



Universidade Federal de São Carlos - UFSCar

| | |
|------------------------------|-------------|
| Aluno 1 | prontuario1 |
| ALUNO 2 com sobrenome grande | prontuario2 |
| ALUNO 3 | prontuario3 |
| ALUNO 4 | prontuario4 |

TÍTULO DO TRABALHO

São Paulo - Brasil

DATA DO TRABALHO

Universidade Federal de São Carlos - UFSCar

| | |
|------------------------------|-------------|
| Aluno 1 | prontuario1 |
| ALUNO 2 com sobrenome grande | prontuario2 |
| ALUNO 3 | prontuario3 |
| ALUNO 4 | prontuario4 |

TÍTULO DO TRABALHO

Modelo canônico de trabalho monográfico
acadêmico em conformidade com as normas
ABNT apresentado à comunidade de usuários
L^AT_EX.

Orientador: ORIENTADOR

Coorientador: COORIENTADOR

Universidade Federal de São Carlos - UFSCar

Informática

Tecnologia em Análise e Desenvolvimento de Sistemas

A6PGP - Prática de Gerenciamento de Projetos

São Paulo - Brasil

DATA DO TRABALHO

Resumo

Segundo a ??, 3.1-3.2), o resumo deve ressaltar o objetivo, o método, os resultados e as conclusões do documento. A ordem e a extensão destes itens dependem do tipo de resumo (informativo ou indicativo) e do tratamento que cada item recebe no documento original. O resumo deve ser precedido da referência do documento, com exceção do resumo inserido no próprio documento. (...) As palavras-chave devem figurar logo abaixo do resumo, antecedidas da expressão Palavras-chave:, separadas entre si por ponto e finalizadas também por ponto.

GOMES : (??)

Palavras-chaves: latex. abntex. editoração de texto.

Abstract

This is the english abstract.

Key-words: latex. abntex. text editoration.

Lista de ilustrações

| | |
|--|----|
| Figura 1 – A delimitação do espaço | 27 |
| Figura 2 – Logo IFSP | 28 |

Lista de tabelas

| | |
|---|----|
| Tabela 1 – Um Exemplo de tabela | 27 |
|---|----|

Lista de quadros

| | |
|---|----|
| Quadro 1 – Níveis de investigação | 26 |
|---|----|

Lista de abreviaturas e siglas

| | |
|--------|--|
| ABNT | Associação Brasileira de Normas Técnicas |
| abnTeX | ABsurdas Normas para TeX |
| FAQ | <i>Frequently asked questions</i> - Perguntas frequentes |
| IFSP | Instituto Federal de Educação, Ciência e Tecnologia de São Paulo |

Lista de símbolos

| | |
|-----------|----------------------------|
| Γ | Letra grega Gama |
| Λ | Lambda |
| ζ | Letra grega minúscula zeta |
| \in | Pertence |

Sumário

| | | |
|-------|---|----|
| 1 | MODELO TEÓRICO E PRESSUPOSTOS (OU HIPÓTESES) DA PESQUISA | 11 |
| 2 | MÉTODOS DE PESQUISA | 13 |
| 2.1 | Tipo de Pesquisa | 13 |
| 2.2 | Plano Amostral (se Pesquisa Quantitativa) | 14 |
| 2.3 | Instrumento de Pesquisa e Escalas Utilizadas (Escalas se Pesquisa Quantitativa) | 14 |
| 2.4 | Coleta de Dados | 15 |
| 2.5 | Análise de Dados | 16 |
| 3 | RESULTADOS DA PESQUISA | 17 |
| 3.1 | Assunto 1 | 17 |
| 3.2 | Assunto 2 | 18 |
| 3.3 | Assunto 3 | 18 |
| 3.4 | Discussão dos Resultados Observados | 19 |
| 4 | CONSIDERAÇÕES FINAIS | 21 |
| 4.1 | Resposta à Questão de Pesquisa | 21 |
| 4.2 | Objetivos Propostos | 22 |
| 4.3 | Contribuições Acadêmicas e Gerenciais | 22 |
| 4.4 | Limitações da Pesquisa e Contribuições para Estudo | 23 |
| 5 | EXEMPLOS \LaTeX | 25 |
| | Exemplos que devem ser lidos :-) | 25 |
| 5.1 | Detalhes textuais | 25 |
| 5.1.1 | Caracteres Reservados | 25 |
| 5.1.2 | Listas | 26 |
| 5.1.3 | Elementos não textuais | 26 |
| 5.1.4 | Tabelas e Quadros | 26 |
| 5.1.5 | Figuras | 27 |
| | Conclusão | 29 |

| | |
|--|-----------|
| APÊNDICES | 30 |
| APÊNDICE A – QUISQUE LIBERO JUSTO | 31 |
| APÊNDICE B – NULLAM ELEMENTUM URNA VEL IMPERDIET SODALES ELIT IPSUM PHARETRA LIGULA AC PRETIUM ANTE JUSTO A NULLA CURABI- TUR TRISTIQUE ARCU EU METUS | 32 |
| ANEXOS | 34 |
| ANEXO A – MANUAL TODONOTES | 35 |
| ANEXO B – MANUAL PDFPAGES(PARCIAL) | 69 |
| ANEXO C – CRAS NON URNA SED FEUGIAT CUM SOCIIS NA- TOQUE PENATIBUS | 73 |

1 Modelo Teórico e Pressupostos (ou Hipóteses) da Pesquisa

Fusce mauris. Vestibulum luctus nibh at lectus. Sed bibendum, nulla a faucibus semper, leo velit ultricies tellus, ac venenatis arcu wisi vel nisl. Vestibulum diam. Aliquam pellentesque, augue quis sagittis posuere, turpis lacus congue quam, in hendrerit risus eros eget felis. Maecenas eget erat in sapien mattis porttitor. Vestibulum porttitor. Nulla facilisi. Sed a turpis eu lacus commodo facilisis. Morbi fringilla, wisi in dignissim interdum, justo lectus sagittis dui, et vehicula libero dui cursus dui. Mauris tempor ligula sed lacus. Duis cursus enim ut augue. Cras ac magna. Cras nulla. Nulla egestas. Curabitur a leo. Quisque egestas wisi eget nunc. Nam feugiat lacus vel est. Curabitur consectetur.

Suspendisse vel felis. Ut lorem lorem, interdum eu, tincidunt sit amet, laoreet vitae, arcu. Aenean faucibus pede eu ante. Praesent enim elit, rutrum at, molestie non, nonummy vel, nisl. Ut lectus eros, malesuada sit amet, fermentum eu, sodales cursus, magna. Donec eu purus. Quisque vehicula, urna sed ultricies auctor, pede lorem egestas dui, et convallis elit erat sed nulla. Donec luctus. Curabitur et nunc. Aliquam dolor odio, commodo pretium, ultricies non, pharetra in, velit. Integer arcu est, nonummy in, fermentum faucibus, egestas vel, odio.

Sed commodo posuere pede. Mauris ut est. Ut quis purus. Sed ac odio. Sed vehicula hendrerit sem. Duis non odio. Morbi ut dui. Sed accumsan risus eget odio. In hac habitasse platea dictumst. Pellentesque non elit. Fusce sed justo eu urna porta tincidunt. Mauris felis odio, sollicitudin sed, volutpat a, ornare ac, erat. Morbi quis dolor. Donec pellentesque, erat ac sagittis semper, nunc dui lobortis purus, quis congue purus metus ultricies tellus. Proin et quam. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos hymenaeos. Praesent sapien turpis, fermentum vel, eleifend faucibus, vehicula eu, lacus.

Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Donec odio elit, dictum in, hendrerit sit amet, egestas sed, leo. Praesent feugiat sapien aliquet odio. Integer vitae justo. Aliquam vestibulum fringilla lorem. Sed neque lectus, consectetur at, consectetur sed, eleifend ac, lectus. Nulla facilisi. Pellentesque eget lectus. Proin eu metus. Sed porttitor. In hac habitasse platea dictumst. Suspendisse eu lectus. Ut mi mi, lacinia sit amet, placerat et, mollis vitae, dui. Sed ante tellus, tristique ut, iaculis eu, malesuada ac, dui. Mauris nibh leo, facilisis non, adipiscing quis, ultrices a, dui.

Morbi luctus, wisi viverra faucibus pretium, nibh est placerat odio, nec commodo

wisi enim eget quam. Quisque libero justo, consectetuer a, feugiat vitae, porttitor eu, libero. Suspendisse sed mauris vitae elit sollicitudin malesuada. Maecenas ultricies eros sit amet ante. Ut venenatis velit. Maecenas sed mi eget dui varius euismod. Phasellus aliquet volutpat odio. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Pellentesque sit amet pede ac sem eleifend consectetuer. Nullam elementum, urna vel imperdiet sodales, elit ipsum pharetra ligula, ac pretium ante justo a nulla. Curabitur tristique arcu eu metus. Vestibulum lectus. Proin mauris. Proin eu nunc eu urna hendrerit faucibus. Aliquam auctor, pede consequat laoreet varius, eros tellus scelerisque quam, pellentesque hendrerit ipsum dolor sed augue. Nulla nec lacus.

Suspendisse vitae elit. Aliquam arcu neque, ornare in, ullamcorper quis, commodo eu, libero. Fusce sagittis erat at erat tristique mollis. Maecenas sapien libero, molestie et, lobortis in, sodales eget, dui. Morbi ultrices rutrum lorem. Nam elementum ullamcorper leo. Morbi dui. Aliquam sagittis. Nunc placerat. Pellentesque tristique sodales est. Maecenas imperdiet lacinia velit. Cras non urna. Morbi eros pede, suscipit ac, varius vel, egestas non, eros. Praesent malesuada, diam id pretium elementum, eros sem dictum tortor, vel consectetuer odio sem sed wisi.

2 Métodos de Pesquisa

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

2.1 Tipo de Pesquisa

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetur adipiscing elit. In hac habitasse platea dictumst. Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula.

Fusce mauris. Vestibulum luctus nibh at lectus. Sed bibendum, nulla a faucibus semper, leo velit ultricies tellus, ac venenatis arcu wisi vel nisl. Vestibulum diam. Aliquam pellentesque, augue quis sagittis posuere, turpis lacus congue quam, in hendrerit risus eros eget felis. Maecenas eget erat in sapien mattis porttitor. Vestibulum porttitor. Nulla facilisi. Sed a turpis eu lacus commodo facilisis. Morbi fringilla, wisi in dignissim interdum, justo lectus sagittis dui, et vehicula libero dui cursus dui. Mauris tempor ligula sed lacus. Duis cursus enim ut augue. Cras ac magna. Cras nulla. Nulla egestas. Curabitur a leo. Quisque egestas wisi eget nunc. Nam feugiat lacus vel est. Curabitur consectetur.

2.2 Plano Amostral (se Pesquisa Quantitativa)

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetur adipiscing elit. In hac habitasse platea dictumst. Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula.

Fusce mauris. Vestibulum luctus nibh at lectus. Sed bibendum, nulla a faucibus semper, leo velit ultricies tellus, ac venenatis arcu wisi vel nisl. Vestibulum diam. Aliquam pellentesque, augue quis sagittis posuere, turpis lacus congue quam, in hendrerit risus eros eget felis. Maecenas eget erat in sapien mattis porttitor. Vestibulum porttitor. Nulla facilisi. Sed a turpis eu lacus commodo facilisis. Morbi fringilla, wisi in dignissim interdum, justo lectus sagittis dui, et vehicula libero dui cursus dui. Mauris tempor ligula sed lacus. Duis cursus enim ut augue. Cras ac magna. Cras nulla. Nulla egestas. Curabitur a leo. Quisque egestas wisi eget nunc. Nam feugiat lacus vel est. Curabitur consectetur.

2.3 Instrumento de Pesquisa e Escalas Utilizadas (Escalas se Pesquisa Quantitativa)

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetur adipiscing elit. In hac habitasse platea dictumst. Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula.

Fusce mauris. Vestibulum luctus nibh at lectus. Sed bibendum, nulla a faucibus semper, leo velit ultricies tellus, ac venenatis arcu wisi vel nisl. Vestibulum diam. Aliquam pellentesque, augue quis sagittis posuere, turpis lacus congue quam, in hendrerit risus eros eget felis. Maecenas eget erat in sapien mattis porttitor. Vestibulum porttitor. Nulla facilisi. Sed a turpis eu lacus commodo facilisis. Morbi fringilla, wisi in dignissim interdum, justo lectus sagittis dui, et vehicula libero dui cursus dui. Mauris tempor ligula sed lacus. Duis cursus enim ut augue. Cras ac magna. Cras nulla. Nulla egestas. Curabitur a leo. Quisque egestas wisi eget nunc. Nam feugiat lacus vel est. Curabitur consectetur.

2.4 Coleta de Dados

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetur adipiscing elit. In hac habitasse platea dictumst. Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula.

Fusce mauris. Vestibulum luctus nibh at lectus. Sed bibendum, nulla a faucibus semper, leo velit ultricies tellus, ac venenatis arcu wisi vel nisl. Vestibulum diam. Aliquam pellentesque, augue quis sagittis posuere, turpis lacus congue quam, in hendrerit risus eros eget felis. Maecenas eget erat in sapien mattis porttitor. Vestibulum porttitor. Nulla facilisi. Sed a turpis eu lacus commodo facilisis. Morbi fringilla, wisi in dignissim interdum, justo lectus sagittis dui, et vehicula libero dui cursus dui. Mauris tempor ligula sed lacus.

Duis cursus enim ut augue. Cras ac magna. Cras nulla. Nulla egestas. Curabitur a leo. Quisque egestas wisi eget nunc. Nam feugiat lacus vel est. Curabitur consectetur.

2.5 Análise de Dados

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetur adipiscing elit. In hac habitasse platea dictumst. Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula.

Fusce mauris. Vestibulum luctus nibh at lectus. Sed bibendum, nulla a faucibus semper, leo velit ultricies tellus, ac venenatis arcu wisi vel nisl. Vestibulum diam. Aliquam pellentesque, augue quis sagittis posuere, turpis lacus congue quam, in hendrerit risus eros eget felis. Maecenas eget erat in sapien mattis porttitor. Vestibulum porttitor. Nulla facilisi. Sed a turpis eu lacus commodo facilisis. Morbi fringilla, wisi in dignissim interdum, justo lectus sagittis dui, et vehicula libero dui cursus dui. Mauris tempor ligula sed lacus. Duis cursus enim ut augue. Cras ac magna. Cras nulla. Nulla egestas. Curabitur a leo. Quisque egestas wisi eget nunc. Nam feugiat lacus vel est. Curabitur consectetur.

3 Resultados da Pesquisa

Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

3.1 Assunto 1

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetur adipiscing elit. In hac habitasse platea dictumst. Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula.

Fusce mauris. Vestibulum luctus nibh at lectus. Sed bibendum, nulla a faucibus semper, leo velit ultricies tellus, ac venenatis arcu wisi vel nisl. Vestibulum diam. Aliquam pellentesque, augue quis sagittis posuere, turpis lacus congue quam, in hendrerit risus eros eget felis. Maecenas eget erat in sapien mattis porttitor. Vestibulum porttitor. Nulla facilisi. Sed a turpis eu lacus commodo facilisis. Morbi fringilla, wisi in dignissim interdum, justo lectus sagittis dui, et vehicula libero dui cursus dui. Mauris tempor ligula sed lacus. Duis cursus enim ut augue. Cras ac magna. Cras nulla. Nulla egestas. Curabitur a leo. Quisque egestas wisi eget nunc. Nam feugiat lacus vel est. Curabitur consectetur.

3.2 Assunto 2

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetur adipiscing elit. In hac habitasse platea dictumst. Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula.

Fusce mauris. Vestibulum luctus nibh at lectus. Sed bibendum, nulla a faucibus semper, leo velit ultricies tellus, ac venenatis arcu wisi vel nisl. Vestibulum diam. Aliquam pellentesque, augue quis sagittis posuere, turpis lacus congue quam, in hendrerit risus eros eget felis. Maecenas eget erat in sapien mattis porttitor. Vestibulum porttitor. Nulla facilisi. Sed a turpis eu lacus commodo facilisis. Morbi fringilla, wisi in dignissim interdum, justo lectus sagittis dui, et vehicula libero dui cursus dui. Mauris tempor ligula sed lacus. Duis cursus enim ut augue. Cras ac magna. Cras nulla. Nulla egestas. Curabitur a leo. Quisque egestas wisi eget nunc. Nam feugiat lacus vel est. Curabitur consectetur.

3.3 Assunto 3

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt

ultrices. Lorem ipsum dolor sit amet, consectetur adipiscing elit. In hac habitasse platea dictumst. Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula.

Fusce mauris. Vestibulum luctus nibh at lectus. Sed bibendum, nulla a faucibus semper, leo velit ultricies tellus, ac venenatis arcu wisi vel nisl. Vestibulum diam. Aliquam pellentesque, augue quis sagittis posuere, turpis lacus congue quam, in hendrerit risus eros eget felis. Maecenas eget erat in sapien mattis porttitor. Vestibulum porttitor. Nulla facilisi. Sed a turpis eu lacus commodo facilisis. Morbi fringilla, wisi in dignissim interdum, justo lectus sagittis dui, et vehicula libero dui cursus dui. Mauris tempor ligula sed lacus. Duis cursus enim ut augue. Cras ac magna. Cras nulla. Nulla egestas. Curabitur a leo. Quisque egestas wisi eget nunc. Nam feugiat lacus vel est. Curabitur consectetur.

3.4 Discussão dos Resultados Observados

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetur adipiscing elit. In hac habitasse platea dictumst. Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula.

Fusce mauris. Vestibulum luctus nibh at lectus. Sed bibendum, nulla a faucibus semper, leo velit ultricies tellus, ac venenatis arcu wisi vel nisl. Vestibulum diam. Aliquam pellentesque, augue quis sagittis posuere, turpis lacus congue quam, in hendrerit risus eros eget felis. Maecenas eget erat in sapien mattis porttitor. Vestibulum porttitor. Nulla facilisi. Sed a turpis eu lacus commodo facilisis. Morbi fringilla, wisi in dignissim interdum, justo lectus sagittis dui, et vehicula libero dui cursus dui. Mauris tempor ligula sed lacus. Duis cursus enim ut augue. Cras ac magna. Cras nulla. Nulla egestas. Curabitur a leo.

Quisque egestas wisi eget nunc. Nam feugiat lacus vel est. Curabitur consectetuer.

4 Considerações finais

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

4.1 Resposta à Questão de Pesquisa

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetur adipiscing elit. In hac habitasse platea dictumst. Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula.

Fusce mauris. Vestibulum luctus nibh at lectus. Sed bibendum, nulla a faucibus semper, leo velit ultricies tellus, ac venenatis arcu wisi vel nisl. Vestibulum diam. Aliquam pellentesque, augue quis sagittis posuere, turpis lacus congue quam, in hendrerit risus eros eget felis. Maecenas eget erat in sapien mattis porttitor. Vestibulum porttitor. Nulla facilisi. Sed a turpis eu lacus commodo facilisis. Morbi fringilla, wisi in dignissim interdum, justo lectus sagittis dui, et vehicula libero dui cursus dui. Mauris tempor ligula sed lacus. Duis cursus enim ut augue. Cras ac magna. Cras nulla. Nulla egestas. Curabitur a leo. Quisque egestas wisi eget nunc. Nam feugiat lacus vel est. Curabitur consectetur.

4.2 Objetivos Propostos

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetur adipiscing elit. In hac habitasse platea dictumst. Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula.

Fusce mauris. Vestibulum luctus nibh at lectus. Sed bibendum, nulla a faucibus semper, leo velit ultricies tellus, ac venenatis arcu wisi vel nisl. Vestibulum diam. Aliquam pellentesque, augue quis sagittis posuere, turpis lacus congue quam, in hendrerit risus eros eget felis. Maecenas eget erat in sapien mattis porttitor. Vestibulum porttitor. Nulla facilisi. Sed a turpis eu lacus commodo facilisis. Morbi fringilla, wisi in dignissim interdum, justo lectus sagittis dui, et vehicula libero dui cursus dui. Mauris tempor ligula sed lacus. Duis cursus enim ut augue. Cras ac magna. Cras nulla. Nulla egestas. Curabitur a leo. Quisque egestas wisi eget nunc. Nam feugiat lacus vel est. Curabitur consectetur.

4.3 Contribuições Acadêmicas e Gerenciais

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt

ultrices. Lorem ipsum dolor sit amet, consectetur adipiscing elit. In hac habitasse platea dictumst. Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula.

Fusce mauris. Vestibulum luctus nibh at lectus. Sed bibendum, nulla a faucibus semper, leo velit ultricies tellus, ac venenatis arcu wisi vel nisl. Vestibulum diam. Aliquam pellentesque, augue quis sagittis posuere, turpis lacus congue quam, in hendrerit risus eros eget felis. Maecenas eget erat in sapien mattis porttitor. Vestibulum porttitor. Nulla facilisi. Sed a turpis eu lacus commodo facilisis. Morbi fringilla, wisi in dignissim interdum, justo lectus sagittis dui, et vehicula libero dui cursus dui. Mauris tempor ligula sed lacus. Duis cursus enim ut augue. Cras ac magna. Cras nulla. Nulla egestas. Curabitur a leo. Quisque egestas wisi eget nunc. Nam feugiat lacus vel est. Curabitur consectetur.

4.4 Limitações da Pesquisa e Contribuições para Estudo

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetur adipiscing elit. In hac habitasse platea dictumst. Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula.

Fusce mauris. Vestibulum luctus nibh at lectus. Sed bibendum, nulla a faucibus semper, leo velit ultricies tellus, ac venenatis arcu wisi vel nisl. Vestibulum diam. Aliquam pellentesque, augue quis sagittis posuere, turpis lacus congue quam, in hendrerit risus eros eget felis. Maecenas eget erat in sapien mattis porttitor. Vestibulum porttitor. Nulla facilisi. Sed a turpis eu lacus commodo facilisis. Morbi fringilla, wisi in dignissim interdum, justo lectus sagittis dui, et vehicula libero dui cursus dui. Mauris tempor ligula sed lacus. Duis cursus enim ut augue. Cras ac magna. Cras nulla. Nulla egestas. Curabitur a leo.

Quisque egestas wisi eget nunc. Nam feugiat lacus vel est. Curabitur consectetuer.

5 Exemplos L^AT_EX

Esse capítulo tem exemplos de escrita utilizando o L^AT_EX utilizando abnT_EX2, é muito simples escrever em **negrito**, *italico*,

Leia o **FAQ!** (**FAQ!**) do abnT_EX2: <https://github.com/abntex/abntex2/wiki/FAQ>

Existem diversos tutoriais para uso de L^AT_EX, se você está utilizando esse modelo não precisará se preocupar com muitos dos detalhes técnicos do L^AT_EX e cuidar somente do seu texto.

Escolha seu editor : https://en.wikipedia.org/wiki/Comparison_of_TeX_editors

5.1 Detalhes textuais

O documento é dividido em capítulos, e cada capítulo dividido em seções utilizando o abnT_EX2 você pode dividir seus documentos nos níveis a seguir:

- chapter (1);
- section (1.1);
- subsection (1.1.1);
- subsubsection (1.1.1.1);
- subsubsubsection (1.1.1.1.1).

Tenha em mente que normalmente se utiliza no máximo o nível *subsection*. Ao definir as divisões do seu trabalho utilizando as diretivas do L^AT_EX, elas são automaticamente inseridas no sumário do documento.

5.1.1 Caracteres Reservados

Alguns caracteres são reservados no L^AT_EX e por isso para utilizar esses caracteres é necessário utilizar uma forma diferenciada de escrita. É possível utilizar a macro *symbol* com o código ascii do caractere desejado.

- barra invertida : `\ \`;
- til : `~` ;
- cifrão : `$`;

- sublinhado, *underscore*, *underline* : `_`;
- chaves : `}` `{`.

5.1.2 Listas

Em uma lista de itens cada item deve ser terminado por ponto e vírgula, exceto o ultimo item que deve ter um ponto final.

- item 1;
- item 2;
- item ..;
- item final.

5.1.3 Elementos não textuais

Elementos não textuais são aqueles que auxiliam o entendimento, não podem ficar "jogados" no texto, devem ser citados, cada elemento deve ser identificado por um *label* único que permite a sua referencia, no texto utilizando *ref* ou *autoref*, esses elementos quando definidos corretamente também são inseridos nas listas presentes antes do sumário.

5.1.4 Tabelas e Quadros

A seção 3.32 da NBR14724:2011 define a Tabela como sendo uma "forma não discursiva de apresentar informações das quais o dado numérico se destaca como informação central"

Quadros e tabelas são informações tabulares, mas Tabelas tem como objetivo apresentar números.

Uso de tabelas no L^AT_EX: <https://en.wikibooks.org/wiki/LaTeX/Tables>

O [Quadro 1](#) é um exemplo de dados tabulares gerados em L^AT_EX.

Quadro 1 – Níveis de investigação.

| Nível de Investigação | Insumos | Sistemas de Investigação | Produtos |
|-----------------------|--|--------------------------|----------------------|
| Meta-nível | Filosofia da Ciência | Epistemologia | Paradigma |
| Nível do objeto | Paradigmas do metanível e evidências do nível inferior | Ciência | Teorias e modelos |
| Nível inferior | Modelos e métodos do nível do objeto e problemas do nível inferior | Prática | Solução de problemas |

Fonte: Próprio Autor

Já a [Tabela 1](#) foi criada conforme o padrão do IBGE requerido pelas normas da ABNT para documentos técnicos e acadêmicos. Números devem ser alinhados a direita.

Tabela 1 – Um Exemplo de tabela

| Item | Janeiro | Fevereiro | Março |
|---------|---------|-----------|-------|
| Classes | 2 | 10 | 20 |
| Linhas | 100 | 250 | 543 |

Fonte: Dados do Projeto

A [Equação \(5.1\)](#) mostra que também é possível escrever equações diretamente em \LaTeX

$$a^2 + b^2 = c^2. \quad (5.1)$$

5.1.5 Figuras

Figuras podem ser criadas diretamente em \LaTeX , como o exemplo da [Figura 1](#), ou inseridas a partir de arquivos externos como a [Figura 2](#), que é o Logotipo do IFSP.

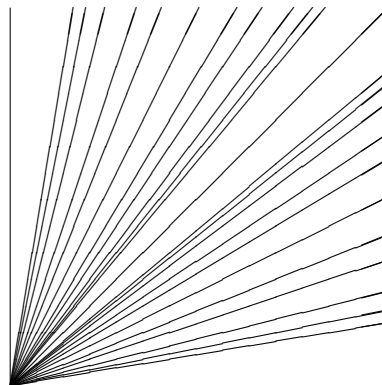


Figura 1 – A delimitação do espaço

Fonte: os autores



Figura 2 – Logo IFSP

Fonte: IFSP

Conclusão

Sed consequat tellus et tortor. Ut tempor laoreet quam. Nullam id wisi a libero tristique semper. Nullam nisl massa, rutrum ut, egestas semper, mollis id, leo. Nulla ac massa eu risus blandit mattis. Mauris ut nunc. In hac habitasse platea dictumst. Aliquam eget tortor. Quisque dapibus pede in erat. Nunc enim. In dui nulla, commodo at, consectetur nec, malesuada nec, elit. Aliquam ornare tellus eu urna. Sed nec metus. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas.

Phasellus id magna. Duis malesuada interdum arcu. Integer metus. Morbi pulvinar pellentesque mi. Suspendisse sed est eu magna molestie egestas. Quisque mi lorem, pulvinar eget, egestas quis, luctus at, ante. Proin auctor vehicula purus. Fusce ac nisl aliquam ante hendrerit pellentesque. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos hymenaeos. Morbi wisi. Etiam arcu mauris, facilisis sed, eleifend non, nonummy ut, pede. Cras ut lacus tempor metus mollis placerat. Vivamus eu tortor vel metus interdum malesuada.

Sed eleifend, eros sit amet faucibus elementum, urna sapien consectetur mauris, quis egestas leo justo non risus. Morbi non felis ac libero vulputate fringilla. Mauris libero eros, lacinia non, sodales quis, dapibus porttitor, pede. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos hymenaeos. Morbi dapibus mauris condimentum nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Etiam sit amet erat. Nulla varius. Etiam tincidunt dui vitae turpis. Donec leo. Morbi vulputate convallis est. Integer aliquet. Pellentesque aliquet sodales urna.

Apêndices

APÊNDICE A – Quisque libero justo

Fusce mauris. Vestibulum luctus nibh at lectus. Sed bibendum, nulla a faucibus semper, leo velit ultricies tellus, ac venenatis arcu wisi vel nisl. Vestibulum diam. Aliquam pellentesque, augue quis sagittis posuere, turpis lacus congue quam, in hendrerit risus eros eget felis. Maecenas eget erat in sapien mattis porttitor. Vestibulum porttitor. Nulla facilisi. Sed a turpis eu lacus commodo facilisis. Morbi fringilla, wisi in dignissim interdum, justo lectus sagittis dui, et vehicula libero dui cursus dui. Mauris tempor ligula sed lacus. Duis cursus enim ut augue. Cras ac magna. Cras nulla. Nulla egestas. Curabitur a leo. Quisque egestas wisi eget nunc. Nam feugiat lacus vel est. Curabitur consectetur.

Suspendisse vel felis. Ut lorem lorem, interdum eu, tincidunt sit amet, laoreet vitae, arcu. Aenean faucibus pede eu ante. Praesent enim elit, rutrum at, molestie non, nonummy vel, nisl. Ut lectus eros, malesuada sit amet, fermentum eu, sodales cursus, magna. Donec eu purus. Quisque vehicula, urna sed ultricies auctor, pede lorem egestas dui, et convallis elit erat sed nulla. Donec luctus. Curabitur et nunc. Aliquam dolor odio, commodo pretium, ultricies non, pharetra in, velit. Integer arcu est, nonummy in, fermentum faucibus, egestas vel, odio.

Sed commodo posuere pede. Mauris ut est. Ut quis purus. Sed ac odio. Sed vehicula hendrerit sem. Duis non odio. Morbi ut dui. Sed accumsan risus eget odio. In hac habitasse platea dictumst. Pellentesque non elit. Fusce sed justo eu urna porta tincidunt. Mauris felis odio, sollicitudin sed, volutpat a, ornare ac, erat. Morbi quis dolor. Donec pellentesque, erat ac sagittis semper, nunc dui lobortis purus, quis congue purus metus ultricies tellus. Proin et quam. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos hymenaeos. Praesent sapien turpis, fermentum vel, eleifend faucibus, vehicula eu, lacus.

APÊNDICE B – Nullam elementum urna vel imperdiet sodales elit ipsum pharetra ligula ac pretium ante justo a nulla curabitur tristique arcu eu metus

Suspendisse vitae elit. Aliquam arcu neque, ornare in, ullamcorper quis, commodo eu, libero. Fusce sagittis erat at erat tristique mollis. Maecenas sapien libero, molestie et, lobortis in, sodales eget, dui. Morbi ultrices rutrum lorem. Nam elementum ullamcorper leo. Morbi dui. Aliquam sagittis. Nunc placerat. Pellentesque tristique sodales est. Maecenas imperdiet lacinia velit. Cras non urna. Morbi eros pede, suscipit ac, varius vel, egestas non, eros. Praesent malesuada, diam id pretium elementum, eros sem dictum tortor, vel consectetur odio sem sed wisi.

Sed feugiat. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Ut pellentesque augue sed urna. Vestibulum diam eros, fringilla et, consectetur eu, nonummy id, sapien. Nullam at lectus. In sagittis ultrices mauris. Curabitur malesuada erat sit amet massa. Fusce blandit. Aliquam erat volutpat. Aliquam euismod. Aenean vel lectus. Nunc imperdiet justo nec dolor.

Etiam euismod. Fusce facilisis lacinia dui. Suspendisse potenti. In mi erat, cursus id, nonummy sed, ullamcorper eget, sapien. Praesent pretium, magna in eleifend egestas, pede pede pretium lorem, quis consectetur tortor sapien facilisis magna. Mauris quis magna varius nulla scelerisque imperdiet. Aliquam non quam. Aliquam porttitor quam a lacus. Praesent vel arcu ut tortor cursus volutpat. In vitae pede quis diam bibendum placerat. Fusce elementum convallis neque. Sed dolor orci, scelerisque ac, dapibus nec, ultricies ut, mi. Duis nec dui quis leo sagittis commodo.

Aliquam lectus. Vivamus leo. Quisque ornare tellus ullamcorper nulla. Mauris porttitor pharetra tortor. Sed fringilla justo sed mauris. Mauris tellus. Sed non leo. Nullam elementum, magna in cursus sodales, augue est scelerisque sapien, venenatis congue nulla arcu et pede. Ut suscipit enim vel sapien. Donec congue. Maecenas urna mi, suscipit in, placerat ut, vestibulum ut, massa. Fusce ultrices nulla et nisl.

Etiam ac leo a risus tristique nonummy. Donec dignissim tincidunt nulla. Vestibulum rhoncus molestie odio. Sed lobortis, justo et pretium lobortis, mauris turpis condimentum augue, nec ultricies nibh arcu pretium enim. Nunc purus neque, placerat id, imperdiet sed, pellentesque nec, nisl. Vestibulum imperdiet neque non sem accumsan laoreet. In hac

habitasse platea dictumst. Etiam condimentum facilisis libero. Suspendisse in elit quis nisl aliquam dapibus. Pellentesque auctor sapien. Sed egestas sapien nec lectus. Pellentesque vel dui vel neque bibendum viverra. Aliquam porttitor nisl nec pede. Proin mattis libero vel turpis. Donec rutrum mauris et libero. Proin euismod porta felis. Nam lobortis, metus quis elementum commodo, nunc lectus elementum mauris, eget vulputate ligula tellus eu neque. Vivamus eu dolor.

Nulla in ipsum. Praesent eros nulla, congue vitae, euismod ut, commodo a, wisi. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Aenean nonummy magna non leo. Sed felis erat, ullamcorper in, dictum non, ultricies ut, lectus. Proin vel arcu a odio lobortis euismod. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Proin ut est. Aliquam odio. Pellentesque massa turpis, cursus eu, euismod nec, tempor congue, nulla. Duis viverra gravida mauris. Cras tincidunt. Curabitur eros ligula, varius ut, pulvinar in, cursus faucibus, augue.

Anexos

ANEXO A – Manual to do notes

The `todonotes` package*

Henrik Skov Midtiby
`henrikmidtiby@gmail.com`

July 9, 2015

Abstract

The `todonotes` package allows you to insert to-do items in your document. At any point in the document a list of all the inserted to-do items can be listed with the `\listoftodos` command.

Contents

| | | |
|----------|--|-----------|
| 1 | Introduction | 2 |
| 1.1 | Usage | 2 |
| 1.2 | Package options | 4 |
| 1.3 | Options for the <code>todo</code> command | 5 |
| 1.4 | Options for the <code>missingfigure</code> command | 7 |
| 1.5 | Options for the <code>listoftodos</code> command | 8 |
| 1.6 | Known issues | 9 |
| 1.7 | Things to improve | 11 |
| 1.8 | Usage methods | 12 |
| 2 | Implementation | 19 |
| 2.1 | Declaration of options for the package | 19 |
| 2.2 | Options for the <code>todo</code> command | 23 |
| 2.3 | The main code part | 25 |

*This document corresponds to `todonotes.dtx`, dated 2015/07/09.

1 Introduction

The `todonotes` package makes three commands available to the user: `\todo[]{}` , `\missingfigure{}` and `\listoftodos`. `\todo[]{}` and `\missingfigure{}` makes it possible to insert notes in your document about things that has to be done later (`todonotes ...`). I developed the basic functionality of the package while I worked on my bachelor project.

Some alternatives for the `todonotes` package are:

- [easy-todo](#)
Depends on `color`, `tocloft` and `ifthen`, small feature set.
- [fixmetodonotes](#)
Depends on `graphicx`, `color`, `transparent`, `watermark`, `fix-cm`, `ulem` and `tocloft`, small feature set.
- [todo](#)
Depends on `amssymb`, medium feature set.
- [fixme](#)
Large package with a lot of features.

The main reason for considering other packages is that the `todonotes` package is quire large and relies heavily on `tikz`. This can slow down compilation of large documents significantly. The mentioned alternatives have a different feature set and does not rely on `tikz`, which makes them require less ressourceces.

1.1 Usage

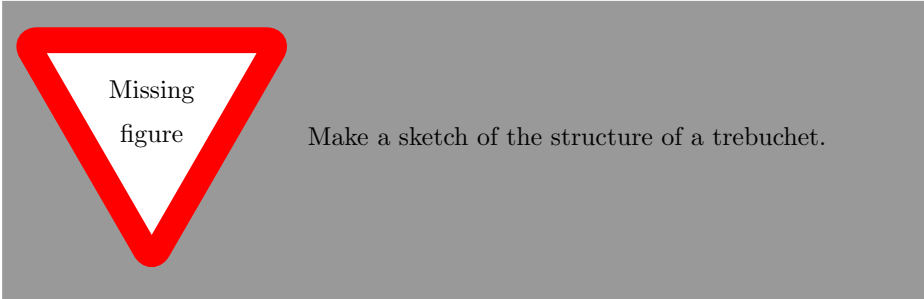
`\todo` My most common usage of the `todonotes` package, is to insert an `todonotes` somewhere in a latex document. An example of this usage is the command

`\todo{Make a cake \ldots}`,

which renders like. The `\todo` command has this structure: `\todo[<options>]{<todo text>}`. The `todo text` is the text that will be shown in the todonote and in the list of todos. The optional argument `options`, allows the user to customize the appearance of the inserted todonotes. For a description of all the options see section 1.3.






















`\missingfigure` The `\missingfigure` command inserts an image containing an attention sign and the given text. The command takes only one argument `\missingfigure{<text>}`, a text string that could describe what the figure should consist of. An example of its usage could be










`\missingfigure{Make a sketch of the structure of a trebuchet.}`
which renders like.



`\listoftodos` The `\listoftodos` command inserts a list of all the todos in the current document. `\listoftodos` takes no arguments. For this document the list of to-do's looks like.

Todo list

| | |
|--|----|
|  Make a cake ... | 2 |
| Figure: Make a sketch of the structure of a trebuchet. ... | 2 |
|  And a green note ... | 5 |
|  Anything but default colors ... | 5 |
|  A note with no line connecting it to the placement in the original text. . | 5 |
|  A todonote placed in the text ... | 6 |
|  Fill those circles ... | 6 |
|  A note with a large font size. ... | 6 |
|  Note with very small font size. ... | 6 |
|  Short note ... | 6 |
|  Short note with prepend ... | 6 |
|  Short note with noprepnd ... | 6 |
|  Testing. ... | 6 |
|  Testing author option. ... | 7 |
|  Testing author option. ... | 7 |
| Figure: Testing a long text string ... | 7 |
| Figure: Testing a long text string ... | 7 |
| Figure: Add a test image ... | 7 |
| Figure: Testing ... | 8 |
| Figure: Testing figcolor ... | 8 |
|  Does this eat the space? ... | 9 |
|  Test of newly defined command. ... | 12 |
|  Test of newly defined command, requesting a green color. ... | 12 |
|  1: A numbered todonote. ... | 13 |
|  2: Another numbered todonote. ... | 13 |
|  Comment [HSM1]: Testing first time. ... | 13 |
|  Comment [HSM2]: Testing second time. ... | 13 |

| | | |
|---|---|----|
|  | Some lines with a decreased line spacing. This is accomplished using the setspace package that is included in standard latex distributions. . . . | 14 |
|  | Some lines with a decreased line spacing. This is accomplished without using any special packages. | 14 |
|  | 2do | 15 |
|  | Translation | 16 |
|  | Translation | 16 |
|  | 1.8.9. A numbered todo. | 17 |
|  | 1. Small notes with links back to the list of todos. | 17 |
|  | 1. Smart notes with links back to the list of todos. | 17 |
|  | fix text | 18 |

`\todototoc` The `\todototoc` command adds an entry to the table of contents for list of todos. The command should be placed right before the `\listoftodos` command.

1.2 Package options

`disable` If the option `disable` is passed to the package, the macros usually defined by the package (`\todo`, `\listoftodos` and `\missingfigure`) are defined as macros with no effect, and thus all inserted notes are removed.

`obeyDraft`, `obeyFinal` When the option `obeyDraft` is given, the package checks if the one of the options `draft`, `draftcls` or `draftclsnofoot` is given (this option is usually given to the documentclass). If the `draft` option is given, the functionality of the package is enabled and otherwise the effect of the package is disabled. The option `obeyFinal` does something similar, except that the `todonotes` package is only disabled if the `final` option given.

`danish`, `german`, `ngerman`,
`french`, `swedish`
`spanish`, `catalan`, `italian`
`portuguese`, `dutch`,
`croatian`
`colorinlistoftodos` Use translations of the text strings "List of todos" and "Missing figure". The default is to use none of these options, which results in english text strings. Currently the following languages are supported: catalan, croatian, danish, dutch, french, german, ngerman, italian, portuguese, spanish and swedish.

Adds a small colored square in front of all items in the Todo list. The color of the square is the same as the fill color of the inserted todonote. This can be useful if there are different types of todos (insert reference, explain in detail, ...) where the color of the inserted todonote marks the type of todo.

`color` These options sets the default colors for the todo command. There is three colors that can be specified. The border color (default `bordercolor=black`) around the inserted text, the color behind the inserted text (default `backgroundcolor=orange`) and the color of the line connecting the inserted textbox with the current location in the text (default `linecolor=orange`). Setting the `color` option to `val` passes this value on to the background and line color options. The specified colors must be valid according to the `xcolor` package.

`textwidth` `textwidth=length` sets the width of a todo item in the margin to `length`. The width of inline todonotes will allways be the same as the current line width.

`textsize` `textsize=value` sets the default text size of the inserted todonotes to the given value. Value is the "name" of the used font size, eg. if the desired fontsize is `\tiny` use `textsize=tiny`. The default value is `textsize=normalsize`.

| | |
|-----------------------------|---|
| <code>prependcaption</code> | The <code>prependcaption</code> option triggers a special behaviour of the <code>caption=val</code> option for the <code>todo</code> command, where the given value <code>val</code> is inserted in the inserted <code>todonote</code> . |
| <code>shadow</code> | If the <code>shadow</code> option is given, the inserted <code>todonotes</code> will be displayed with a gray shadow. I expect that the option will trigger problems with <code>tikz</code> versions prior to 2.0. |
| <code>dvistyle</code> | When a document with <code>todonotes</code> is compiled with plain latex (to a dvi-file), there is an issue with the visual appearance ¹ . The option <code>dvistyle</code> changes the appearance of the inserted <code>todonotes</code> to avoid this problem. |
| <code>figwidth</code> | The <code>figwidth=length</code> option sets the default width of the figure inserted by the <code>\missingfigure</code> command. The default value is <code>\linewidth</code> . |

1.3 Options for the todo command

There are several options that can be given to the `\todo` command. All the options are described here and often I have included examples of the change in visual appearance. Default values for these options can be set using the `presetkeys` command.

```
\presetkeys{todonotes}{fancyline, color=blue!30}{}
```

| | |
|------------------------------|--|
| <code>disable</code> | The <code>disable</code> option can be given directly to the <code>todo</code> command. If given the command has no effect. |
| <code>color</code> | These options set the color that is used in the current <code>todo</code> command. The color classes is the same as used in the <code>color</code> package options, see section 1.2. Default values can be set by the color options when the <code>todonotes</code> package is loaded. The <code>todo</code> notes inserted in this paragraph is created with the command <code>\todo[color=green!40]{And a green note}</code> . The color of the inserted note could be used to mark different types of tasks (insert references, explain something in detail, ...), this could be streamlined by defining new commands like below. |
| <code>backgroundcolor</code> | |
| <code>linecolor</code> | |
| <code>bordercolor</code> | |

And a green note

```
\newcommand{\insertref}[1]{\todo[color=green!40]{#1}}
\newcommand{\explainindetail}[1]{\todo[color=red!40]{#1}}
```

Anything but default colors

An example that uses all of the color options is given below .

```
\todo[linecolor=green!70!white, backgroundcolor=blue!20!white,
bordercolor=red]{Anything but default colors}.
```

`line / noline`

If you want to get rid of the line connecting the inserted note with the place in the text where the note occurs in the latex code, the option `noline` can be used.

```
\todo[noline]{A note with no line ...}
```

A note with no line connecting it to the placement in the original text.

`inline / noinline`

It is possible to place a `todonote` inside the text instead of placing it in the

¹The problem is placement of text inside the colored boxes.

margin, this could be desirable if the text in the note has a considerable length.
`\todo[inline]{A todonote placed in the text}`

A todonote placed in the text

Another usage for the inline option is when you want to add a todonote to a figure caption.

```
\begin{wrapfigure}{r}[20mm]{40mm}
\begin{tikzpicture}
\draw[red] (0, 0) circle(0.45);
\draw[green] (1, 0) circle(0.45);
\draw[blue] (2, 0) circle(0.45);
\end{tikzpicture}
\caption{A text explaining the image.}
\todo[inline]{Fill those circles \ldots}
\end{wrapfigure}
```

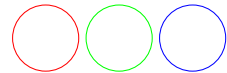


Figure 1: A text explaining the image.

Fill those circles ...

size `size=val` changes the size of the text inside the todonote. The commands used to create the notes below are

`\todo[size=\Large]{A note with a large font size.}` and
`\todo[inline, size=\tiny]{Note with very small font size.}`

Note with very small font size.

A note with a large font size.

list / nolist

When the option `nolist` is given, the todo item will not appear in the list of todos.

caption

The `caption` option enables the user to specify a short description of the todonote that are inserted in the list of todos instead of the full todonote text.

`\todo[caption={Short note}]{A very long and tedious note that cannot be on one line in the list of todos.}`

A very long and tedious note that cannot be on one line in the list of todos.

prepend / noprepend

The effect of this option is altered with the package option `prependcaption` or the `prepend / noprepend` option for the todo command.

The options `prepend` and `noprepend` can be used for setting whether a given caption should be prepended to the todonote or not. Globally this can be set using the `prependcaption` option for the package. Below is the effect of the option shown using the code:

```
\todo[prepend, caption={Short note with prepend}]{A very long and tedious
note that cannot be on one line in the list of todos.}.
\todo[noprepend, caption={Short note with noprepend}]{A very long and
tedious note that cannot be on one line in the list of todos.}.
```

Short note with prepend:
A very long and tedious note that cannot be on one line in the list of todos.

A very long and tedious note that cannot be on one line in the list of todos.

fancyline

The `fancyline` option inserts a curved arrow, pointing from the inserted note to the insertion point. The option is used like this:

`\todo[fancyline]{Testing.}`

Testing.

author

The `author` option takes a parameter, the name of the author. The given name is inserted in the `todonote`.

Xavier

Testing author option.

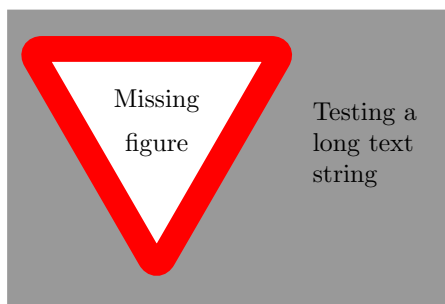
Xavier: Testing author option.

```
\todo[author=Xavier]{Testing author option.}
\todo[author=Xavier, inline]{Testing author option.}
```

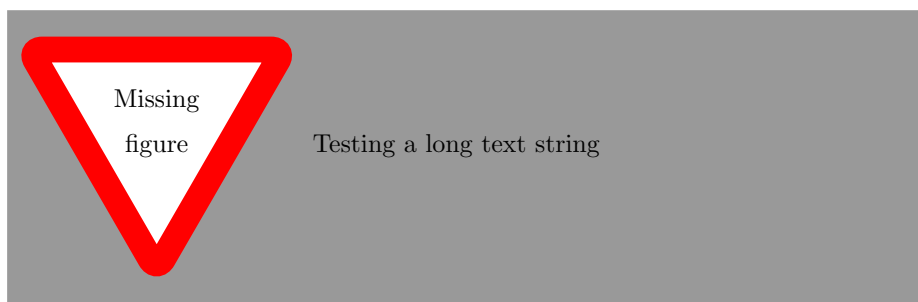
1.4 Options for the `missingfigure` command

`figwidth` The `figwidth=length` option sets the width of the figure inserted by the `\missingfigure` command. Length values below 6cm might trigger some problems with the visual appearance. Try to compare the default of the missing figure command, when the option is given or not.

```
\missingfigure[figwidth=6cm]{Testing a long text string}
```

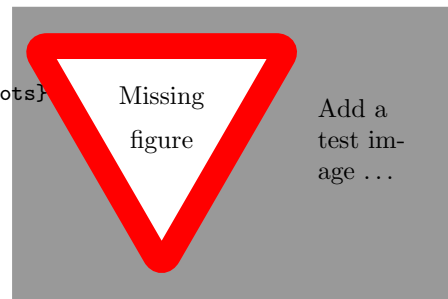


```
\missingfigure{Testing a long text string}
```



Another usage of the option is when `\missingfigure` is used in the `wrapfigure` environment.

```
\begin{wrapfigure}[1]{r}[2cm]{6cm}
\missingfigure[figwidth=6cm]{Add a test image \ldots}
\end{wrapfigure}
```



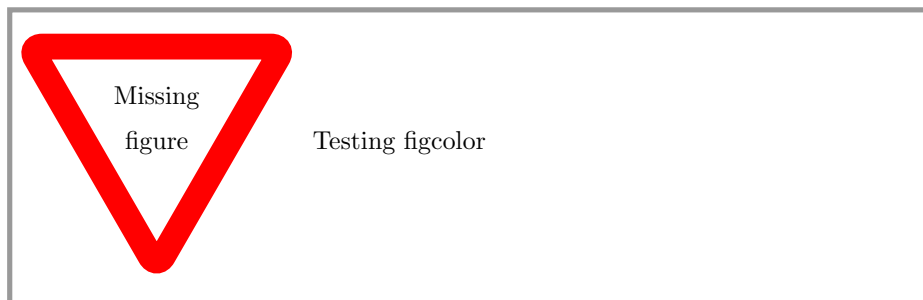
figheight The `figheight=length` option changes the height of the inserted missing figure. The default height is 4cm and using values lower than this might cause the warning sign to pop out of the gray area.

```
\missingfigure[figheight=6cm]{Testing a long text string}
```



figcolor The `figcolor=color` options sets the background color of inserted missing figures. The default color is `black!40`.

```
\missingfigure[figcolor=white]{Testing figcolor}
```



1.5 Options for the `listoftodos` command

The `\listoftodos` command takes one optional argument, that defines the name of the inserted list of todos.

```
\listoftodos[I can be called anything]
```

1.6 Known issues

1.6.1 Package loading order

The todonotes package requires the following packages.

- ifthen
- xkeyval
- xcolor
- tikz
- calc
- graphicx (is loaded via the tikz package)

When todonotes are loaded in the preamble, the package checks if these packages all are loaded. If that is not the case it loads the missing packages with no options given. If you want to give some specific options to some of these packages, you have to load them *before* the todonotes package, otherwise you will get an "Option clash" error when latex works on the document.

If both the menukeys and the xcolor (with the option `table`) package should be loaded, the following order must be used.

```
\usepackage[table]{xcolor}
\usepackage{todonotes}
\usepackage{menukeys}
```

1.6.2 Spacing around inserted notes

Inserted todo commands will eat the white space after the command.

```
Testing\todo{Does this eat the space?} testing
```

Does this eat the space?

Testingtesting

1.6.3 Wrapping of long lines in list of todos

When a document is compiled with latex (and not pdflatex) long items in the list of todos are not wrapped into several lines, and do instead continue to the right out of the page.

1.6.4 Conflicts with the amsart documentclass

The `amsart` document class redefines some internal commands that is used by the todonotes package, this will cause an malfunctioning `\listoftodos` command. The following code to circumvent the problem was given by Dan Luecking on comp.text.tex

```
\makeatletter
\providecommand\@dotsep{5}
```

```
\makeatother
\listoftodos\relax
```

NOT TESTED NOT TESTED NOT TESTED
Dominique suggests the following workaround.

```
\makeatletter
\providecommand\@dotsep{5}
\def\listtodoname{List of Todos}
\def\listoftodos{\@starttoc{tdo}\listtodoname}
\makeatother
```

1.6.5 Unknown option "remember picture"

If latex throws the error

```
Package tikz Error: I do not know what to do with the option "remember picture".
```

It probably means that your latex installation is outdated, as only newer versions of latex driver for tikz supports the `remember picture` option. For additional info consult "Section 9.2.2 Producing PDF Output" in the tikz manual. <http://www.ctan.org/tex-archive/graphics/pgf/base/doc/generic/pgf/pgfmanual.pdf>

1.6.6 Todonotes wrongly placed in the margin

When using some document classes or packages, the todonotes inserted in the page margin can be placed quite oddly. This is often caused by a wrong value of the `\marginparwidth` length. Try using the code below in your preamble to see if this cures the problem.

```
\setlength{\marginparwidth}{2cm}
```

If the todonotes are inserted in the wrong margin, the solution is the `\reversemarginpar` command. When this command is issued the following marginpars (which todonotes relies on) is inserted in the other margin.

1.6.7 Reduce number of warnings

If the width of the inserted todonotes is forced to be larger than the available space in the margin, a lot of warnings are issued. This can be reduced with the following code.

```
\usepackage[textwidth=3.7cm]{todonotes}
\setlength{\marginparwidth}{3.7cm}
```

1.6.8 Todonotes in footnotes

Placing todonotes in footnotes throws a lot of errors. Richard Stanton comes with the following work around.

```
\renewcommand{\marginpar}{\marginnote}
```

1.6.9 List of todo heading is not correctly formatted

If using natbib, the todonotes list title gets screwed up unless you do something like this:

```
\makeatletter\let\chapter\@undefined\makeatother
```

Suggestion by Richard Stanton.

1.6.10 Trouble with classicthesis.sty

[Problem description on tex.stackexchange.com](http://tex.stackexchange.com).

Solution by Stefan Kottwitz. The problem is caused by the redefinition of `\marginpar` in `classicthesis.sty`. `\marginpar` is used by todonotes. It can be fixed by restoring the original meaning, if you don't need the classicthesis marginpar style. Just add this to your document preamble: `\let\marginpar\oldmarginpar`

1.7 Things to improve

This is a list of things I consider to improve sometime in the future. It have not been done yet as I lack the time or skills to implement them. Patches with implementations of these tasks will be appreciated and might be included in the package if it will improve the package quality.

1.7.1 Owner information

Option for the todo command.

```
\todo[owner={Fabrice}]{Stuff}
```

Add info on who "owns" the current todo. Idea: Fabrice Niessen

1.7.2 Due date

Option for the todo command.

```
\todo[due=2008-12-07]{Stuff}
```

Add info on when the current todo is due. Might be enhanced by a time line of the todos that have a due date assigned. Idea: Fabrice Niessen

1.7.3 Mark accomplished todos

```
\todo[done]{Stuff}
```

Idea: Fabrice Niessen

1.8 Usage methods

In this section I have collected some different methods to use the `todonotes` package.

1.8.1 Define new commands with fixed options

Often there is a need for marking different classes of things to do (add reference, rewrite, ...). One way to do this, is to define some new commands as shown below (idea from Florent B.).

```
\newcommand{\addref}{\todo[color=red!40]{Add reference.}}
\newcommand{\rewrite}[1]{\todo[color=green!40]{#1}}
```

To distinguish between the different types of todos, the `todonotes` package can be loaded with the `colorinlistoftodos` option, which adds small colored squares to the list of todos.

```
\usepackage[colorinlistoftodos]{todonotes}
```

1.8.2 Define new commands with arbitrary default options

If you do not like the default values of the standard `todo` command, it is possible to define a new command with the similar functionality of `\todo` with custom default values.

```
\newcommand{\todoredefined}[2] []
{\todo[color=red, #1]{#2}}
```

Test of newly defined command.

The new command can now be used like shown below

```
\todoredefined{Test of newly defined command.}
\todoredefined[color=green]{Test of newly defined command, requesting a green color.}
```

Test of newly defined command, requesting a green color.

This can be done with all the accepted options for the `\todo` command.

1.8.3 Enumerate todonotes

If the inserted todonotes should be enumerated, it is possible to define a new command with the desired behaviour.

```
\newcounter{todocounter}
\newcommand{\todonum}[2] []
{\stepcounter{todocounter}\todo[#1]{\thetodocounter: #2}}
```

1: A numbered todonote.

2: Another numbered todonote.

The idea is to define a new counter `todocounter`, and insert the value of the counter in each todonote. The new command can be used like

```
\todonum{A numbered todonote.}
\todonum{Another numbered todonote.}
```

1.8.4 Comments "a la Word"

Fabrice Niessen sent me the following use case. The idea is to define a new command `\mycomment` which adds a counter and optionally the initials of the author to the inserted todonote.

```
\newcounter{mycomment}
\newcommand{\mycomment}[2] [] {%
  % initials of the author (optional) + note in the margin
  \refstepcounter{mycomment}%
  {%
    \setstretch{0.7}% spacing
    \todo[color={red!100!green!33},size=\small]{%
      \textbf{Comment [\uppercase{#1}\themycomment]:}~#2}%
    }}
}
```

Comment [HSM1]: Testing first time.

Comment [HSM2]: Testing second time.

The command `\mycomment[HSM]{Testing first time.}` is displayed like shown in the left margin, and another call of the command is added below `\mycomment[HSM]{Testing second time.}`.

1.8.5 Combination with the fixme package

Thomas Arildsen has mailed me this use case. Check the documentation for the `fixme` package, as the code below relies directly on it (the `\FDUser` command is augmented when `\begin{document}` is reached).

```
\usepackage[user,nomargin]{fixme}
\usepackage{todonotes}
\newcommand{\FXUser}[2]{\todo[inline,size=\small]{\bfseries #1:} #2}}
```

1.8.6 Altering the line spacing of todonotes

The `setspace` package lets you alter the line spacing of smaller sections of your document. The primary construct is the `spacing` environment, which is demonstrated below.

```
\begin{spacing}{0.5}
Some lines with a decreased line spacing. This is accomplished
using the setspace package that is included in standard latex
distributions.
\end{spacing}
```

Some lines with a decreased line spacing. This is accomplished using the `setspace` package that is included in standard latex distributions.

Using the `spacing` environment we can define a new todonote command using the code below:

```
\newcommand{\smalltodo}[2] []
{\todo[caption={#2}, #1]
{\begin{spacing}{0.5}#2\end{spacing}}}
```

Some lines with a decreased line spacing. This is accomplished using the `setspace` package that is included in standard latex distributions.

Todonotes with decreased line spacing can now be inserted as follows

```
\smalltodo[size=\footnotesize]{
Some lines with a decreased line spacing. This is accomplished
using the setspace package that is included in standard latex
distributions.}
```

A different approach is given by Vitaly.

```
\newcommand{\tinytodo}[2] []
{\todo[caption={#2}, size=\small, #1]{\renewcommand{\baselinestretch}{0.5}\selectfont#2\par}}
```

Some lines with a decreased line spacing. This is accomplished without using any special packages.

It looks like seen here.

```
\tinytodo{
Some lines with a decreased line spacing. This is accomplished
without using any special packages.}
```

1.8.7 Marking new / old sections

Sometimes a whole section has to be marked by some means. You might want to try the following.

```
\todo[inline, caption={Some text}]{
\begin{minipage}{\linewidth}
Some text that might differ from the text given to the caption
option.
}
```

```
\end{minipage}
}
```

It is important to add the `caption={text}` option, otherwise latex will try to embed a minipage in the table of contents which triggers an error. Inside the minipage environment almost anything could be placed, except for other todo commands.

To streamline use the following command was suggested by Stefan Pinnow.

```
\newcommand\todo[2][\todo[inline, caption={2do}, #1]{
\begin{minipage}{\textwidth-4pt}#2\end{minipage}}}
```

This example renders like

```
\todo[
Some text.
\begin{align}
\sin(\theta)^2 + \cos(\theta)^2 = 1
\end{align}
A formula and a list
\begin{itemize}
\item An item
\end{itemize}
}
```

Some text.

$$\sin(\theta)^2 + \cos(\theta)^2 = 1 \quad (1)$$

A formula and a list

- An item

1.8.8 Link to list of todos

Using the `hyperref` package it is possible to add a link from the inserted todonotes to the list of todos. The example were supplied by Andreas Plank.

```
% Define a counter for the inserted todonotes.
\newcounter{todoListItems}
\newcommand\todoTrans[2][ ]{
% Increment counter
\addtocounter{todoListItems}{1}
\todo[
caption={\protect\hypertarget{todo\thetodoListItems}{Translation},
#1]
{
#2 \hfill
```

```

\hyperlink{todo\thetodoListItems}{\uparrow}
}
}

```

The idea behind the code is to embed a **hypertarget** in each entry in the list of todos. In the **todonotes** a link to the entry in the list of todos is inserted as an arrow that points upwards. Using the **\todoTrans** command like below, the following two notes have been inserted.

```

\todoTrans{papiersflyver}
\todoTrans[inline]{damplokomotiv}

```

papiersflyver



damplokomotiv



1.8.9 Numbered todonotes

The inserted todonotes can be argued with the current subsubsection number. The code is shown below.

```
\newcommand{\ntodo}[2] [] {\todo[#1]{\thesubsubsection{. #2}}}
```

By changing `\thesubsubsection` to `\thesection`, the current section number can be inserted instead of the subsubsection number. The result looks like. Which were generated by the code

```
\ntodo{A subsection numbered todo.}.
```

1.8.10 Combining several modifications

Manduca have combined several of the modifications above into a highly specialized todo command. She uses the code:

```
\newcounter{todoListItems}
\newcommand{\sstodo}[2] []
{\addtocounter{todoListItems}{1}
\todo[caption={\protect\hypertarget{todo\thetodoListItems}{\thesection. #2}, #1}
{\begin{spacing}{1} \hfill \hyperlink{todo\thetodoListItems}{#2} \end{spacing} ]}
```

Using this approach it is possible to customize the behavior of the inserted notes to a very high degree.

1.8.11 Alter the appearance of the list of todos

Marco Daniel gives the following example of how to add section numbers to the elements in the list of todos. The code is slightly modified from <http://tex.stackexchange.com/questions/18838/replacing-page-number-with-other-counter-in-listoftodos>. An example of the modified list of todos is shown below, the complete code example is given in the example directory.

```
This is a note . . . . . see 1.1 at p. 2
This is another note . . . . . see 1.2 at p. 4
```

1.8.12 Tikz externalization issues

Using the tikz externalization framework together with todonotes can lead to some problems. One solution is to disable the externalization just before the `todo` command is issued and then reactivate externalization afterwards. The `ruggedtodo` handles this deactivation and reactivation.

```
\usetikzlibrary{external}
\tikzexternalize
\newcommand{\ruggedtodo}[2] [] {\tikzexternaldisable\todo[#1]{#2}\tikzexternalenable}
```

1.8.13 Highlight text to fix

Tobias Winchen provides the following example on how to highlight text related to the inserted todonote. Example wrong text continues here. Notice that the code relies on the soul package.

```
\newcommand{\hlfix}[2]{\texthl{#1}\todo{#2}}  
Example \hlfix{wrong text}{fix text}~continues here.
```

2 Implementation

Identifies the package and loads the packages dependences.

```
1 \ProvidesPackage{todonotes}[2012/07/25]
2 \RequirePackage{ifthen}
3 \RequirePackage{xkeyval}
4 \RequirePackage{xcolor}
5 \RequirePackage{tikz}
6 \usetikzlibrary{positioning}
7 \RequirePackage{calc}
```

Some default values are set

```
8 \newcommand{\@todonotes@text}{}%
9 \newcommand{\@todonotes@backgroundcolor}{orange}
10 \newcommand{\@todonotes@linecolor}{orange}
11 \newcommand{\@todonotes@bordercolor}{black}
12 \newcommand{\@todonotes@textwidth}{\marginparwidth}
13 \newcommand{\@todonotes@textsize}{\normalsize}
14 \newcommand{\@todonotes@figwidth}{\linewidth}
15 \newcommand{\@todonotes@figheight}{4cm}
16 \newcommand{\@todonotes@figcolor}{black!40}

17 \AtBeginDocument{
18 \ifx\undefined\phantomsection
19 \newcommand{\phantomsection}{}
20 \fi
21 }
```

2.1 Declaration of options for the package

In this part the various options for the package are defined.

Define the default text strings and set localization options for the danish and german languages.

```
22 \newcommand{\@todonotes@todolistname}{Todo list}
23 \newcommand{\@todonotes@MissingFigureText}{Figure}
24 \newcommand{\@todonotes@MissingFigureUp}{Missing}
25 \newcommand{\@todonotes@MissingFigureDown}{figure}
26 \newcommand{\@todonotes@SetTodoListName}[1]
27   {\renewcommand{\@todonotes@todolistname}{#1}}
28 \newcommand{\@todonotes@SetMissingFigureText}[1]
29   {\renewcommand{\@todonotes@MissingFigureText}{#1}}
30 \newcommand{\@todonotes@SetMissingFigureUp}[1]
31   {\renewcommand{\@todonotes@MissingFigureUp}{#1}}
32 \newcommand{\@todonotes@SetMissingFigureDown}[1]
33   {\renewcommand{\@todonotes@MissingFigureDown}{#1}}
34 \newif\if@todonotes@reverseMissingFigureTriangle}
35 \DeclareOptionX{catalan}{
36   \@todonotes@SetTodoListName{Llista de feines pendents}%
37   \@todonotes@SetMissingFigureText{Figura}%
38   \@todonotes@SetMissingFigureUp{Figura}%

```

```

39     \@todonotes@SetMissingFigureDown{pendent}%
40 }
41 \DeclareOptionX{croatian}{%
42     \@todonotes@SetTodoListName{Popis obveza}%
43     \@todonotes@SetMissingFigureText{Slika}%
44     \@todonotes@SetMissingFigureUp{Nedostaje}%
45     \@todonotes@SetMissingFigureDown{slika}%
46 }
47 \DeclareOptionX{danish}{%
48     \@todonotes@SetTodoListName{G\o{}rem\aa{}lsliste}%
49     \@todonotes@SetMissingFigureText{Figur}%
50     \@todonotes@SetMissingFigureUp{Manglende}%
51     \@todonotes@SetMissingFigureDown{figur}%
52 }
53 \DeclareOptionX{dutch}{%
54     \@todonotes@SetTodoListName{Lijst van onafgewerkte taken}%
55     \@todonotes@SetMissingFigureText{Figuur}%
56     \@todonotes@SetMissingFigureUp{Ontbrekende}%
57     \@todonotes@SetMissingFigureDown{figuur}%
58 }
59 \DeclareOptionX{english}{%
60     \@todonotes@SetTodoListName{Todo list}%
61     \@todonotes@SetMissingFigureText{Figure}%
62     \@todonotes@SetMissingFigureUp{Missing}%
63     \@todonotes@SetMissingFigureDown{figure}%
64 }
65 \DeclareOptionX{french}{%
66     \@todonotes@SetTodoListName{Liste des points \`a traiter}%
67     \@todonotes@SetMissingFigureText{Figure}%
68     \@todonotes@SetMissingFigureUp{Figure}%
69     \@todonotes@SetMissingFigureDown{manquante}%
70     \@todonotes@ReverseMissingFigureTrianglefalse
71 }
72 \DeclareOptionX{german}{%
73     \@todonotes@SetTodoListName{Liste der noch zu erledigenden Punkte}%
74     \@todonotes@SetMissingFigureText{Abbildung}%
75     \@todonotes@SetMissingFigureUp{Fehlende}%
76     \@todonotes@SetMissingFigureDown{Abbildung}%
77 }
78 \DeclareOptionX{italian}{%
79     \@todonotes@SetTodoListName{Elenco delle cose da fare}%
80     \@todonotes@SetMissingFigureText{Figura}%
81     \@todonotes@SetMissingFigureUp{Figura}%
82     \@todonotes@SetMissingFigureDown{mancante}%
83 }
84 \DeclareOptionX{ngerman}{%
85     \@todonotes@SetTodoListName{Liste der noch zu erledigenden Punkte}%
86     \@todonotes@SetMissingFigureText{Abbildung}%
87     \@todonotes@SetMissingFigureUp{Fehlende}%
88     \@todonotes@SetMissingFigureDown{Abbildung}%

```



```

89 }
90 \DeclareOptionX{portuguese}{
91   \@todonotes@SetTodoListName{Lista de tarefas pendentes}%
92   \@todonotes@SetMissingFigureText{Figura}%
93   \@todonotes@SetMissingFigureUp{Figura}%
94   \@todonotes@SetMissingFigureDown{pendente}%
95 }
96 \DeclareOptionX{spanish}{
97   \@todonotes@SetTodoListName{Lista de tareas pendientes}%
98   \@todonotes@SetMissingFigureText{Figura}%
99   \@todonotes@SetMissingFigureUp{Figura}%
100   \@todonotes@SetMissingFigureDown{pendiente}%
101 }
102 \DeclareOptionX{swedish}{%
103   \@todonotes@SetTodoListName{Att g\{"o\}ra-lista}%
104   \@todonotes@SetMissingFigureText{Figur}%
105   \@todonotes@SetMissingFigureUp{Figur}%
106   \@todonotes@SetMissingFigureDown{saknas}%
107 }

```

Create a counter, for storing the number of inserted todos.

```
108 \newcounter{@todonotes@numberoftodonotes}
```

Toggle whether the package should obey the global draft option.

```

109 \newif{\if@todonotes@obeyDraft}
110 \DeclareOptionX{obeyDraft}{\@todonotes@obeyDrafttrue}
111 \newif{\if@todonotes@isDraft}
112 \DeclareOptionX{draft}{\@todonotes@isDrafttrue}
113 \DeclareOptionX{draftcls}{\@todonotes@isDrafttrue}
114 \DeclareOptionX{draftclsnofoot}{\@todonotes@isDrafttrue}
115 \newif{\if@todonotes@obeyFinal}
116 \DeclareOptionX{obeyFinal}{\@todonotes@obeyFinaltrue}
117 \newif{\if@todonotes@isFinal}
118 \DeclareOptionX{final}{\@todonotes@isFinaltrue}

```

Make it possible to disable the functionality of the package. If this option is given, the commands `\todo{}` and `\listoftodos` are defined as commands with no effect. (But you can still compile you document with these commands).

```

119 \newif{\if@todonotes@disabled}
120 \DeclareOptionX{disable}{\@todonotes@disabledtrue}

```

Show small boxes in the list of todos with the color of the inserted todonotes.

```

121 \newif{\if@todonotes@colorinlistoftodos}
122 \DeclareOptionX{colorinlistoftodos}{\@todonotes@colorinlistoftodostrue}

```

The default style behaves bad when compiled with latex (some text placement problems). The `dvistyle` option, changes the visual behavior to avoid this text placement problem.

```

123 \newif{\if@todonotes@dviStyle}
124 \DeclareOptionX{dvistyle}{\@todonotes@dviStyletrue}

```

Create a color option.

```
125 \define@key{todonotes.sty}%  
126   {color}{  
127     \renewcommand{\@todonotes@backgroundcolor}{#1}  
128     \renewcommand{\@todonotes@linecolor}{#1}}
```

Make the background color of the notes as an option.

```
129 \define@key{todonotes.sty}%  
130   {backgroundcolor}{\renewcommand{\@todonotes@backgroundcolor}{#1}}
```

Make the line color of the notes as an option.

```
131 \define@key{todonotes.sty}%  
132   {linecolor}{\renewcommand{\@todonotes@linecolor}{#1}}
```

Make the color of the notes box color as an option.

```
133 \define@key{todonotes.sty}%  
134   {bordercolor}{\renewcommand{\@todonotes@bordercolor}{#1}}
```

Set whether short captions given as arguments to the todo command should be included in the inserted todonote.

```
135 \newif{\if@todonotes@prependcaptionglobal}  
136 \@todonotes@prependcaptionglobalfalse  
137 \DeclareOptionX{prependcaption}{\@todonotes@prependcaptionglobaltrue}
```

Make the text width as an option.

```
138 \define@key{todonotes.sty}%  
139   {textwidth}{\renewcommand{\@todonotes@textwidth}{#1}}
```

Make the text size as an option. It requires some magic with the `\csname` and `\endcsname` macros, as commands cannot be taken as options for a package.

```
140 \define@key{todonotes.sty}%  
141   {textsize}{\renewcommand{\@todonotes@textsize}{\csname #1\endcsname}}
```

Add option for shadows behind the inserted notes

```
142 \newif{\if@todonotes@shadowenabled}  
143 \@todonotes@shadowenabledfalse  
144 \DeclareOptionX{shadow}{\@todonotes@shadowenabledtrue}  
145 \usetikzlibrary{shadows}}
```

Add option for the default width of the figure inserted with `\missingfigure`.

```
146 \define@key{todonotes.sty}%  
147   {figwidth}{\renewcommand{\@todonotes@figwidth}{#1}}  
148 \define@key{todonotes.sty}%  
149   {figheight}{\renewcommand{\@todonotes@figheight}{#1}}  
150 \define@key{todonotes.sty}%  
151   {figcolor}{\renewcommand{\@todonotes@figcolor}{#1}}
```

Make the text width as an option.

```
152 % Finally process the given options.  
153 %   \begin{macrocode}  
154 \ProcessOptionsX*
```

If the `obeyDraft` is given, check whether one of the `draft`, `draftcls` or `draftclsnofoot` options are given and enable or disable the functionality of this package. If the `obeyFinal` option is given together with the `final` option the `todonotes` are disabled. The `disable` option will overrule the effect of `obeyDraft`.

```

155 \if@todonotes@disabled
156 \else
157 \if@todonotes@obeyDraft
158 \@todonotes@disabledtrue
159 \if@todonotes@isDraft
160 \@todonotes@disabledfalse
161 \fi
162 \fi
163 \if@todonotes@obeyFinal
164 \@todonotes@disabledfalse
165 \if@todonotes@isFinal
166 \@todonotes@disabledtrue
167 \fi
168 \fi
169 \fi

```

2.2 Options for the todo command

In this part the various options for commands in the package are defined. Set an arbitrarily fill color

```

170 \newcommand{\@todonotes@currentlinecolor}{}%
171 \newcommand{\@todonotes@currentbackgroundcolor}{}%
172 \newcommand{\@todonotes@currentbordercolor}{}%
173 \define@key{todonotes}{color}{%
174   \renewcommand{\@todonotes@currentlinecolor}{#1}%
175   \renewcommand{\@todonotes@currentbackgroundcolor}{#1}}%
176 \define@key{todonotes}{linecolor}{%
177   \renewcommand{\@todonotes@currentlinecolor}{#1}}%
178 \define@key{todonotes}{backgroundcolor}{%
179   \renewcommand{\@todonotes@currentbackgroundcolor}{#1}}%
180 \define@key{todonotes}{bordercolor}{%
181   \renewcommand{\@todonotes@currentbordercolor}{#1}}%

```

Set a relative font size

```

182 \newcommand{\@todonotes@sizecommand}{}%
183 \define@key{todonotes}{size}{\renewcommand{\@todonotes@sizecommand}{#1}}%

```

Should the todo item be disabled?

```

184 \newif\if@todonotes@localdisable%
185 \define@key{todonotes}{disable}[]{\@todonotes@localdisabletrue}%
186 \define@key{todonotes}{nodisable}[]{\@todonotes@localdisablefalse}%

```

Should the todo item be included in the list of todos?

```

187 \newif\if@todonotes@appendtolistoftodos%
188 \define@key{todonotes}{list}[]{\@todonotes@appendtolistoftodostrue}%
189 \define@key{todonotes}{nolist}[]{\@todonotes@appendtolistoftodosfalse}%

```

Should the todo item be displayed inline?

```
190 \newif\if@todonotes@inlinenote%
191 \define@key{todonotes}{inline}[]{\@todonotes@inlinenotetrue}%
192 \define@key{todonotes}{noinline}[]{\@todonotes@inlinenotefalse}%

193 \newif\if@todonotes@prependcaption%
194 \define@key{todonotes}{prepend}[]{\@todonotes@prependcaptiontrue}%
195 \define@key{todonotes}{noprepnd}[]{\@todonotes@prependcaptionfalse}%
```

Should the note in the margin be connected to the insertion point in the text?

```
196 \newif\if@todonotes@line%
197 \define@key{todonotes}{line}[]{\@todonotes@linetrue}%
198 \define@key{todonotes}{noline}[]{\@todonotes@linefalse}%
```

Should the connection between note and insertion point be drawn in a fancy way?
(does only work if line=true)

```
199 \newif\if@todonotes@fancyline\@todonotes@fancylinefalse%
200 \define@key{todonotes}{fancyline}[]{\@todonotes@fancylinetrue}%
201 \define@key{todonotes}{nofancyline}[]{\@todonotes@fancylinefalse}%
```

Author option.

```
202 \newcommand{\@todonotes@author}{}%
203 \newif\if@todonotes@authorgiven%
204 \define@key{todonotes}{author}{%
205     \renewcommand{\@todonotes@author}{\#1}%
206     \@todonotes@authorgiventrue}%
207 \define@key{todonotes}{noauthor}[]{\@todonotes@authorgivenfalse}%
```

Should the text in the list of todos be different from the text in the todonote?

```
208 \newcommand{\@todonotes@caption}{}%
209 \newif\if@todonotes@captiongiven%
210 \define@key{todonotes}{caption}{%
211     \renewcommand{\@todonotes@caption}{\#1}%
212     \@todonotes@captiongiventrue}%
213 \define@key{todonotes}{nocaption}[]{\@todonotes@captiongivenfalse}%
```

Change the current figure width and height.

```
214 \newcommand{\@todonotes@currentfigwidth}{\@todonotes@figwidth}
215 \define@key{todonotes}{%
216     {figwidth}{\renewcommand{\@todonotes@currentfigwidth}{\#1}}
217 \newcommand{\@todonotes@currentfigheight}{\@todonotes@figheight}
218 \define@key{todonotes}{%
219     {figheight}{\renewcommand{\@todonotes@currentfigheight}{\#1}}
220 \newcommand{\@todonotes@currentfigcolor}{\@todonotes@figcolor}
221 \define@key{todonotes}{%
222     {figcolor}{\renewcommand{\@todonotes@currentfigcolor}{\#1}}%
```

Preset values of the options

```
223 \presetkeys%
224     {todonotes}%
225     {linecolor=\@todonotes@linecolor,%
226     backgroundcolor=\@todonotes@backgroundcolor,%
```

```

227     bordercolor=\@todonotes@bordercolor,%
228     nofancyline,%
229     nodisable,%
230     noinline,%
231     nocaption,%
232     noauthor,%
233     figwidth=\@todonotes@figwidth,%
234     figheight=\@todonotes@figheight,%
235     figcolor=\@todonotes@figcolor,%
236     line, list, size=\@todonotes@textsize}{}%

```

2.3 The main code part

Here is the actual macros defined. If the option "disable" was passed to the package define empty commands.

```

237 \if@todonotes@disabled%
238   \newcommand{\listoftodos}[1] [] {}
239   \newcommand{\@todo}[2] [] {}
240   \newcommand{\missingfigure}[2] [] {}
241 \else % \if@todonotes@disabled

```

Define the `\listoftodos` command and define the appearance of the list of todos.

```

242 \newcommand{\listoftodos}[1] [\@todonotes@todolistname]
243   {\@ifundefined{chapter}{\section*{#1}}{\chapter*{#1}} \@starttoc{tdo}}
244 \newcommand{\l@todo}
245   {\@dottedtocline{1}{0em}{2.3em}}

```

Define styles used by the `todo` command

```

246 \tikzstyle{notestylera} = [
247   draw=\@todonotes@currentbordercolor,
248   fill=\@todonotes@currentbackgroundcolor,
249   line width=0.5pt,
250   text width = \@todonotes@textwidth - 1.6 ex - 1pt,
251   inner sep = 0.8 ex,
252   rounded corners=4pt]

```

Add shadows and rounded corners to the inserted `todonotes`.

```

253 \if@todonotes@shadowenabled
254 \tikzstyle{notestyle} = [notestylera,
255   general shadow={shadow xshift=.5ex, shadow yshift=-.5ex,
256   opacity=1,fill=black!50}]
257 \else
258 \tikzstyle{notestyle} = [notestylera]
259 \fi
260 \tikzstyle{notestyleleft} = [
261   notestyle,
262   left]
263 \tikzstyle{connectstyle} = [
264   thick,
265   draw=\@todonotes@currentlinecolor]

```

```

266 \tikzstyle{inlinenotestyle} = [
267     notestyle,
268     text width=\linewidth - 1.6 ex - 1 pt]

\@todo Define the \@todo command.
269 \newcommand{\@todo}[2] [] {%
    Use the global value for determining the default prepend behavior.
270 \if@todonotes@prependcaptionglobal%
271 \@todonotes@prependcaptiontrue%
272 \else%
273 \@todonotes@prependcaptionfalse%
274 \fi%

    Store the original text for later usage and parse the given options.
275 \renewcommand{\@todonotes@text}{#2}%
276 \renewcommand{\@todonotes@caption}{#2}%
277 \setkeys{todonotes}{#1}%

    If the option disable is given to the command, no output is generated.
278 \if@todonotes@localdisable%
279 \else%

    Add the item to the list of todos. When the option colorinlistoftodos is given
    to the package a small colored square is added in front of the text.
280 \addtocounter{\@todonotes@numberoftodonotes}{1}%
281 \if@todonotes@appendtolistoftodos%
282     \phantomsection%
283     \if@todonotes@captiongiven%
284     \else%
285         \renewcommand{\@todonotes@caption}{#2}%
286     \fi%
287     \@todonotes@addElementToListOfTodos%
288 \fi%

    Prepend the short caption given if it is requested
289 \if@todonotes@captiongiven%
290     \if@todonotes@prependcaption%
291         \renewcommand{\@todonotes@text}{\@todonotes@caption: #2}%
292     \fi%
293 \fi%

    Place the todonote as indicated by the options (inline or in a marginpar), below
    is the code for the inline placement.
294 \if@todonotes@inlinenote%
295     \@todonotes@drawInlineNote%
296 \else%
297     \@todonotes@drawMarginNoteWithLine%
298 \fi%
299 \fi%
300 }%
```

`drawMarginNoteWithLine` Define helper function `drawMarginNoteWithLine`.

```
301 \newcommand{\@todonotes@drawMarginNoteWithLine}{%
```

When the `todonote` should be placed inside a `marginpar`, the code below is applied.
First is the current location in the document stored, this enables us later to connect
this point with the inserted `todonote`.

```
302 \begin{tikzpicture}[remember picture, overlay, baseline=-0.75ex]%
```

```
303   \node [coordinate] (inText) {};%
```

```
304 \end{tikzpicture}%
```

```
305 \marginpar[{} Draw note in left margin
```

```
306   \@todonotes@drawMarginNote%
```

```
307   \@todonotes@drawLineToLeftMargin%
```

In the book documentclass (which is a twoside layout), the `\marginpar` `marginpar` macro takes two arguments `\marginpar[left]{right}`. If both arguments are given, latex will decide in which side the margin note has to be inserted, and then use the corresponding commands.

```
308 }]{% Draw note in right margin
```

```
309   \@todonotes@drawMarginNote%
```

```
310   \@todonotes@drawLineToRightMargin%
```

```
311 }%}
```

```
312 }%
```

`addElementToListOfTodos` Define helper function `addElementToListOfTodos`.

```
313 \newcommand{\@todonotes@addElementToListOfTodos}{%
```

```
314   \if@todonotes@colorinlistoftodos%
```

```
315     \addcontentsline{tdo}{todo}{%
```

```
316       \fcolorbox{\@todonotes@currentbordercolor}%
```

```
317         {\@todonotes@currentbackgroundcolor}%
```

```
318         {\textcolor{\@todonotes@currentbackgroundcolor}{o}}%
```

```
319       \ \@todonotes@caption}%
```

```
320   \else%
```

```
321     \addcontentsline{tdo}{todo}{\@todonotes@caption}%
```

```
322   \fi}%
```

`drawInlineNote` Define helper function `drawInlineNote`.

```
323 \newcommand{\@todonotes@drawInlineNote}{%
```

```
324   \if@todonotes@dviStyle%
```

```
325     {\par\noindent\begin{tikzpicture}[remember picture]%
```

```
326       \draw node[inlinenotestyle] {};\end{tikzpicture}\par}%
```

```
327     \if@todonotes@authorgiven%
```

```
328       {\noindent \@todonotes@sizecommand \@todonotes@author:\,\@todonotes@text}%
```

```
329     \else%
```

```
330       {\noindent \@todonotes@sizecommand \@todonotes@text}%
```

```
331     \fi
```

```
332     {\par\noindent\begin{tikzpicture}[remember picture]%
```

```
333       \draw node[inlinenotestyle] {};\end{tikzpicture}\par}%
```

```
334   \else%
```

```
335     {\par\noindent\begin{tikzpicture}[remember picture]%
```

```
336       \draw node[inlinenotestyle,font=\@todonotes@sizecommand]{%
```

```

337             \if@todonotes@authorgiven%
338             {\noindent \@todonotes@sizecommand \@todonotes@author:\,\@todonotes@text}%
339             \else%
340             {\noindent \@todonotes@sizecommand \@todonotes@text}%
341             \fi};%
342     \end{tikzpicture}\par}%
343 \fi}%

```

drawMarginNote Define helper function drawMarginNote.

```

344 \newcommand{\@todonotes@drawMarginNote}{%
345 \if@todonotes@dviStyle%
346     \begin{tikzpicture}[remember picture]%
347         \draw node[notestyle] {};%
348     \end{tikzpicture}\\%
349     \begin{minipage}{\@todonotes@textwidth}%
350     \if@todonotes@authorgiven%
351         \@todonotes@sizecommand \@todonotes@author \@todonotes@text%
352     \else%
353         \@todonotes@sizecommand \@todonotes@text%
354     \fi%
355     \end{minipage}\\%
356     \begin{tikzpicture}[remember picture]%
357         \draw node[notestyle] (inNote) {};%
358     \end{tikzpicture}%
359 \else%
360     \let\originalHbadness\hbadness%
361     \hbadness 100000%
362     \begin{tikzpicture}[remember picture,baseline=(X.base)]%
363         \node(X){\vphantom{X}};%
364         \draw node[notestyle,font=\@todonotes@sizecommand,anchor=north] (inNote) at (X.north)%
365             {\@todonotes@text};%
366         \if@todonotes@authorgiven%
367             \draw node[notestyle,font=\@todonotes@sizecommand,anchor=north] (inNote) at (X.nort
368                 {\@todonotes@sizecommand\@todonotes@author};%
369             \node(Y)[below=of X]{};%
370             \draw node[notestyle,font=\@todonotes@sizecommand,anchor=north] (inNote) at (X.sout
371                 {\@todonotes@text};%
372         \else%
373             \draw node[notestyle,font=\@todonotes@sizecommand,anchor=north] (inNote) at (X.nort
374                 {\@todonotes@text};%
375         \fi%
376     \end{tikzpicture}%
377     \hbadness \originalHbadness%
378 \fi}%

```

drawLineToRightMargin Define helper function drawLineToRightMargin.

```

379 \newcommand{\@todonotes@drawLineToRightMargin}{%
380 \if@todonotes@line%
381 \if@todonotes@fancyline%
382 \tikz[remember picture,overlay]{%

```



```

383 \tikzstyle{both}=[line width=3pt, draw, opacity=0.15]%
384 \tikzstyle{line}=[shorten >=5pt, line cap=round]%
385 \tikzstyle{head}=[shorten >=-1pt, dash pattern=on 0pt off 1pt, ->]%
386 \foreach \s in {line,head}{%
387 \draw[both,\s]%
388 (inNote.north west).. controls +(0:0) and +(90:1.5)..([yshift=1ex] inText);%
389 };%
390 }%
391 \else%
392 \begin{tikzpicture}[remember picture, overlay]%
393 \draw[connectstyle]%
394 ([yshift=-0.2cm] inText)%
395 -| ([xshift=-0.2cm] inNote.west)%
396 -| (inNote.west);%
397 \end{tikzpicture}%
398 \fi%
399 \fi}%

```

drawLineToLeftMargin Define helper function drawLineToLeftMargin.

```

400 \newcommand{\@todonotes@drawLineToLeftMargin}{%
401 \if@todonotes@line%
402 \if@todonotes@fancyline%
403 \tikz[remember picture,overlay]{%
404 \tikzstyle{both}=[line width=3pt, draw, opacity=0.15]%
405 \tikzstyle{line}=[shorten >=5pt, line cap=round]%
406 \tikzstyle{head}=[shorten >=-1pt, dash pattern=on 0pt off 1pt,->]%
407 \foreach \s in {line,head}{%
408 \draw[both,\s]%
409 (inNote.north east).. controls +(0:0) and +(90:1.5)..([yshift=1ex] inText);%
410 };%
411 }%
412 \else%
413 \begin{tikzpicture}[remember picture, overlay]%
414 \draw[connectstyle]%
415 ([yshift=-0.2cm] inText)%
416 -| ([xshift=0.2cm] inNote.east)%
417 -| (inNote.east);%
418 \end{tikzpicture}%
419 \fi%
420 \fi}%

```

\missingfigure Defines the \missingfigure macro.

```

421 \newcommand{\missingfigure}[2][{}]{%
422 \setkeys{todonotes}{#1}%
423 \addcontentsline{tdo}{todo}{\@todonotes@MissingFigureText: #2}%
424 \par
425 \noindent
426 \begin{tikzpicture}
427 \draw[fill=\@todonotes@currentfigcolor, draw = black!40, line width=2pt]
428 (-2, -2.5) rectangle +(\@todonotes@currentfigwidth, \@todonotes@currentfigheight);

```

```

429 \draw (2, -0.3) node[right, text
430     width=\@todonotes@currentfigwidth-4.5cm] {#2};
431 \draw[red, fill=white, rounded corners = 5pt, line width=10pt]
432     (30:2cm) -- (150:2cm) -- (270:2cm) -- cycle;
433 \draw (0, 0.3) node {\@todonotes@MissingFigureUp};
434 \draw (0, -0.3) node {\@todonotes@MissingFigureDown};
435 \end{tikzpicture}\hfill
436 }% Ending \missingfigure command
437 \fi % Ending \@todonotes@ifdisabled

\todototoc Inserts a reference to the list of todos in the table of contents. If chapter is
defined, chapter is used as level otherwise will section be used. The \todototoc
command respects the disable option.

438 \newcommand{\todototoc}
439 {
440     \if@todonotes@disabled
441     \else
442     \addcontentsline{toc}{\@ifundefined{chapter}{section}{chapter}}{\@todonotes@todolistname}
443     \fi
444 }

\todo Define the \todo command as a redirection to \@todo.

445 \newcommand{\todo}[2] [] {\@bsphack\@todo[#1]{#2}\@esphack\ignorespaces}%

```

Change History

| | | | | | |
|-------|--|---|-------|--|---|
| 0.1 | General: The first version of the package | 1 | 0.5 | General: Created a dtx file containing both source code and documentation of the package | 1 |
| 0.2 | General: Updated the option handling of the package | 1 | 0.5.1 | General: Updated the documentation | 1 |
| 0.2.1 | General: Slightly modified by Kjell Magne Fauske to support notes in the left margin (for documentstyle book). | 1 | 0.5.2 | General: Fixed a bug that prevented the usage of the option french for babel. Bug report by Thomas Braun. | 1 |
| 0.2.2 | General: Added a missingfigure command | 1 | 0.6 | General: Added the caption option to the todo command. | 1 |
| 0.2.3 | General: Made a dependency on the calc package | 1 | 0.6.1 | General: Added a new usecase with decreased line spacing. | 1 |
| 0.3 | General: Delayed the requirements for the hyperref package until begin document and added an optional argument to the todo command for adding inline todonotes (Idea from Patrick Toche) | 1 | 0.6.2 | General: Added a usecase by Fabrice Niessen. | 1 |
| 0.3.1 | General: Added some options to the todo macro (Idea: Patrick Toche) and made the listoftodos point at the inserted todos and not only the current / previous section, subsection or figure using the phantomsection macro. | 1 | 0.7 | General: Added language options on request from Peter Zimmermann. | 1 |
| 0.4 | General: Modified the behaviour of the inline todonotes, to avoid empty lines around the inline todonotes. | 1 | 0.7.1 | General: Reworked the color options for both the whole package and the todo command. General code clean up. Added the prependcaption package option. | 1 |
| 0.4.1 | General: Added the option colorinlistoftodos which inserts a small box with the used fillcolor of the todonotes in the list of todos. | 1 | 0.7.2 | General: Avoid to change the font-size inside the list of todos, fixing a bug revealed by Vladimir Zhuravlev. | 1 |
| 0.4.2 | General: Fixed a bug with the disable option to the package. | 1 | 0.7.3 | General: The localization options (danish and german) and the disable options, were all flawed by naming inconsistencies that made then break the package. This have been fixed. | 1 |
| | | | 0.7.4 | General: Fixed a bug related to the caption option for the todo com- | |

| | | | |
|-------|---|-------|--|
| | mand. Introduced a counter of the number of inserted todos. . . 1 | | todonotes and how to set custom default values). Changed the order of the use case examples. 1 |
| 0.7.5 | General: Fixed a typo in a macroname. 1 | 0.8.6 | General: Added a portuguese translation by Og DeSouza. 1 |
| 0.7.6 | General: Added a textsize option for the package and the prepend / nopprepend option for the todo command. 1 | 0.8.7 | General: Updated portuguese translation. Added a ngerman alias for the german translation suggested by Michael Niedermair. 1 |
| 0.8 | General: Added three new translations french, spanish and catalan thanks to Richard Dominique and Joan Queralt. Improved the visual appearance of the inserted notes (rounded corners and optional shadows) with code from Joan Queralt. Found an untranslated textstring "Figure" in the source. Added a figwidth option to the missingfigure command, patch by Paul Ivanov. 1 | 0.8.8 | General: Added a new usecase from Vitaly. Fixed a bug reported by Oscar Gustafsson. Explained why the placement of todonotes in the margin fails in certain custom document classes. . . . 1 |
| 0.8.1 | General: Added a space between the colored square and the text in the list of todos. Added a new usecase for marking old / new sections. Made the name of listoftodos changeable. 1 | 0.8.9 | General: Added a dutch translation by Ruben Ruben Vermeersch. . 1 |
| 0.8.2 | General: Italian translation by Gustavo Cevolani. Removed the dependence on the hyperref package. 1 | 0.9.0 | General: Added a english option as suggested by Marco Berghoff. . 1 |
| 0.8.3 | General: Added a use case for linking to the list of todos, idea from Andreas Plank. Introduced a package option for listening to the draft option given to the document class. 1 | 0.9.1 | General: Added the todotoc command by idea from Sven Augustin. 1 |
| 0.8.4 | General: Fixed a bug related to the obeyDraft option. 1 | 0.9.2 | General: Use chapter (if available) for the list of todos heading. . . 1 |
| 0.8.5 | General: Added two new usecases (enumeration of inserted | 0.9.3 | General: Make an internal definition of the todo command, for easing redefinition of the command behaviour. 1 |
| | | 0.9.4 | General: Make the disable option work on a local scale. 1 |
| | | 0.9.5 | General: Code simplification by extracting functionality to smaller macros. 1 |
| | | 0.9.6 | General: Give fontsize to TikZ. Align notes with line where note |

| | | | | | | |
|-------|--|---|-------|--|---|---|
| | is set. Added new option fancyline. Patches by Benjamin Kellermann. | 1 | | | ber and Brent Longborough. Added figheight option to the missingfigure command as suggested by Kim Albertsson. | 1 |
| 0.9.7 | General: Updated documentation. | 1 | 1.0.2 | | General: Added Swedish translation by Emil Lundberg. Added usecase by Tobias Winchen. Mentioned that default arguments can be set using the presetkeys command. Updated list of alternatives to the todonotes package. Draw borders around coloured boxes in the list of todos, patch by Ze Loff. | 1 |
| 0.9.8 | General: Suppress warnings about underfull / overfull boxes generated by the inserted todonotes. Patch by Peter M Schuler. | 1 | | | | |
| 0.9.9 | General: Added author option, implementation provided by Xavier Alameda-Pineda. Example of modifying the listoftodos removing some protect commands with no effect. | 1 | 1.0.3 | | General: Added the option figcolor to missing figure, patch by Pascal Hebbeker. Added Croatian translation by Ican Kokan. Changed default with of missingfigure. Removed some underfull box warnings, solution by Ernst Blecha. | 1 |
| 1.0.0 | General: Mention trouble with the classicthesis style. Refer to some alternatives to the package. Added todoin command as suggested by Stefan Pinnow. Described how to use tikz externalize with todonotes. Added obeyDraft and obeyFinal options. | 1 | 1.0.4 | | General: Restructured documentation and placed some examples in the doc/examples subdirectory. | 1 |
| 1.0.1 | General: Fix spacing issues reported by Jonathan Zachhu- | | | | | |

ANEXO B – Manual pdfpages(parcial)

The pdfpages Package*

Andreas MATTHIAS
andreas.matthias@gmail.com

2013/08/25

Abstract

This package simplifies the insertion of external multi-page PDF or PS documents. It supports pdfTeX, VTeX, and XeTeX.

Contents

| | | |
|----------|--------------------------|-----------|
| 1 | Introduction | 1 |
| 2 | Usage | 2 |
| 2.1 | Package Options | 2 |
| 2.2 | Commands | 2 |
| 2.3 | The Layout | 10 |
| 2.4 | Pitfalls | 11 |
| 3 | Required Packages | 11 |
| 4 | Acknowledgment | 11 |

1 Introduction

When creating PDF documents, it is sometimes useful to insert pages of external PDF documents. This can be done with the `\includegraphics` command from the `graphics` package. But a simple `\includegraphics{doc.pdf}` normally produces ‘Overfull \hbox’ and ‘Overfull \vbox’ warnings, because the size of the inserted pages does not match the print space.

The `pdfpages` package makes it easy to insert pages of external PDF documents without worrying about the print space. Here are some features of the `pdfpages` package: Several logical pages can be arranged onto each sheet of paper and the layout can be changed individually. A lot of hypertext operations are supported, like links to the inserted pages, links to the original PDF document, threads, etc. When working with VTeX the same is possible with PostScript documents, too. Note that PostScript documents are only supported by VTeX and *not* by pdfLaTeX.

*This file has version number v0.4v, last revised 2013/08/25.

When producing DVI output `pdfpages` cannot insert pages of a PDF documents. But instead of interrupting execution `pdfpages` will insert empty pages. This feature is important when using packages like `pst-pdf`, which need to produce DVI output at the first run.

Links and other interactive features of PDF documents When including pages of a PDF only the so called content stream of these pages is copied but no links. Up to now there are no TeX-engines (`pdfTeX`, `XeTeX`, ...) available that can copy links or other interactive features of a PDF document, too. Thus, all kinds of links¹ will get lost during inclusion. (Using `\includepdf`, `\includegraphics`, or other low-level commands.)

However, there's a gleam of hope. Some links may be extracted and later reinserted by a package called *pax* which can be downloaded from CTAN [3]. Have a look at it!

2 Usage

2.1 Package Options

`\usepackage[<options>]{pdfpages}`

<option> – **final**: Inserts pages. This is the default.

draft: Does not insert pages, but prints a box and the filename instead.

enable-survey: Activates survey functionalities. (*experimental, subject to change*)

2.2 Commands

`\includepdf` Inserts pages of an external PDF document.

`\includepdf[<key=val>]{<filename>}`

<key=val> – A comma separated list of options using the *<key>=<value>* syntax.

<filename> – Filename of the PDF document. (The filename *must not* contain any blanks!)

The following list describes all possible options of `\includepdf`. All options are using the *<key=value>* syntax.

- Main options:

pages Selects pages to insert. The argument is a comma separated list, containing page numbers (`pages={3,5,6,8}`), ranges of page numbers (`pages={4-9}`) or any combination. To insert empty pages use `{}`.

E.g.: `pages={3,{},8-11,15}` will insert page 3, an empty page, and pages 8, 9, 10, 11, and 15.

¹Actually not only links but all kinds of *PDF annotations* will get lost.

Page ranges are specified by the following syntax: $\langle m \rangle - \langle n \rangle$. This selects all pages from $\langle m \rangle$ to $\langle n \rangle$. Omitting $\langle m \rangle$ defaults to the first page; omitting $\langle n \rangle$ defaults to the last page of the document. Another way to select the last page of the document, is to use the keyword `last`. (This is only permitted in a page range.)

E.g.: `pages=-` will insert *all* pages of the document, and `pages=last-1` will insert all pages in reverse order.

(Default: `pages=1`)

nup Puts multiple logical pages onto each sheet of paper. The syntax of this option is: `nup= $\langle xnup \rangle$ x $\langle ynup \rangle$` . Where $\langle xnup \rangle$ and $\langle ynup \rangle$ specify the number of logical pages in horizontal and vertical direction, which are arranged on each sheet of paper. (Default: `nup=1x1`)

landscape Specifies the format of the sheet of paper, which is rotated by 90 degrees. This does *not* affect the logical pages, which will *not* be rotated by the ‘landscape’ option. To rotate the logical pages use the ‘angle’ option (e.g. ‘angle=90’). Either ‘true’ or ‘false’ (or no value, which is equivalent to ‘true’). (Default: `landscape=false`)

- Layout options:

delta Puts some horizontal and vertical space between the logical pages. The argument should be two dimensions, separated by space. See Chapter 2.3 and Figure 1. (Default: `delta=0 0`).

offset Displaces the origin of the inserted pages. The argument should be two dimensions, separated by space. In ‘oneside’ documents positive values shift the pages to the *right* and to the *top* margin, respectively, whereas in ‘twoside’ documents positive values shift the pages to the *outer* and to the *top* margin, respectively. See Chapter 2.3 and Figure 1. (Default: `offset=0 0`)

frame Puts a frame around each logical page. The frame is made of lines of thickness `\fbboxrule`. Either ‘true’ or ‘false’ (or no value, which is equivalent to ‘true’). (Default: `frame=false`)

column Pdfpages normally uses ‘row-major’ layout, where successive pages are placed in rows along the paper. The `column` option changes the output into a ‘column-major’ layout, where successive pages are arranged in columns down the paper. Either ‘true’ or ‘false’ (or no value, which is equivalent to ‘true’). (Default: `column=false`)

columnstrict By default the last page is not set in a strict ‘column-major’ layout, if the logical pages do not fill up the whole page. The `columnstrict` option forces a strict ‘column-major’ layout for the last page. Either ‘true’ or ‘false’ (or no value, which is equivalent to ‘true’). (Default: `columnstrict=false`)

| | | |
|---|---|--|
| 1 | 4 | |
| 2 | 5 | |
| 3 | | |

`columnstrict=true`

| | | |
|---|---|---|
| 1 | 3 | 5 |
| 2 | 4 | |
| | | |

`columnstrict=false`

ANEXO C – Cras non urna sed feugiat cum sociis natoque penatibus

Sed commodo posuere pede. Mauris ut est. Ut quis purus. Sed ac odio. Sed vehicula hendrerit sem. Duis non odio. Morbi ut dui. Sed accumsan risus eget odio. In hac habitasse platea dictumst. Pellentesque non elit. Fusce sed justo eu urna porta tincidunt. Mauris felis odio, sollicitudin sed, volutpat a, ornare ac, erat. Morbi quis dolor. Donec pellentesque, erat ac sagittis semper, nunc dui lobortis purus, quis congue purus metus ultricies tellus. Proin et quam. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos hymenaeos. Praesent sapien turpis, fermentum vel, eleifend faucibus, vehicula eu, lacus.

Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Donec odio elit, dictum in, hendrerit sit amet, egestas sed, leo. Praesent feugiat sapien aliquet odio. Integer vitae justo. Aliquam vestibulum fringilla lorem. Sed neque lectus, consectetur at, consectetur sed, eleifend ac, lectus. Nulla facilisi. Pellentesque eget lectus. Proin eu metus. Sed porttitor. In hac habitasse platea dictumst. Suspendisse eu lectus. Ut mi mi, lacinia sit amet, placerat et, mollis vitae, dui. Sed ante tellus, tristique ut, iaculis eu, malesuada ac, dui. Mauris nibh leo, facilisis non, adipiscing quis, ultrices a, dui.

Morbi luctus, wisi viverra faucibus pretium, nibh est placerat odio, nec commodo wisi enim eget quam. Quisque libero justo, consectetur a, feugiat vitae, porttitor eu, libero. Suspendisse sed mauris vitae elit sollicitudin malesuada. Maecenas ultricies eros sit amet ante. Ut venenatis velit. Maecenas sed mi eget dui varius euismod. Phasellus aliquet volutpat odio. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Pellentesque sit amet pede ac sem eleifend consectetur. Nullam elementum, urna vel imperdiet sodales, elit ipsum pharetra ligula, ac pretium ante justo a nulla. Curabitur tristique arcu eu metus. Vestibulum lectus. Proin mauris. Proin eu nunc eu urna hendrerit faucibus. Aliquam auctor, pede consequat laoreet varius, eros tellus scelerisque quam, pellentesque hendrerit ipsum dolor sed augue. Nulla nec lacus.

Suspendisse vitae elit. Aliquam arcu neque, ornare in, ullamcorper quis, commodo eu, libero. Fusce sagittis erat at erat tristique mollis. Maecenas sapien libero, molestie et, lobortis in, sodales eget, dui. Morbi ultrices rutrum lorem. Nam elementum ullamcorper leo. Morbi dui. Aliquam sagittis. Nunc placerat. Pellentesque tristique sodales est. Maecenas imperdiet lacinia velit. Cras non urna. Morbi eros pede, suscipit ac, varius vel, egestas non, eros. Praesent malesuada, diam id pretium elementum, eros sem dictum tortor, vel

consectetuer odio sem sed wisi.

Sed feugiat. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Ut pellentesque augue sed urna. Vestibulum diam eros, fringilla et, consectetur eu, nonummy id, sapien. Nullam at lectus. In sagittis ultrices mauris. Curabitur malesuada erat sit amet massa. Fusce blandit. Aliquam erat volutpat. Aliquam euismod. Aenean vel lectus. Nunc imperdiet justo nec dolor.

Etiam euismod. Fusce facilisis lacinia dui. Suspendisse potenti. In mi erat, cursus id, nonummy sed, ullamcorper eget, sapien. Praesent pretium, magna in eleifend egestas, pede pede pretium lorem, quis consectetur tortor sapien facilisis magna. Mauris quis magna varius nulla scelerisque imperdiet. Aliquam non quam. Aliquam porttitor quam a lacus. Praesent vel arcu ut tortor cursus volutpat. In vitae pede quis diam bibendum placerat. Fusce elementum convallis neque. Sed dolor orci, scelerisque ac, dapibus nec, ultricies ut, mi. Duis nec dui quis leo sagittis commodo.