support
 - Animated lines
 - Bivariate histograms
 - Heat maps
 - Word cloud
 - Big data (`tall`) support
 - Geographic plots
 - Geographic bubble chart
 - Line, scatter, and point density plots on interactive maps
 - Stacked plot
 - Scatter histogram
 - Parallel coordinates



1	50	41	34	29	26	25	26	29	34	41	50
2	32	23	16	11	8	7	8	11	16	23	32
3	18	9	2	6	12	14	12	6	2	9	18
4	9	2	16	26	32	34	32	26	16	2	8
	28	38	44	46	44	38	28	14	2		
	32	42	48	50	48	42	32	18	0		
	28	38	44	46	44	38	28	14	2		
	16	26	32	34	32	26	16	2	8		
	2	6	12	14	12	6	2	9	18		
	16	11	8	7	8	11	16	23	32		
	34	29	26	25	26	29	34	41	50		

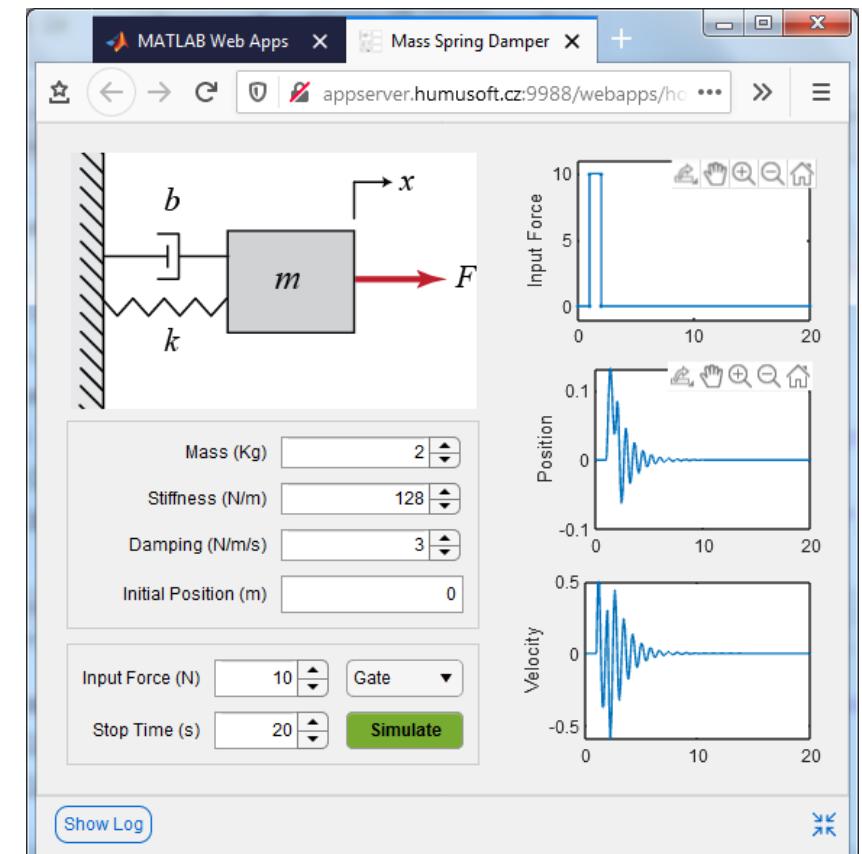
Chart Classes

- A subclass of the *ChartContainer* base class
- If you write functions for creating specialized visualizations and share them with others, provide a convenient interface for users
 - user sets a property to customize chart
 - hide implementation details from users
 - `gca` and `findobj` functions can return instances of your chart



App Designer

- Toolbar, Context Menu
- UITable
 - Cell styling
- Graphs
 - Create annotations, configure data tips, brush data
 - Save and copy graphics
- HTML Component
 - HTML, JavaScript®, CSS
- Auto-reflowing app
- App Testing Framework
- Web App Server
- GUIDE to App Designer Migration Tool



App Designer

UITable Performance & Cell Styling (19a, 19b)

Image Component (19a)



The screenshot displays a mobile application interface for Premier League data. At the top, there's a navigation bar with the Premier League logo, tabs for "By Seasons" and "Last 10 Years", a dropdown for the season "2018 - 2019", and a help icon. Below the navigation is a **UITable** showing the top 12 clubs from the 2018-2019 season, with columns for Pos, Club, MP, W, D, L, GF, GA, GD, and Points. The table uses color-coded rows for different clubs. To the right of the table is an **Image Component (19a)** showing the Manchester City logo and some statistics: Red/Yellow cards (1 red, 44 yellow), and a W/D/L trend chart. At the bottom is a **Custom Chart (19b)** titled "Position By MatchDay" showing the league table position over 37 match days for all 20 clubs.

Pos	Club	MP	W	D	L	GF	GA	GD	Points
1	Man City	37	31	2	4	91	22	69	95
2	Liverpool	37	29	7	1	87	22	65	94
3	Chelsea	37	21	8	8	63	39	24	71
4	Tottenham	37	23	1	13	65	37	28	70
5	Arsenal	37	20	7	10	70	50	20	67
6	Man United	37	19	9	9	65	52	13	66
7	Wolves	37	16	9	12	47	44	3	57
8	Everton	37	15	8	14	52	44	8	53
9	Leicester	37	15	6	16	51	48	3	51
10	Watford	37	14	8	15	51	55	-4	50
11	West Ham	37	14	7	16	48	54	-6	49
12	Crystal Palace	37	12	7	17	46	50	4	46

Built using Grid Layout Enhancements (18b, 19a, 19b)

HTML Component (19b)

Custom Chart (19b)

Děkuji za pozornost