



# Markup Validation Service

Check the markup (HTML, XHTML, ...) of Web documents

Jump To:

[Notes and Potential Issues Listing](#)

[Congratulations · Icons](#)

[Source](#)

This document was successfully checked as HTML5!

Result:	Passed, 1 warning(s)	
File :	<div>Choose File no file selected</div> <p>Use the file selection box above if you wish to re-validate the uploaded file <i>publications.html</i></p>	
Encoding :	utf-8	(detect automatically)
Doctype :	HTML5	(detect automatically)
Root Element:	html	



[Try now the W3C Validator Suite™](#) premium service that checks your entire website and evaluates its conformance with W3C open standards to quickly identify those portions of your website that need your attention.



The W3C validators rely on community support for hosting and development.

[Donate](#) and help us build better tools for a better web.

4665

## Options

☒ Show Source

☐ Show Outline

☒ List Messages Sequentially ☐ Group Error Messages by Type

☐ Validate error pages

☐ Verbose Output

☐ Clean up Markup with HTML-Tidy

[Help](#) on the options is available.

[Revalidate](#)

## Notes and Potential Issues

---

The following notes and warnings highlight missing or conflicting information which caused the validator to perform some guesswork prior to validation, or other things affecting the output below. If the guess or fallback is incorrect, it could make validation results entirely incoherent. It is *highly recommended* to check these potential issues, and, if necessary, fix them and re-validate the document.

### Using experimental feature: *HTML5 Conformance Checker*.

The validator checked your document with an experimental feature: *HTML5 Conformance Checker*. This feature has been made available for your convenience, but be aware that it may be unreliable, or not perfectly up to date with the latest development of some cutting-edge technologies. If you find any issues with this feature, please [report them](#). Thank you.

## Congratulations

---

The uploaded document "publications.html" was successfully checked as HTML5. This means that the resource in question identified itself as "HTML5" and that we successfully performed a formal validation of it. The parser implementations we used for this check are based on [validator.nu](http://validator.nu) (HTML5).

### *Validating CSS Style Sheets*

If you use [CSS](#) in your document, you can check it using the W3C [CSS Validation Service](http://jigsaw.w3.org/css-validator/).

[↑ TOP](#)

## Source Listing

---

Below is the source input I used for this validation:

```
1. <!DOCTYPE html>
2. <html>
3. <head>
4. <meta charset="UTF-8">
5. <title>Kannan Srinivasan</title>
6. <link rel="stylesheet" type="text/css" href="stylesheet.css" />
7. </head>
8. <body>
9. <header>
10. <div id="navbar">
```

```
11. <ul>
12. <li id="logo">
13. 
14. </li>
15.
16. <li class="navbar-link">
17. <a href="index.html"></a>
18. </li>
19.
20. <li class="navbar-link">
21. <a href="news.html"></a>
22. </li>
23.
24. <li class="navbar-link">
25. <a href="awards.html"></a>
26. </li>
27.
28. <li class="navbar-link">
29. <a href="teaching.html"></a>
30. </li>
31.
32. <li class="navbar-link">
33. <a href="publications.html"></a>
34. </li>
35. </ul>
36. </div>
37. </header>
38.
39. <div id="news_content" style="margin-left: 55px">
```

40.

41. <h1>Publications</h1>

42. <h3>On Wireless Design:</h3>

43. <ul>

44. <li>

45. <p>

46. <b>RobinHood: Sharing the Happiness in a Wireless Jungle</b>

47. <br />

48. Tarun Bansal, Bo Chen, Kannan Srinivasan and Prasun Sinha.

49. <br />

50. <i> ACM HotMobile 2014.</i>

51. <br />

52. </p>

53. </li>

54. </ul>

55.

56. <ul>

57. <li>

58. <p>

59. <b>Characterizing the Achievable Throughput in Wireless Networks with Two RF Chains</b>

60. <br />

61. Yang Yang, Bo Chen, Kannan Srinivasan and Ness Shroff.

62. <br />

63. <i> IEEE Infocom 2014.</i>

64. <br />

65. </p>

66. </li>

67. </ul>

68.

69. <ul>

70. <li>

71. <p>

72. <b>DOMINO: Relative Scheduling in Enterprise Wireless LANs</b>

73. <br />

74. Wenjie Zhou, Dong Li, Kannan Srinivasan and Prasun Sinha.

75. <br />

76. <i> In the Proceedings of The 9th ACM International Conference on emerging Networking EXperiments and Technologies (CoNEXT 2013).</i>

77. <br />

78. </p>

79. </li>

80. </ul>

81. </ul>

82. </ul>

83. </li>

84. <p>

85. <b>RCTC: Rapid Concurrent Transmission Coordination in Full Duplex Wireless Networks</b>

86. <br />

87. Wenjie Zhou, Kannan Srinivasan and Prasun Sinha.

88. <br />

89. <i> In the Proceedings of the 21st IEEE International Conference on Network Protocols (ICNP 2013) </i>

90. <br />

91. </p>

92. </li>

93. </ul>

94. </ul>

95. </ul>

96. </li>

97. <p>

98. <b>Symphony: Cooperative Packet Recovery over the Wired Backbone in Enterprise WLANs</b>

99. <br />

100. Tarun Bansal (Co-Primary Author), Bo Chen (Co-Primary Author), Prasun Sinha and Kannan Srinivasan.

101. <br />

102. <i> In the Proceedings of the 19th Annual International Conference on Mobile Computing and Networking (Mobicom 2013) </i>

103. <br />

104. </p>

105. </li>

106. </ul>

107. </ul>

108. </ul>

109. </ul>

110. <li>

111. <p>

112. <b>Low Power Counting via Collaborative Wireless Communications</b>

113. <br />

114. Wenjie Zeng, Anish Arora, and Kannan Srinivasan.

115. <br />

116. <i> The 12th ACM/IEEE Conference on Information Processing in Sensor Networks (IPSN 2013).</i><b class="color"> (Best Paper Runner-Up)</b>

117. <br />

118. </p>

119. </li>

120. </ul>

121.

122. <ul>

123. <li>

124. <p>

125. <b>Beyond Full Duplex Wireless</b>

126. <br />

127. Kannan Srinivasan, Steven Hong, Mayank Jain, Jung Il Choi, Jeff Mehlman, Sachin Katti, and Philip Levis.

128. <br />

129. <i> In Proceedings of the Asilomar Conference on Signals, Systems, and Computers, 2012 (Asilamor 2013).</i>

130. <br />

131. <a href="http://www.cse.ohio-state.edu/~kannan/cosyne/asilomar12.pdf">[pdf]</a>

132. </p>

133. </li>

134. </ul>

135.

136. <ul>

137. <li>

138. <p>

139. <b>Q-CMRA: Queue-Based Channel-Measurement and Rate-Allocation</b>

140. Vidur Bhargava, Jubin Jose, Kannan Srinivasan, and Sriram Vishwanath.

141. <br />

142. <i> IEEE Transactions on Wireless Communications 2012.</i>

143. <br />

144. </p>

145. </li>

146. </ul>

147.

148. <ul>

149. <li>

150. <p>

151. <b>Enabling Real-Time Interference Alignment: Promises and Challenges</b>

152. Kyle Miller, Atresh Sanne, Kannan Srinivasan, and Sriram Vishwanath.

153. <br />

154. <i> In the Proceedings of the 13th International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc 2012).</i>

155. <br />

156. </p>

157. </li>

158. </ul>

159.

160. <ul>

161. <li>

162. <p>

163. <b>Practical, Real-time, Full Duplex Wireless</b>

164. <a href="http://sing.stanford.edu/pubs/mobicom11-duplex.pdf">[pdf]</a>

165. <br>

166. Mayank Jain, Jung Il Choi, Taemin Kim, Dinesh Bharadia, <b>Kannan Srinivasan</b>, Siddharth Seth, Philip Levis, Sachin Katti and Prasun Sinha.

167. <br />

168. <i> In the Proceedings of The 17th Annual International Conference on Mobile Computing and Networking (Mobicom 2011).</i>

169. <br />

170. </p>

171. </li>

172. </ul>

173.

174. <ul>

175. <li>

176. <p>

177. <b>Achieving Single Channel, Full Duplex Wireless Communication</b>

178. [\[pdf\]](http://sing.stanford.edu/pubs/mobicom10-duplex.pdf)

179.

180. **Kannan Srinivasan (Co-Primary)**, Jung Il Choi (Co-Primary), Mayank Jain (Co-Primary), Philip Levis and Sachin Katti

181.

182. *In the Proceedings of The 16th Annual International Conference on Mobile Computing and Networking (Mobicom 2010).* **(Best Demo Award)**

183.

184.

185.

186.

187.

188.

189.

190. **The  $\kappa$ -Factor: Inferring Protocol Performance Using Inter-link Reception Correlation** [\[pdf\]](http://sing.stanford.edu/pubs/mobicom10-kappa.pdf) [\[slides\]](http://sing.stanford.edu/talks/mobicom10-kappa-slides.pdf)

191.

192. **Kannan Srinivasan**, Mayank Jain, Jung Il Choi, Tahir Azim, Edward S Kim, Philip Levis and Bhaskar Krishnamachari

193.

194. *In the Proceedings of The 16th Annual International Conference on Mobile Computing and Networking (Mobicom 2010).* **(Best Paper Award)**

195.

196.

197.

198.

199.

200.

201.

202.

203. **The  $\epsilon$ -factor: Measuring Wireless Link Burstiness** [\[pdf\]](http://sing.stanford.edu/pubs/sensys08-beta.pdf) [\[slides\]](http://sing.stanford.edu/talks/sensys08-beta-slides.pdf)

204.

205. **Kannan Srinivasan**, Maria A. Kazandjieva, Saatvik Agarwal, and Philip Levis

206.

207. *In the Proceedings of the Sixth Conference on Embedded Networked Sensor Systems (SenSys), 2008.*



208. <br />

209. </p>

210. </li>

211. </ul>

212. <ul>

213. <li>

214. <p>

215. <b>Visibility: A New Metric for Protocol Design</b><a href="http://sing.stanford.edu/pubs/sensys07-visi.pdf">[pdf]</a><a href="http://sing.stanford.edu/talks/sensys07\_visi.pdf">[slides]</a>

216. <br />

217. Megan Wachs, Jung Il Choi, Jung Woo Lee, <b>Kannan Srinivasan</b>, Zhe Chen, Mayank Jain and Philip Levis

218. <br />

219. <i>In the Proceedings of the Fifth ACM Conference on Embedded Networked Sensor Systems (SenSys), 2007.</i>

220. <br />

221. </p>

222. </li>

223. </ul>

224. <ul>

225. <li>

226. <p>

227. <b>Some Implications of Low-Power Wireless to IP Routing</b><a href="http://sing.stanford.edu/pubs/ip-hotnetsV.pdf">[pdf]</a><a href="http://sing.stanford.edu/talks/hotnets-V-srinivasan.pdf">[slides]</a>

228. <br />

229. <b>Kannan Srinivasan</b>, Prabal Dutta, Arsalan Tavakoli, and Philip Levis

230. <br />

231. <i>In the Proceedings of the Fifth Workshop on Hot Topics in Networks (HotNets V), 2006.</i>

232. <br />

233. </p>

234. </li>

235. </ul>

236. <ul>

237. <li>

238. <p>

239. <b>RSSI is Under Appreciated</b><a href="http://sing.stanford.edu/pubs/rssi-emnets06.pdf">[pdf]</a><a href="http://sing.stanford.edu/talks/emnets-2006.pdf">[slides]</a>

240. <br />

241. <b>Kannan Srinivasan</b>, and Philip Levis

242. <br />

243. <i>In the Proceedings of the Third Workshop on Embedded Networked Sensors (EmNets), 2006.</i>

244. <br />

245. </p>

246. </li>

247. </ul>

248. <ul>

249. <li>

250. <p>

251. <b>Advanced Wireless Networks for Underground Mine Communications</b>

252. <br />

253. <b>Kannan Srinivasan</b>, Moise Ndoh and Kadambari Kaluri

254. <br />

255. <i>In the Proceedings of the First International Workshop on Wireless Communications in Underground and Confined Areas (IWWCUCA), 2005.</i>

256. <br />

257. </p>

258. </li>

259. </ul>

260. <h3>On Wireless Security:</h3>

261. <ul>

262. <li>

263. <p>

264. <b>State Based Key Hop (SBKH) Protocol</b>

265. <br />

266. <b>Kannan Srinivasan</b>, and Stephen Michell

267. <br />

268. <i>In the Proceedings of the Sixteenth International Conference on Wireless Communications, Wireless 2004.</i>

269. <br />

270. </p>

271. </li>

272. </ul>

273. <ul>

274. <li>

275. <p>

276. <b>Performance of State Based Key Hop (SBKH) Protocol for Security on Wireless Systems</b>

277. <br />

278. <b>Kannan Srinivasan</b>, and Stephen Michell

279. <br />

280. <i>In the Proceedings of IEEE Vehicular Technology Conference 2004-Fall (VTC2004-Fall).</i>

281. <br />

282. </p>

283. </li>

284. </ul>

285. <ul>

286. <li>

287. <p>

288. <b>State Based Key Hop (SBKH) Protocol: A Lightweight Security Protocol for Wireless Networks</b>

289. <br />

290. Stephen Michell and <b>Kannan Srinivasan</b>

291. <br />

292. <i>In the Proceedings of ACM Workshop on Performance Evaluation of Wireless Ad Hoc, Sensor, and Ubiquitous Networks (PE-WASUN), 2004.</i>

293. <br />

294. </p>

295. </li>

296. </ul>

297. <h3>On Wireless Multi-Protocol Label Switching (WMPLS):</h3>

298. <ul>

299. <li>

300. <p>

301. <b>Performance Analysis of Wireless MultiProtocol Label Switching (WMPLS)</b>

302. <br />

303. <b>Kannan Srinivasan</b>, Hooi-Min Soo, and Jung-Moon Chung

304. <br />

305. <i>In the Proceedings of the Fifteenth International Conference on Wireless Communications, Wireless 2003.</i>

306. <br />

307. </p>

308. </li>

309. </ul>

310. <ul>  
311. <li>  
312. <p>  
313. <b>Handover Control and Analysis of WMPLS Networks</b>  
314. <br />  
315. Sang-Chul Kim, <b>Kannan Srinivasan</b>, and Jong-Moon Chung  
316. <br />  
317. <i>In the Proceedings of the 45th IEEE International Midwest Symposium on Circuits and Systems (MWSCAS), 2002.</i>  
318. <br />  
319. </p>  
320. </li>  
321. </ul>  
322. <ul>  
323. <li>  
324. <p>  
325. <b>Performance Analysis of WMPLS Signaling and Control in Ad-Hoc Networks</b>  
326. <br />  
327. Sang-Chul Kim, <b>Kannan Srinivasan</b>, Mauricio A. Subieta, and Jong-Moon Chung  
328. <br />  
329. <i>In the Proceedings of the 45th IEEE International Midwest Symposium on Circuits and Systems (MWSCAS), 2002.</i>  
330. <br />  
331. </p>  
332. </li>  
333. </ul>  
334. <h3>Journal:</h3>  
335. <ul>  
336. <li>  
337. <p>  
338. <b>An Empirical Study of Low Power Wireless</b><a href="http://sing.stanford.edu/pubs/TOSN-2008-0069.pdf"> [pdf]</a>  
339. <br />  
340. <b>Kannan Srinivasan</b>, Prabal Dutta, Arsalan Tavakoli, Philip Levis  
341. <br />  
342. <i>ACM Transactions on Sensor Networks, 2010.</i>  
343. <br />

344. </p>  
345. </li>  
346. </ul>  
347. <ul>  
348. <li>  
349. <p>  
350. <b>Wireless MultiProtocol Label Switching (WMPLS)</b>  
351. <br />  
352. Jung-Moon Chung, Mauricio A. Subieta, and <b>Kannan Srinivasan</b>  
353. <br />  
354. <i>IEEE Transactions on Mobile Computing.</i>  
355. <br />  
356. </p>  
357. </li>  
358. </ul>  
359. <h3>IETF Draft:</h3>  
360. <ul>  
361. <li>  
362. <p>  
363. <b>Wireless MultiProtocol Label Switching (WMPLS)</b>  
364. <br />  
365. Jung-Moon Chung, <b>Kannan Srinivasan</b> and Mauricio A. Subieta  
366. <br />  
367. <i>The Network Society.</i>  
368. <br />  
369. </p>  
370. </li>  
371. </ul>  
372. <h3>Posters and Demos:</h3>  
373. <ul>  
374. <li>  
375. <p>  
376. <b>A Working Single Channel Full Duplex Wireless System</b>  
377. <br />  
378. <b>Kannan Srinivasan (Co-Primary)</b>, Mayank Jain (Co-Primary), Jung Il Choi (Co-Primary), Richard Swensson, Philip Levis and Sachin Katti  
379. <br />

380. <i>Demonstration at the Sixteenth Annual International Conference on Mobile Computing and Networking (MobiCom), 2010.</i><b> (Best Demo Award)</b>

381. <br />

382. </p>

383. </li>

384. </ul>

385. <ul>

386. <li>

387. <p>

388. <b>SWAT: Know Your Network</b>

389. <br />

390. <b>Kannan Srinivasan</b>, Maria A. Kazandjieva, Mayank Jain, Edward S Kim and Philip Levis

391. <br />

392. <i>Demonstration at the Eighth ACM/IEEE International Conference on Information Processing in Sensor Networks (IPSN), 2009.</i>

393. <br />

394. </p>

395. </li>

396. </ul>

397. <ul>

398. <li>

399. <p>

400. <b>SWAT: Enabling Wireless Network Measurements</b><a href="http://sing.stanford.edu/swat/swat-demo.pdf">[pdf]</a><a href="http://sing.stanford.edu/swat">[website]</a>

401. <br />

402. <b>Kannan Srinivasan</b>, Maria A. Kazandjieva, Mayank Jain, Edward Kim and Philip Levis

403. <br />

404. <i>Demonstration at the Sixth ACM Conference on Embedded Networked Sensor Systems (SenSys), 2008.</i>

405. <br />

406. </p>

407. </li>

408. </ul>

409. <ul>

410. <li>

411. <p>

412. <b>Understanding the Causes of Packet Delivery Success and Failure in Dense Wireless Sensor Networks</b>

413. <br />

414. <b>Kannan Srinivasan</b>, Prabal Dutta, Arsalan Tavakoli and Philip Levis

415. <br />

416. <i>Demonstration at the 4th ACM Conference on Embedded Networked Sensor Systems (Sensys), 2006.</i>

417. <br />

418. </p>

419. </li>

420. </ul>

421. <ul>

422. <li>

423. <p>

424. <b>Environmental Monitoring using Wireless Sensor Networks</b>

425. <br />

426. Kenneth Tessier, Moise Ndoh and <b>Kannan Srinivasan</b>

427. <br />

428. <i>Poster at the Seventh Canadian Aboriginal Science and Technology Society Conference (CASTS), 2005.</i>

429. <br />

430. </p>

431. </li>

432. </ul>

433. <ul>

434. <li>

435. <p>

436. <b>Wireless Technologies for Condition-Based Maintenance (CBM) in Petroleum Plants (Invited)</b>

437. <br />

438. <b>Kannan Srinivasan</b>, Moise Ndoh, Hong Nie, Congying (Helen) Xia, Kadambari Kaluri and Diane Ingraham

439. <br />

440. <i><b>Invited</b> Poster at the Intl. Conf. on Distributed Computing in Sensor Systems (DCOSS), 2005.</i>

441. <br />

442. </p>

443. </li>

444. </ul>

445. <ul>

446. <li>  
447. <p>  
448. <b>Wireless Sensors: Oyster Habitat Monitoring in the Bras d&rsquo;Or Lakes (Invited)</b>  
449. <br />  
450. Diane Ingraham, Robert Beresford, Kadambari Kaluri, Moise Ndoh and <b>Kannan Srinivasan</b>  
451. <br />  
452. <i>Poster at the Intl. Conf. on Distributed Computing in Sensor Systems (DCOSS), 2005.</i>  
453. <br />  
454. </p>  
455. </li>  
456. </ul>  
457. <ul>  
458. <li>  
459. <p>  
460. <b>Wireless Internetworking Protocol (WIP)</b>  
461. <br />  
462. <b>Kannan Srinivasan</b>, and Jung-Moon Chung  
463. <br />  
464. <i>In the Proc. of the 45th IEEE International Midwest Symposium on Circuits and Systems (MWSCAS), 2002.</i>  
465. <br />  
466. </p>  
467. </li>  
468. </ul>  
469. <h3>Tech Reports:</h3>  
470. <ul>  
471. <li>  
472. <p>  
473. <b>"Achieving Single Channel, Full Duplex Wireless Communication"</b>  
474. <a href="http://sing.stanford.edu/pubs/sing-10-00.pdf">[pdf]</a>  
475. <br>  
476. <b>Kannan Srinivasan (Co-Primary) </b>, Jung Il Choi (Co-Primary), Mayank Jain (Co-Primary), Philip Levis and Sachin Katti  
477. <br />  
478. <i>Technical Report SING-10-00.</i>  
479. <br />  
480. </p>



481. </li>  
482. </ul>  
483. <ul>  
484. <li>  
485. <p>  
486. <b>The &#954;-Factor: Inferring Protocol Performance Using Inter-link Reception Correlation</b><a href="http://sing.stanford.edu/pubs/sing-09-02.pdf">[pdf]</a>  
487. <br />  
488. <b>Kannan Srinivasan</b>, Mayank Jain, Jung Il Choi, Tahir Azim, Edward S Kim, Philip Levis and Bhaskar Krishnamachari  
489. <br />  
490. <i>Technical Report SING-09-02.</i>  
491. <br />  
492. </p>  
493. </li>  
494. </ul>  
495. <ul>  
496. <li>  
497. <p>  
498. <b>An Empirical Study of Low Power Wireless</b><a href="http://sing.stanford.edu/pubs/sing-08-03.pdf">[pdf]</a>  
499. <br />  
500. <b>Kannan Srinivasan</b>, Prabal Dutta, Arsalan Tavakoli and Philip Levis  
501. <br />  
502. <i>Technical Report SING-08-03.</i>  
503. </p>  
504. </li>  
505. </ul>  
506. <ul>  
507. <li>  
508. <p>  
509. <b>PRR Is Not Enough</b><a href="http://sing.stanford.edu/pubs/sing-08-01.pdf">[pdf]</a>  
510. <br />  
511. Maria A. Kazandjieva, Mayank Jain, Kannan Srinivasan and Philip Levis  
512. <br />  
513. <i>Technical Report SING-08-01.</i>  
514. <br />

515. </p>  
516. </li>  
517. </ul>  
518. <ul>  
519. <li>  
520. <p>  
521. <b>The &#946;-factor: Improving Bimodal Wireless Networks</b><a href="http://sing.stanford.edu/pubs/sing-07-01.pdf">[pdf]</a>  
522. <br />  
523. <b>Kannan Srinivasan</b>, Maria Kazandjieva, Saatvik Agarwal and Philip Levis  
524. <br />  
525. <i>Technical Report SING-07-01.</i>  
526. <br />  
527. </p>  
528. </li>  
529. </ul>  
530. <ul>  
531. <li>  
532. <p>  
533. <b>Understanding the Causes of Packet Delivery Success and Failure in Dense Wireless Sensor Networks</b><a href="http://sing.stanford.edu/pubs/sing-06-00.pdf">[pdf]</a>  
534. <br />  
535. <b>Kannan Srinivasan</b>, Prabal Dutta, Arsalan Tavakoli and Philip Levis  
536. <br />  
537. <i>Technical Report SING-06-00.</i>  
538. <br />  
539. </p>  
540. </li>  
541. </ul>  
542. <h3>Magazine Article:</h3>  
543. <ul>  
544. <li>  
545. <p>  
546. <b>Analysis of WMPLS Applications and Performance Features (Invited))</b>  
547. <br />  
548. Jung-Moon Chung, Mauricio A. Subieta and <b>Kannan Srinivasan</b>  
549. <br />

550. <i>MPLS World Magazine, May. 2002.</i>

551. <br />

552. </p>

553. </li>

554. </ul>

555. </div>

556. <br>

557. <br>

558. <br>

559. <br>

560. </body>

561. </html>

↑ TOP

[Home](#) [About...](#) [News](#) [Docs](#) [Help & FAQ](#) [Feedback](#) [Contribute](#)



This service runs the W3C Markup Validator, [v1.3](#).  
COPYRIGHT © 1994-2012 W3C® (MIT, ERCIM, KEIO), ALL RIGHTS  
RESERVED. W3C LIABILITY, TRADEMARK, DOCUMENT USE AND  
SOFTWARE LICENSING RULES APPLY. YOUR INTERACTIONS WITH  
THIS SITE ARE IN ACCORDANCE WITH OUR PUBLIC AND MEMBER  
PRIVACY STATEMENTS.

